CANADA

DEPARTMENT OF MINES AND RESOURCES

MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

GEOLOGICAL SURVEY OF CANADA

CARP LAKE

CARIBOO DISTRICT

BRITISH COLUMBIA

Scale: One Inch to Four Miles = 1/253,440

Miles 4 3 2 1 0 4 8 12

MAP 979A

LEGEND

CENOZOIC

TERTIARY

OLIGOCENE OR LATER

ENDAKO GROUP

8 — *Mainly vesicular and amygdaloidal andesite and basalt; breccia, tuff, and agglomerate;* **8a**, *conglomerate*

PALEOCENE OR LATER

7 — *Conglomerate, sandstone, and shale*

TERTIARY (?)

6 — *Dolerite, probably intrusive. Relations to 7 and 8 not known*

5 — *Rhyolite. Relations to 6, 7, and 8 not known*

MESOZOIC

TRIASSIC AND JURASSIC

UPPER TRIASSIC AND LATER

TAKLA GROUP

3, 4 — **3.** *Andesitic and basaltic flows, tuffs, breccias and agglomerates; interbedded shale, greywacke, and conglomerate; chlorite schist;* **3a**, *andesite and basalt (greenstone); relations to 3 and 4 not known; probably equivalent to a part of 3*
4. *Argillite, greywacke, and shale*

PALÆOZOIC

PENNSYLVANIAN (?) AND PERMIAN

CACHE CREEK GROUP

1, 2 — **1.** *Limestone, ribbon chert, and argillite*
2. *Argillite, greenstone, ribbon chert, and limestone; graphitic and chloritic schists. Relation to 1 not known; provisionally correlated with Cache Creek group*

A — *Quartz-feldspar porphyry. Intrudes rocks of Wolverine complex; may be of Tertiary age*

B — *Pyroxenite and serpentine; may be pre-Jurassic*

WOLVERINE COMPLEX (C,D)

C — *Granodiorite, probably an end product of granitization*

D — *Granitoid gneiss; feldspathized quartzite; micaceous, garnetiferous, and chloritic schists; pegmatite and minor granodiorite. Probably Precambrian and Lower Cambrian*

NOTE 1. Several small outcrops of Wolverine complex reported in this area

NOTE 2. Bedrock geology of these areas not done

Heavily drift-covered area

Bedding (horizontal, inclined, vertical) +, ↗, ✕

Fault zone

Fossil locality (F)

Mineral occurrence ✕

METAL SYMBOLS

Mercury Hg

Placer gold Au

Geology by J.E. Armstrong, H.W. Tipper, and J.W. Hoadley, 1946
Descriptive notes by J.E. Armstrong

Provincial highway 16

Road well travelled

Road not well travelled

Trail

Church

School S

Post Office P

District boundary

Range boundary

Marsh

Contours (interval 500 feet)

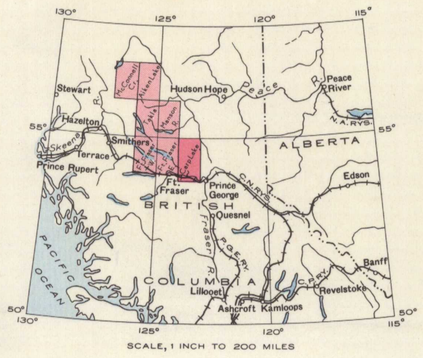
Contours (position approximate)

Height in feet above mean sea-level 2780

Base-map from surveys by the Topographical Survey; additions by the Geological Survey of Canada. Cartography by the Geological Mapping Division, 1948.

For classification of surface deposits, see Map 980A, Carp Lake.

Approximate magnetic declination, 28°15′ East.



Joins Map 630A, "Fort Fraser, East Half."

PUBLISHED, 1949.

DESCRIPTIVE NOTES

Except for the ridge north of Necoslie River, the southern three-fourths of the Carp Lake area lies within the Nechako Plain, a physiographic division of the Nechako Plateau. This plain occupies an area of several thousand square miles on both sides of the Canadian National Railways between longitudes 122 and 125 degrees. It has a maximum relief of only a few hundred feet, and is a rolling till plain interspersed with flat, glacial-lake basins. The main rivers have cut great post-glacial channels into this plain, as much as 400 feet deep, and in places bedrock has been exposed. Elsewhere, except for widely scattered rock knolls that rise above the drift, which in most places is from 100 to 400 feet thick, the plain is devoid of outcrop.

The northern fourth of Carp Lake area and the ridge north of Necoslie River form part of the Nechako Plateau, which consists of rounded hills rising 1,000 feet or more above the intervening broad valleys. Outcrops occur mainly at the summits of the hills and in stream canyons.

