

On the same line of strike, and about two miles further south, a well-defined vein outcrops on the top of the ridge at the head of Independent Creek. It has a maximum width of about 4 ft., but frequently breaks up into smaller irregular veins. One of these, from 6 in. to 8 in. in width, shows a little free gold, and a picked sample assayed,—

Gold	...	...	...	...	5 dwt. 16 gr. per ton
Silver	...	...	...	...	1 dwt. 21 gr. „
Value	...	...	...	...	£1 2s. 9d. „

A considerable amount of driving has been done on this vein-formation, but it is possible further investigation might be warranted.

Though a large amount of detrital gold was obtained in the early days from streams in the vicinity of these veins, there is not sufficient remaining to encourage the prospector. A little gold was traced up the main left branch of the Anatori River as far as the boundary of the subdivision.

The quartzose wash occurring in association with the sandstones and shales of the Tertiary beds is in places auriferous, though not sufficiently so to prove of economic importance.

Beach-combing has been carried on intermittently for some years on the beach between Sand-hills Creek and Anatori River. Payable gold is found in places associated with black sand, but difficulty is experienced in saving it owing to the oily nature of the water available. This oiliness is probably due to decomposing vegetable matter.

Building-stone, &c.—The calcareous sandstones outcropping along the coast have proved readily workable and highly suitable for building purposes.

Some of the limestone in the upper part of the Oamaru Series would be suitable for cement-manufacture, but, generally speaking, it is too high in silica and magnesia to give a satisfactory product.

Work in the Mount Radiant Subdivision.

The Mount Radiant Subdivision lies in the north of the Westport Division, and comprises the survey districts of Kongahu and Otumahana. It thus forms an area of about 205 square miles, bounded on the west by the Tasman Sea and on the east by an arbitrary meridional line $13\frac{1}{2}$ miles from the coast at its northern and $19\frac{1}{4}$ miles at its southern extremity.

Geological investigations have so far been confined to the Otumahana Survey District, and, of this, mostly to the eastern central portion hitherto unmapped.

Physiographic Notes.

The Mount Radiant Subdivision shows in its western part a relatively low-lying country, rising gradually from the narrow coastal plain, and in its eastern part an elevated “old land,” which is apparently an uplifted peneplain. The low-lying country, consisting of Tertiary strata, is cut by stream-courses into a series of parallel spurs, with a westerly trend. These have a minimum altitude of a few feet near the coast where they grade into the coastal plain, and a maximum of about 1,000 ft. where they abut against the mountainous hinterland. A narrow coastal plain fringing the sea-coast merges imperceptibly into the flood-plains of the entering streams. Swamps are frequent in this coastal belt, and at low water considerable expanses of mud-flat are exposed in the stream and river estuaries.

Rising sheer to an altitude of over 4,000 ft., with a relief of about 3,000 ft. above the country to the west, the deeply dissected Marine Mountains, with fairly uniform summit-altitudes, represent a portion of the ancient peneplain, now worn into a series of roughly parallel ranges. The most westerly of the ranges, known as Mount Radiant Range, follows a north-north-easterly direction near the centre of the subdivision. Its steep western slopes are probably the eroded escarpments of a fault along which took place the differential movement by which the land to the east was elevated to its present altitude.

The Mount Radiant Range is terminated near the centre of the subdivision by the Little Wanganui River, but is continued somewhat more to the west by the parallel range of Mount Stormy. East of these the mountains present a series of ridges encircling the heads of the various rivers which take their rise among them. The main peaks of the ranges are Mounts Fugel, Radiant, and Anaconda, on the Mount Radiant Range; with Mounts Scarlett, Brilliant, and Zealand further to the north-east. These all have an altitude of over 4,000 ft.; while Mount Stormy, which probably represents a separately faulted block, has a summit-elevation about 1,000 ft. lower.

The main part of the subdivision is drained by the Little Wanganui River, seventeen miles in length, which has its source in the centre of the mountainous “old land.” Through this it has scoured a deeply incised channel following a north-westerly course till it reaches the foothill country. Here its course trends more to the south, and it finally reaches the Tasman Sea near the centre of the coastal margin of the subdivision. Throughout the latter part its course is somewhat sinuous, and its bed is flanked by broad flood-plains. Its left branches, Captain, Blue Duck, and Tidal creeks, flowing through deeply gorged channels, drain the southern portion of the foothill country. The northern portion of this low-lying country is similarly drained by Granite Creek and its branches. In the north-east of the subdivision the main drainage-channels are the two large branches of the Crow River, the more westerly of which probably once entered the Little Wanganui River through the broad valley now occupied by the Lawrence River. The south-eastern portion of the subdivision has for its drainage-channel Johnson River, a tributary of the Moki-hinui River.