

LEGEND

- |                               |   |  |
|-------------------------------|---|--|
| CENOZOIC                      | 9 | Mainly vesicular and amygdaloidal andesite, basalt, and dacite; rhyolite, flow breccia, agglomerate  |
|                               | 8 | Shale, tuff  |
| MESOZOIC (MAINLY OR ENTIRELY) | 6 | Chiefly grey granodiorite and quartz diorite   |
|                               | 5 | Chiefly pink granite   |
| PALAEOZOIC                    | 7 | Andesite and rhyolite, (in part porphyritic)   |
|                               | 2 | Massive limestone; minor argillite, chert, and andesite (greenstone)   |
| CARBONIFEROUS OR PERMIAN      | 4 | Foliated hornblende diorite  |
|                               | 1 | Argillite, chert, slate, andesite (greenstone), minor limestone, chert conglomerate, tuff, agglomerate, quartzite, and greywacke. Includes small bodies of 3 |
|                               | 3 | Serpentinized peridotite, alteration products  |

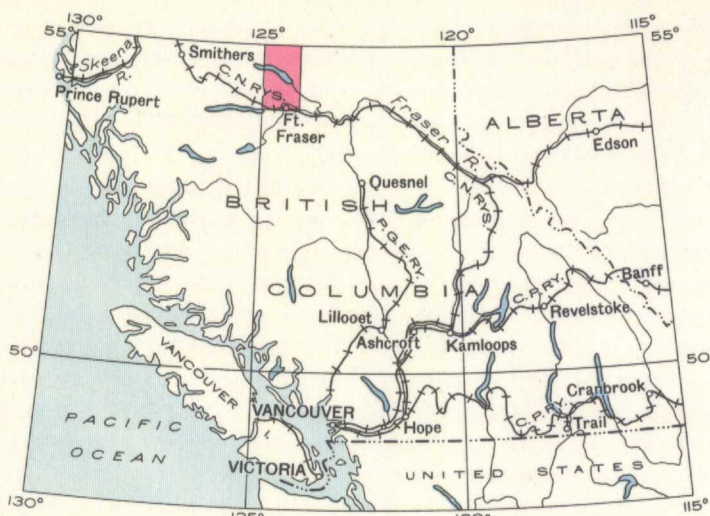
- Heavily drift-covered area.....
- Fossil locality.....
- Mineral occurrence.....
- Provincial highway.....
- Road well travelled.....
- Road not well travelled.....
- Trail.....
- Post Office.....
- Geodetic Triangulation Station.....
- Land District boundary.....
- Forest Reserve boundary.....
- Indian Reserve boundary.....
- Lake and stream (position approximate).....
- Marsh.....
- Contours (interval 500 feet).....
- Contours (position approximate).....
- Height in feet above Mean sea-level.....

Geology by J. G. Gray, 1936, 1937.  
Descriptive notes by J. E. Armstrong.

Base map from surveys and topography by the Topographical Survey, 1935, and from information supplied by Federal Government Departments and the British Columbia Department of Lands. Cartography by the Drafting and Reproducing Division, 1941.

MINERAL OCCURRENCES

- Mercury..... Hg
- Antimony..... Sb
- Manganese..... Mn
- Molybdenum..... Mo
- Magnesite..... Mg
- Placer gold..... Au



DESCRIPTIVE NOTES

A heavy mantle of alluvium and glacial drift covers the lowlands and the lower slopes of the hills. Outcrops are scarce below an elevation of 3,000 feet, except along the shores of the larger lakes. White silt deposits up to 400 feet thick are widely exposed along Nechako, Stuart, and Tachie River valleys.

