

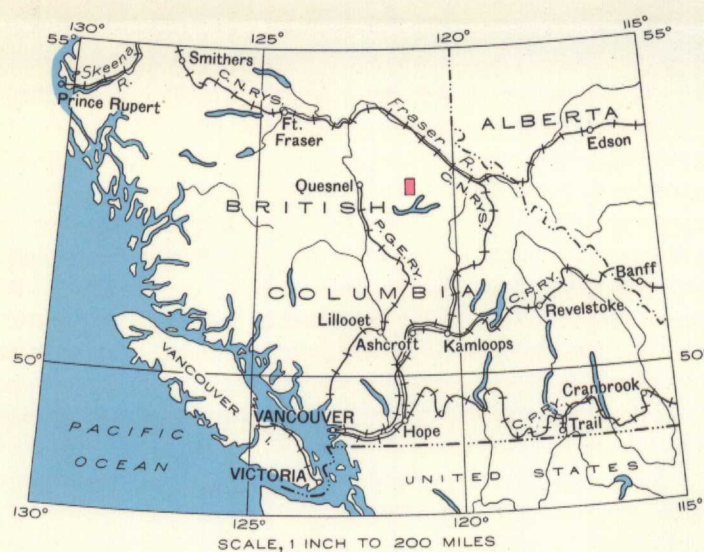
LEGEND

- | | | |
|-----------------------------------|--|--|
| MESOZOIC | 11 | Quartz monzonite; 11a, diorite |
| | 10 | Limestone conglomerate |
| PERMIAN OR CARBONIFEROUS, OR BOTH | SLIDE MOUNTAIN SERIES | |
| | 9 | Argillite, minor amounts of chert, limestone, grit and conglomerate |
| | 8 | JACKPOT FORMATION: limestone |
| LOWER CAMBRIAN | 7 | Limestone, argillite |
| PROTEROZOIC (LATE PRECAMBRIAN) | CARIBOO SERIES | |
| | WESTERN SUCCESSION | |
| | 3 | PLEASANT VALLEY FORMATION: argillite, limestone, quartzite |
| | 2 | BARKERVILLE FORMATION: limestone, minor amounts of quartzite, schist and argillite |
| | 1 | RICHFIELD FORMATION: quartzite, quartz-sericite schist, argillite, limestone, conglomerate |
| | EASTERN SUCCESSION | |
| 6 | KIMBALL FORMATION: quartzite, minor amounts of argillite | |
| 5 | MATTHEW FORMATION: limestone, some quartzite, schist and argillite | |
| 4 | ISHPA FORMATION: impure quartzite, schist | |

- Area of deep alluvium and glacial drift
- Geological boundary (approximate, assumed)
- Bedding (inclined, dip unknown; vertical)
- Fault
- Fossil locality
- Trail, and cabin
- Passable pack-train route
- Intermittent stream
- Sand bar
- Marsh
- Contours (interval 100 feet)
- Height in feet above Mean sea-level

Geology by A. H. Lang, 1936, and 1937.

Base-map prepared by the Topographical Survey, 1938, from map published by the British Columbia Department of Lands, Cartography by the Drafting and Reproducing Division, 1939.



PHYSICAL FEATURES

The Little River area is a rugged terrain containing mountains up to 7,171 feet above sea-level. These are part of the Cariboo mountains, the main range of which lies immediately northeast of the map-area. The present topography resulted from stream and glacial erosion of an ancient, uplifted land-surface manifested by the fairly level summits north of Little river.

The area is drained by Cariboo river which flows from a chain of large lakes just north of the map-area. The river occupies a deep glaciated trench floored with stream gravels upon which the present stream meanders with many cut-offs and swamps. The low alluvial cones deposited by Cunningham and Sixbee creeks upon the valley-floor are illustrated by the contours.

The main tributaries of Cariboo river are Matthew river, Little river, Cunningham creek, and Kimball creek. Matthew river flows through a broad valley known as Connection valley, which extends southeast to the head of Quesnel lake.

A few glacial erratics were found on the uplands. The larger valleys show the effects of valley glaciation in their U-shape, truncated spurs, and hanging valleys. Many tributary streams rise in cirques once occupied by alpine glaciers. Post-glacial rock canyons have been cut by Cariboo river above Limestone creek; by Matthew river about one mile above its mouth; by Little river above its forks; and by Cunningham and Kimball creeks.

Timber-line is at an elevation of about 6,200 feet, below which the slopes are densely wooded, chiefly with spruce and balsam. Some cedar grows in Cariboo River valley, and in Little River valley there is a dense stand of second-growth jack-pine. The amount of fallen timber, the dense growth of buck-brush on the slopes, and the thickets of willow and alder in the valleys are serious obstructions to travel. A large part of the region drained by the headwaters of Kimball creek and by the north fork of Little river has been swept by fire and is now sparsely wooded, chiefly with poplar.

