

**CANADA**  
**DEPARTMENT OF MINES**

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**BUREAU OF ECONOMIC GEOLOGY**  
**GEOLOGICAL SURVEY**

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**PRELIMINARY REPORT**

**NAHATLATCH REGION**

**BY**

**H. C. Horwood**

**Paper 36-7**

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### Introduction

Nahatlatch region extends west from Fraser river between China Bar and Kanaka for 17 or 18 miles toward the north end of Harrison lake and Lillooet river. It has an area of 450 square miles. An area of 240 square miles lies between this region and the area described in the preliminary report on the "South Part of Fraser River-Harrison Lake Region, B.C." Except for a couple of small pendants of schist this intervening country is underlain by diorite and is thus unsuitable for prospecting.

Although parts of the country have received some attention from prospectors no important discoveries have been made. The principal reason for surveying the area was the presence in the Nahatlatch River-Kwoiek Creek basins of a band of schists that was thought to be a continuation of important gold-bearing formations in Coquihalla area.

The east side of the area borders Fraser river and is served by the Canadian Pacific railway for its entire length. An 8-mile wagon road runs from North Bend to Nahatlatch river, and another road, approximately 9 miles long, runs from Keefers station up Nahatlatch river to a shingle mill on Hannah lake. This mill was not working in 1935 and the road was in need of repair. Trails are the only other means of access. A 7-mile back-packing trail that is in fair condition for the first 4 miles runs up Scuzzy creek to the forks. Another

trail  $1\frac{1}{2}$  miles long runs from the railroad 1 mile south of North Bend to North Bend lake. Chaumox trail starts at the wagon road just north of Speyum creek and climbs 5,500 feet to Chaumox Peak ridge in a distance of approximately 4 miles. A trail suitable for horses starts at the road between Keefers and Nahatlatch river and runs up the nose past Keefers hill and northwest towards Kwoiek peak for more than 12 miles. The Kwoiek Creek trail follows Kwoiek creek and the ridge between the main forks of the creek for 12 or 13 miles.

The region is a relatively rugged section of the Coast Range mountains. Elevations vary from 561 feet above sea-level at Keefers to 9,600 feet on a peak in the northwest corner of the area. The ridges east of Kwoiek peak between Nahatlatch river and Kwoiek creek have relatively open, forested, and grass-covered summits that afford easy travelling. Elsewhere the mountains are rugged and precipitous, especially where diorites are the predominant rocks. Although the general trend of the mountains is northwest, deeply entrenched creeks cut across the structures to empty into Fraser river. Except for scattered stands of stunted fir the timber does not extend above 5,000 feet.

#### GENERAL GEOLOGY

The rock formations of the region range from Palaeozoic(?) to Modern. The oldest rocks include schistose sedimentary and volcanic rocks, and serpentines and are probably of Palaeozoic age.<sup>1</sup> They form a band

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<sup>1</sup> On the accompanying map the serpentine by error has been placed in the Mesozoic instead of the Palaeozoic.

about 6 miles wide that runs northwest from Fraser river between North Bend and Kanaka. In Nahatlatch valley the western contact is about 9 miles from Fraser river, in Kwoiek valley about 18 miles. Rocks of the sedimentary and volcanic group have been highly sheared and altered. In general the sediments are quartz-biotite or quartz-hornblende schists, which prior to metamorphism were probably sandy slates and arkoses. Most of the volcanic rocks which originally were probably dacites and andesites have been altered to hornblende schists. They are less abundant than the sediments with which they are inter-layered. An unusual rock of possible volcanic origin outcrops on the ridge between the forks of Kwoiek creek. It is a quartz-carbonate-cordierite schist with minor amounts of chlorite, biotite, muscovite, and magnetite.

The serpentines occur in a long narrow band, half a mile to a mile wide, that runs northwest from Nahatlatch river to the northwest corner of the map-area. Its sheared and completely altered condition precludes determination of its original nature. It is made up of a large percentage of serpentine, a small amount of carbonate, and one or two percent of magnetite. It varies from light to dull green and has a slippery, talc-like feel. Like the serpentine rocks in Coquihalla region it was probably an intrusive rock of basic composition.

The schists and the serpentine have been intruded by large batholithic masses, stocks, and dykes of diorite of Mesozoic age. In general this rock varies very little from a quartz diorite. It is coarse grained, light coloured, and composed of andesine, quartz, biotite, and/or hornblende. The mass in the drainage basin of

Speyum creek west of Chaumox must have assimilated a considerable quantity of the intruded schists as it contains appreciable amounts of garnet, especially along its western side. Fine- to medium-grained dykes of dioritic composition are best developed around such stocks as the one just east of Kwoiek peak.

Stream gravels, in places interbedded with beds of sand, outcrop in benches along the banks of Fraser river. Such benches are particularly well developed between China Bar and Chaumox and form sites for several small ranches. The formation was laid down by Fraser river before it had worn down into its present rocky channel.

#### ECONOMIC GEOLOGY

The schists and the serpentine are the only rocks in the region in which quartz veins are developed. In general these veins are poorly mineralized at the outcrop and appear of no economic interest. However, the small amount of preliminary development has not exposed the veins below the level of surface or near-surface oxidation. Some of the veins prospected contain small amounts of gold and silver. Pyrite and tetrahedrite also occur. The veins vary considerably in width up to 5 or 6 feet and follow the schistosity of the wall-rock. The schist bordering the veins is commonly altered and in places well mineralized with pyrite.

#### MINING PROPERTIES

The Jubilee group of four claims is on the small creek that runs south into Nahatlatch river about  $5\frac{1}{2}$  miles from its mouth. The claims are held by L. Kyle, G. Clarke,

and F. Sutherby. At elevation 2,750 feet on each side of the creek, open-cuts have been made on a rusty 30-foot shear zone in the schists. This zone contains irregular veins up to 2 feet wide of white, almost unmineralized quartz and altered and pyritized country rock. Assays on selected specimens containing about 10 per cent pyrite gave traces of gold and silver.

The Paystreak group of twenty claims, held by D.R. McDougall, lies north and south across the serpentine band near the headwaters of a creek that empties into Kwoiek creek about  $3\frac{1}{2}$  miles from its mouth. Open-cuts in the schists on the east side of the lake have exposed several small quartz veins up to 7 feet wide. The rock is highly sheared in this locality and the veins pinch and swell along the strike. Most of the vein outcrops are barren, although an 18-inch vein in one cut contains a small amount of tetrahedrite and is reported to carry some silver.

The Serpentine and Summit groups, of eight and six claims respectively, held by W.D. Munro, lie north and south across the serpentine band about 11 miles along the trail that runs along the ridge northwest of Keefers. A lens of schist in the serpentine on the hill overlooking the first large tributary of Kwoiek creek contains a 60-foot shear zone with white quartz veins up to 5 feet wide. In places the veins contain a few specks of pyrite, which is said to carry small amounts of gold. The intervening bands of schist carry a much larger amount of pyrite and in all exposures are rusty and weathered. Other veins and shear zones similar to those mentioned occur on the property.