The Lowry Peak block, tilted south-eastwards, is broadest and highest north-west of Domett. The strip of faulted Cretaceous and Tertiary rocks of the Kaiwara basin rests on the lower edge of this block and strikes north-east, subparallel to the range, and at the south end dips south-east. About three miles south of Trig A, Lowry Peaks Survey District, the strike of the younger rocks swings to the east and finally to the south-east and south-west, forming a south-west plunging syncline, the major portion of the eastern limb of which is cut off by the fault crossing the Hurunui at the Kaiwara junction.

Another south-east-tilted greywacke block, overlain by younger rocks to the south-east, plunges to the north-east at Mount Crombie, Lowry Peaks Survey District, beneath the Tertiary cover. This block increases in height to the south-west, beyond the Hurunui.

About six miles east of Mount Crombie the coastal Hawkswood block plunges to the south beneath Cretaceous and Tertiary rocks, which also flank the western edge of this range to a point almost due east of Parnassus. North of this point the west boundary of the block is fault-determined. The range attains its highest elevation in Mount Wilson.

North of the Waiau-uha the Lowry Peak block continues as the Mount Parnassus block, which plunges gently to the north-east and is almost completely covered by the younger rocks at the point where it crosses the Conway. West of this point, the Mount Peter - Mount Stewart block attains its maximum height in these two peaks, and gently plunges to the north-east and south-west of them. The Humps and the greywacke east of the Lottery-Mason junction are the south-west continuation of this block.

The Cheviot depression from Parnassus southwards appears to be a broad syncline, but further work in this area may prove the structure more complex. The northern portion of this depression is chiefly a structural basin with an axis running north-north-east from a point about four miles west of Parnassus to a point two miles and a half west of Limestone Hill. In its northern portion the Cretaceous rocks crop out beneath the Tertiary rocks, but southwards only Tertiary and younger rocks appear at the surface. Most of the western portion of this basin is cut off by a fault.

The strip of Cretaceous and Tertiary rocks between the Mount Parnassus and Mount Stewart blocks is the north-westward-dipping limb of a north-easterly-striking syncline, the west limb of which has been cut off by a fault. In the vicinity of Mount Highfield it is the south-eastward-dipping western limb of this syncline that is preserved.

Geology.

Pre-Cretaceous Rocks.—Over some areas of the subdivision the greywacke rocks are interbedded with basic pillow lavas, tuffs, and breccias, all more or less calcareous. About two miles and three-quarters west-south-west of Mount Catherine, Lowry Peaks Survey District, these rocks are associated with bands of marble. In other localities, as west of The Wart, Lowry Peaks Survey District, inconsiderable blocks of marble appear with bands of "Red Rock" and jaspilite, and in these areas crushed pillow lavas can occasionally be identified and, rarely, a coarse-grained porphyritic felspathic rock. The occurrence and nature of these rocks is similar to those of the marble, tuffs, and basaltic rocks of the Eketahuna Subdivision.

The massive conglomerate bands in the lower reaches of the Spey Stream contain occasional pebbles of the pillow lava amongst the numerous plutonic, volcanic, and greywacke pebbles, a fact indicating a break in the greywacke rocks.

Cretaceous Rocks.—The Cretaceous rocks mapped are similar to those described in the annual report for 1931. In a tributary of the Conway is a clay apparently interbedded with small lenses of coal, and though it could not be described as a bentonite it has definite bentonitic properties. A similar clay, slightly bentonitic, occurs with the Cretaceous rocks at the Kaiwara mouth.

Amuri Limestone.—This rock forms an escarpment that extends from the right-angled bend of the Gelt to the Leader, whence it shows in places involved in the south-west fault that crosses the road near the Stanton - Long Vale saddle. It also forms bold escarpments in the Conway, west of Limestone Hill, and overlies the Cretaceous rocks that flank the west slope of the Hawkswood Range, east of Spotswood. It crops out for two miles north-east of Trig. K, and again to the south near Mount Styche, Lowry Peaks Survey District.

Weka Pass Stone.—At Trig. K, and in a tributary of the Kaiwara a mile and a half north-east of this, the equivalent of the Weka Pass stone, a glauconitic limestone grading to sandy limestone, overlies a glauconitic sandstone that rests on the bored surface of the Amuri Limestone. At this trig. station the two rocks are weathered in the fashion so characteristic in the Weka Pass district. In the tributary of the Kaiwara, about a mile south of Trig. K, the Weka Pass stone is absent and the sandstones (Mount Brown beds), that northwards overlie the Weka Pass stone, rest on the glauconitic sandstone. The Weka Pass stone here described is probably the equivalent of the Isolated Hill limestone of the Waiau basin. Though the typical Isolated Hill limestone was not recognized in the Cheviot basin, blocks of it or a similar limestone occur in the Bourne conglomerate of that area.

Mount Brown Beds.—A series of sandstones and sandy mudstones with interbedded shelly limestone bands overlies the Weka Pass stone at Trig. K, and these rocks are continuous with the banded sandstones near Kaiwara junction, which Speight considers are the equivalent of the Mount Brown beds. These beds are probably to be correlated with the Sugar Loaf beds of the Waiau basin.

Bourne Conglomerate.—In the Gower River, almost due north of Mount Ellen, Cretaceous sandstones are overlain by a fossiliferous Tertiary sandstone. This break is believed to be the horizon of the Bourne conglomerate, and represents an unconformity in the Tertiary. Elsewhere in the Cheviot depression this break is characterized by greywacke conglomerates containing in places huge blocks of greywacke, Cretaceous, and Tertiary rocks. The beds succeeding the break in the Cheviot area consist of conglomerate bands interbedded with sandstones. These rocks crop out prominently in the One Tree Hill area, Hawkswood Survey District, and in the vicinity of Mount Ward, Lowry Peaks Survey District.