The area can be entered from Barkerville or Keithley creek. Cariboo river is barely navigable for small boats as far as Limestone creek, about 24 miles from Keithley Creek, the swiftest water being at the mouths of Kimball and Sixbee creeks. Travel with pack-horses is confined to the burnt area, a few ridges, and to the trails, which require annual clearing. Horses were taken across the divide immediately west of Anderson peak into the valley south of Green cone, where the Little River trail can be reached. Matthew river is navigable above the canyon, trappers being reported to have portaged light craft from Sandy lake, which is just north of the area.

GENERAL GEOLOGY

The area is underlain by sedimentary rocks striking northwest and folded into a broad synclorium, so that the older rocks are exposed in the southwest and northeast corners and the younger occur in the central part, near Kimball and Limestone creeks. Because the synclorium plunges northward, the strata in the southeastern part of the area outcrop in curves.

The eastern succession of the Cariboo series does not correspond exactly with the western succession, and as definite correlations could not be made separate formation names have been used. Beds of impure quartzite and quartz-sericite schist exposed in the extreme northeast corner of the area and grouped as the Ishpa formation, resemble the Richfield in lithology and structural position. Overlying these is a thick assemblage of limestone beds separated by beds of argillite, schist, and quartzite, grouped as the Matthew formation. The lower part of the Matthew formation is believed to correspond to the Barkerville, and the upper part to the lowermost, calcareous, part of the Pleasant Valley. In the western part of the area the Pleasant Valley formation is mainly argillite but to the east in its lower parts limestone becomes more and more abundant and in its upper part beds of quartzite become prominent. Overlying the Matthew formation conformably is the Kimball formation composed chiefly of fairly pure quartzite with some impure quartzite and argillite. The Kimball is correlated tentatively with the quartzite beds forming the upper part of the Pleasant Valley formation.

On the south slope of Kimball ridge beds of limestone and argillite containing trilobites of Lower Cambrian age overlie the Pleasant Valley formation with apparent conformity. Poorly-exposed beds of quartzite and argillite south of Kimball creek are probably the continuation of the Lower Cambrian strata and have been mapped as such.

The Slide Mountain series overlies the Pleasant Valley formation and the Cambrian strata unconformably. In the northwestern part of the area the lowest beds of the series are grits corresponding to the Guyot formation of Barkerville area. Elsewhere the lowest recognized part of the series is the Jackpot limestone. Within the area mapped as Cambrian, and on the mountain three and a half miles southeast of Black Stuart mountain, certain limestone outcrops that yielded no fossils and that resemble the Jackpot limestone lithologically may represent erosional remnants of that formation. The upper part of the Slide Mountain series consists chiefly of black and brown, fissile argillites with some lenses of chert, limestone and fine-grained conglomerate; these beds are probably equivalent to the Antler formation of Barkerville area. Near Limestone creek argillites of the Slide Mountain series are overlain unconformably by a small body of conglomerate composed chiefly of limestone boulders, one of which contains a coral resembling those of the Jackpot formation; this conglomerate is younger than the Slide Mountain series.

A large quartz monzonite stock is exposed at the east boundary of the area. Smaller stocks of diorite intrude the Slide Mountain series and are accompanied by bodies of similar composition that are too small for mapping. Dykes, sills, and small irregular bodies ranging from diorite to amphibolite intrude the Richfield formation on Mt. Barker and along the south border of the area.

The larger valleys are floored with glacial drift and recent stream gravel, sand and silt. Above these deposits, at many localities, are terraces of the same material. The slopes are covered extensively by glacial drift and talus.

ECONOMIC GEOLOGY

No commercial mineral deposits have yet been found in the Little River area. The region has been prospected mainly for placer deposits. Fine gold has been recovered from lower Cunningham creek, and leases on that creek were tested as possible dredging ground by Coniagas Mines, Limited in 1936. Parts of Cariboo River valley were drilled in 1928 and 1929 by Consolidated Mining and Smelting Company. Several pits have been sunk on a bench above Kimball creek, about one mile from its mouth, and in 1917 a few ounces of coarse gold was recovered. Old workings found on Comet creek about one mile above its mouth are reported to have yielded a little gold in 1915. The operations at Cariboo river, Kimball creek, and Comet creek are mentioned in the Annual Reports of the Minister of Mines, B.C. for the years cited.

Quartz veins were seen on the ridge north of Barkers creek east of Mt. Barker; in and near the quartz monzonite stock; and on the ridge south of the upper valley of Kimball creek. Some of these contain pyrite, a few grab samples assaying traces of gold. The parts of the area most favourable for prospecting are those underlain by the Richfield formation and the vicinity of the quartz monzonite. The occurrences of intrusives (11a), and of placer gold at Kimball and Comet creeks indicate that veins might be found in the Slide Mountain series and Matthew formation.

MAP 561A
LITTLE RIVER
CARIBOO DISTRICT
BRITISH COLUMBIA

Scale, 1/31,680 or 1 Inch to 1 Mile

Approximate magnetic declination, 27° East.

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