The granitoid gneiss and the feldspathized quartzite (D) comprising a large part of the Wolverine complex are believed to be mainly granitized equivalents of Proterozoic and Lower Cambrian strata, and the related schists are probably metamorphosed equivalents of similar strata. They are intruded by abundant, small, irregular pegmatite bodies and small stocks of granodiorite. The rocks of the Wolverine complex form part of a belt of formations that extends from the Cariboo district 325 miles northwest to the Aiken Lake map-area and beyond. In the Cariboo, these strata are mainly of Proterozoic age, but in the Aiken Lake area both Lower Cambrian and Proterozoic beds have been identified.

The south ridge of Mount MacKinnon is underlain by rocks of the composition of granodiorite (C). Smaller bodies of similar rocks are found elsewhere in the Wolverine complex, and although some of these may be of igneous origin, most of them have probably been formed as an end product of granitization of sedimentary rocks.

Scattered small outcrops of pyroxenite (B) were observed along the valley of Ocock River. They have been correlated with pyroxenite in the Fort Fraser map-area to the west which is believed to be of pre-Jurassic age.

Quartz porphyry dykes, sills, and stocks (A) cut the Wolverine complex, and are lithologically similar to Tertiary intrusions observed to the west near François Lake.

The Cache Creek group in central British Columbia consists of a very thick assemblage of interbedded sedimentary and volcanic rocks, mainly of Permian age, but also probably in part Pennsylvanian. Foraminiferal limestones and ribbon cherts are characteristic of the group. The rocks exposed along the ridge north of Necoslie River, consisting of massive grey limestone with lesser amounts of interbedded ribbon chert and argillite (1), appear to represent part of this group. No diagnostic fossils were found in them, but they are on the southeasterly extension of Cache Creek formations containing foraminifera of Pennsylvanian (?) and Permian ages. No fossils were found in the interbedded sedimentary and volcanic rocks (2) exposed in the northeastern corner of the map-area, and although these rocks do not occur along the strike of, or in contact with, formations of known age, they are lithologically similar to typical Cache Creek rocks and have been mapped with them provisionally.

No fossils were found in the Takla group (3) in the map-area, but marine shells of Upper Triassic and Jurassic ages have been collected from similar rocks in the Fort Fraser areas to the west. The greenstones (3a) outcropping east of Muskeg River and at McLeod River Falls resemble some of the Takla group rocks, and have been mapped with them provisionally, but similar greenstones are also found in the Cache Creek group.

Several thousand feet of interbedded argillite, greywacke, and shale (4) outcrop at a few localities along Nechako River between Hutchison and Bednesti. These rocks were originally called the "Nechacco series" by G. M. Dawson, who believed they were probably of Jurassic or Cretaceous age, although he found no fossils in them. However, along their western contact they appear to lie conformably beneath volcanic rocks similar to those of the Takla group, in which case they would be of Upper Triassic or Jurassic age. They are also lithologically similar to the Upper Triassic formations of the Takla group to the west.

The rhyolite (5) exposed on the hill south of War Lake is a dense grey rock with small phenocrysts of quartz and feldspar.

The dolerite (6) outcropping on the north side of Nechako River is a medium-grained, brown rock composed of stubby crystals of augite and lath-shaped crystals of plagioclase feldspar. Both the rhyolite and dolerite have the fresh appearance of Tertiary rocks.

Conglomerate, sandstone, and shale (7) of Paleocene or later age are exposed in a canyon on lower Stuart River. Several small outcrops of similar rocks containing fossil plant remains occur along Nechako River between Hulatt and Finmoore. Conglomerate is the most abundant rock type. It consists of well-rounded pebbles, averaging 2 inches or less in diameter, in a sandy matrix. Most of the pebbles appear to have been derived from the underlying Takla and Cache Creek groups.

The Endako group (8) consists of relatively flat-lying lava flows, with an aggregate thickness of as much as 2,000 feet, that were erupted during Oligocene or later time.

The Pinchi fault zone extends from Gordon Lake 200 miles northwest to the McConnell Creek map-area, and is probably also continuous to the southeast, but is obscured in that direction by drift. It varies in width from 200 to 1,000 feet or more, and its northeastern margin in this area represents the contact between closely folded Permian rocks on the southwest and Mesozoic formations on the northeast. It seems probable that the fault zone marks the site of major thrust faulting from the southwest, and that the Permian rocks moved up with respect to the Mesozoic formations. On the ridge south of Henning Lake, north of the Pinchi fault zone, several east-west faults or shear zones were observed, and are probably related to the Pinchi fault zone.

A little cinnabar has been found in carbonatized and sheared greenstones of the Takla group south of Henning Lake, and is usually associated with stringers of quartz. These cinnabar showings are near the Pinchi fault zone, which probably provided channelways for the mineralizing solutions.

Muscovite mica occurs in the pegmatites of the Wolverine complex. Books up to 2 inches square were observed.

A little placer gold has been recovered from Reed Creek, McLeod River, and from streams tributary to Salmon Lake, but production has not been commercial.