The Palaeozoic rocks (1, 2) form two lithologically distinct and apparently conformable groups. In the lower and thicker group (1) chert occurs as beds one-half to two inches thick commonly minutely crumpled and separated by thin partings of argillite. In many places exposures hundreds of feet thick were observed. The chert bands alternate with greater thicknesses of interbedded argillite, slate, quartzite, greywacke, tuff, conglomerate and limestone, and with occasional lenticular bodies of mixed andesite (greenstone), tuff, and agglomerate. The upper group (2) consists mainly of a thick assemblage of massive limestone but includes, at its base, lenticular bodies of andesitic volcanic rocks (greenstone) interbedded with schistose, carbonaceous argillite and massive greywacke. The greenstone is thickest about midway along the north shore of Stuart Lake and thins to the northwest and southeast. It exhibits pillow structures in places along the shores of Trembleur Lake. The lower limestone strata are mainly blue-grey but grade upward into cream and light buff beds. Interbedded with the buff limestone are thin strata of intraformational limestone conglomerate. Indeterminate fossil crinoid stems were found in the limestone beds and fossil foraminifera of Carboniferous or Permian age are also reported to have been obtained from them. The Palaeozoic rocks are closely folded in a general northwesterly direction. The limestone band north of Stuart Lake appears to form part of the northern limb of a major anticline the axis of which lies immediately south of Stuart Lake.

The intrusive rocks (3-6) form a group in which the more acidic bodies are, in general, the younger. Peridotite (3) has been partly to completely serpentinized and is further altered hydrothermally along fracture zones to carbonate-quartz-mariposite and carbonate-talc rocks. The carbonate-quartz-mariposite rocks are mottled crystalline rocks containing a conspicuous amount of the bright-green chrome-bearing mica, mariposite. Several small bodies of serpentine occur within areas of the lower group of Palaeozoic rocks and are sheared into ellipsoidal masses up to 3 feet in diameter. Most of the acid intrusive rocks in the map-area have been deeply eroded. In addition to the intrusive rocks mapped are many aplitic, pegmatitic, and lamprophyric dykes up to 10 feet wide, associated with diorite (4) and granite (5).

The volcanic rocks (7) of the northern half of the area may be correlated with lithologically similar volcanic rocks of Jurassic and (?) Cretaceous ages in the west half of the Fort Fraser map-area. Their age relations to the granitic rocks in this map-area are not known.

At the east end of Fraser Lake is a poorly consolidated deposit of shale and tuff (8) containing plant remains of probable Eocene or Oligocene age, and thin seams of lignite. Small areas of pink, porphyritic rhyolite and vesicular, bright green, glassy rhyolite (9) occur near Fraser Lake and rhyolite dykes cut the granite near Fraser Lake village. These rhyolites are lithologically similar to those of Eocene or Oligocene age in the west half of the Fort Fraser map-area and may be of the same age. Nearly horizontal, vesicular and amygdaloidal lava flows (9) overlie Palaeozoic formations and intrusive rocks and are probably of post-Eocene age. In places they are at least 1,000 feet thick. The amygdale fillings are of zeolites, chalcedony, and calcite. A brown vesicular basalt breccia makes up the mass of Huntilin Mountain and a similar breccia underlies two of the ridges along the eastern boundary of the map-area. Related to these lavas are andesitic and basaltic dykes up to 30 feet wide.

Very little prospecting has been done in the area. Concentrations of manganese (Mn) occur in shattered zones in the Palaeozoic sediments on the north side of Nechako River. A quartz vein carrying stibnite (Sb) occurs in a sheared zone in Palaeozoic quartzite on the south shore of Stuart Lake. A mercury deposit (Hg) was discovered north of Pinchi Lake disseminated through a fracture-zone in Palaeozoic sedimentary beds of the upper group (2). The fracture-zone ranges from a few inches to 10 feet wide, strikes north 65 degrees west, and is at least 750 feet long. Magnesite (Mg) occurs north of Pinchi Lake as lenses along the contact of serpentinized peridotite (3) with limestone (2). A pegmatite containing molybdenite (Mo) and pyritized quartz occurs on the south slope of Shass Mountain. A quartz vein sparsely mineralized with pyrite, galena, sphalerite, and arsenopyrite outcrops midway along the north shore of Tezzeron Lake. The Palaeozoic sedimentary rocks along Stuart and Trembleur Lakes are cut by many sparsely mineralized quartz veins up to 18 inches wide.

Placer gold (Au) has been recovered from Dog and Sowchea Creeks. The gold is fine and well worn and is found on clay seams underlying stream washed glacial gravels along the creek banks.

MAP 630A  
FORT FRASER  
(EAST HALF)  
COAST DISTRICT  
BRITISH COLUMBIA

Scale, 253,440 or 1 inch to 4 Miles

Approximate magnetic declination, 28°45' East.

NOT TO BE TAKEN FROM LIBRARY  
NE PAS SORTIR DE LA BIBLIOTHÈQUE