In Taramarama Survey District, three and a half and seven miles west of the axis of the Wairoa Syncline at Frasertown, two smaller anticlines extend north for seven miles. West of this in the south the Tertiary beds rise continuously westward at from 5° to 20° for twenty miles to the edge of the subdivision forming the Waikaremoana Homocline. A few miles beyond it they are turned up vertical by a fault in contact with greywacke and argillite; but in the north another anticline, sharp and steep, begins in Tuahu Survey District six miles up the Ruakituri River from Te Reinga, which lies in the middle of the Wairoa Syncline. This Hangaroa Anticline marks an important change in the structure. It trends east of north and north for ten miles across Hangaroa Survey District, turns east across the Hangaroa River at Hangaroa Village site, and up Mangawehi Stream, where it joins the Waerenga-o-kuri–Kaiti fault-zone, described in Bulletin No. 21 as trending east across Patutahi Survey District and probably to the east coast.

West of this, throughout Tuahu Survey District, the strong sandstone dip-slopes strike continuously north-east from Waikaremoana and dip 15°–20° south-east. These Tertiary dip-slopes extend some miles west of the subdivision, and the lowest Tertiary bed forms the dip-slopes of Maungapohatu and Te Wana mountains.

North-east of the bend in the Hangaroa Anticline the beds form a shallow basin in Hangaroa north-east, and this extends into the three adjoining survey districts.

The sandstone dip-slopes that cross Tuahu Survey District from Waikaremoana continue north-east through Koranga and Ngatapa survey districts, and in east Ngatapa swing to the east. In north-east Ngatapa they turn over and dip north for five miles along Waihuka River, forming the Ngatapa Anticline. In south-east Motu they again dip south and so form the Waihuka Syncline, which trends south of east along Waihuka River for six miles from Rakauroa into Waikohu Survey District.

Four miles farther north the Waikohu Anticline trends south of east for five miles across Motu Survey District and extends three miles into Mangatu Survey District.

Geology.

The rocks of the subdivision are all unmetamorphosed sedimentary, and are classed as follows:—

Series and Thicknes.	Beds.	Age.
Recent	Beaches, terraces, dunes, and subaerial pumice	..
Ormond (5,000 ft.) ..	Shelly limestone, pebbly sandstone, thick tuffaceous sandstone, argillaceous sandstone	Waitotaran.
Opotiti (4,000 ft.) ..	Pebbly shelly limestone, alternating sandstone and mudstone, arenaceous mudstone	Taranakian.
Mapiri (12,000 ft.) ..	Mudstone, tuffaceous sandstone, arenaceous mudstone, shell-rock, alternating mudstone and sandstone	Taranakian.
Tutamoe (5,500 ft.)	Conglomerate, thick coarse concretionary sandstone, alternating sandstone and mudstone, massive mudstone	Awamoan.
Ihungia (3,500 ft.) ..	Thin bedded mudstone and sandstone, thick, coarse concretionary sandstone	Hutchinsonian.
Wheao (4,500 ft.) ..	Thick sandstone, shell-rock, alternating sandstone and mudstone ..	Oligocene (?)
Mangatu (3,000 ft.)	Argillaceous limestone, light mudstone, greensandstone	Senonian.
Taitai (15,000 ft.) ..	Coarse greywacke and sandstone, dark argillite, igneous conglomerate ..	Jurassic.
Koranga (6,000 ft.) ..	Grey argillite, dark mudstone, and greensandstone, dark argillite, alternating greywacke and argillite	Jurassic.

Koranga Series.—In the north-west of the subdivision, in Koranga, Moanui, and Motu survey districts, occur beds of hard coarse greywacke interbedded with dark argillite exposed typically in Anini and Moanui streams. In both places the beds are nearly vertical and strike north. In the Anini they are in contact, along faults, with light, fairly soft mudstones that resemble the Mangatu beds, and, as they present a strong contrast lithologically, they are separated tentatively into the Koranga Series.

These rocks extend down Koranga Stream to the western boundary of the subdivision and beyond it. Along Moanui Road the interbedded greywacke and argillite, standing nearly vertical, extend three miles across the strike and appear to be 15,000 ft. thick. In places the beds of nearly black argillite are laminated with streaks of white sandstone, about ten to the inch. This interlamination in particular, and the general appearance gf the interbedded coarse greywacke and dark argillite, resemble the Tapuwaeroa Series of the Waiapu Subdivision. The conglomerate and fossils of the Tapuwaeroa beds were not found, however, the only fossils being poorly preserved *Inoceramus* and a few other small unidentified mollusca.

Taitai Series.—In the north-west of the subdivision occur sharp pinnacles and steep-sided rugged ridges that recall Taitai, Hikurangi, Aorangi mountains in Waiapu Subdivision, and, like them, are formed of coarse, greenish-grey, slickensided sandstone with pockets and beds of igneous pebbles, but generally without distinct bedding. Apparently underlying these are alternating beds of coarse greenish greywacke and dark argillite with some layers of the igneous conglomerate. These rocks stand nearly vertical for miles in south-east Moanui and north-west Motu. In the east front of one of these rugged ridges in the south-west corner of Motu Survey District the shattered sandstone has in it scattered igneous pebbles, as well as specimens of *Aucella*. These beds are so complicated that it is impossible to make much out of them, but the ridges they form run with the strike of the big Koranga–Motu synclinal and appear to have the same attitude as the steep beds on its north-west limb.

There is, however, one good section where the relation of the *Aucella*-bearing sandstone is evident, and that is in north-east Koranga, in the tributary that joins Koranga Stream from the south about the middle of the north boundary of Koranga Survey District. There the under-beds are dark