

1886.
NEW ZEALAND.

THE RECENT VOLCANIC ERUPTIONS

(PRELIMINARY REPORT ON), BY DR. HECTOR.

[With two Plans.]

Presented to both Houses of the General Assembly by Command of His Excellency.

Dr. HECTOR to the Hon. the MINISTER of MINES.

SIR,—

Colonial Museum of New Zealand, Wellington, 23rd June, 1886.

I have the honour to report that, according to instructions from Government, I proceeded to Tauranga on the evening of Thursday, the 10th instant, in the “Hinemoa,” and arrived there on Saturday afternoon.

At Tauranga I engaged the services of Mr. Spencer, a skilful landscape photographer, and on Sunday our party, seven in number, drove to Rotorua by the Oropi Road, the ordinary route by Te Puke being blocked.

On Monday I proceeded to Wairoa with Captain Mair, who joined the boat expedition which had been organized to search the Native settlements on Tarawera Lake. On the same day I sent my assistant, Mr. Park, to the south of the disturbed area by way of Kaiteriria; and on Tuesday, following the same route, I examined the vicinity of Rotomahana. Mr. Spencer, with his camera, accompanied me everywhere, so that a series of well-selected views of the eruption and its effects was obtained.

On Wednesday we started for Taupo, feeling anxious to complete the general view of the whole line of volcanic activity from Ruapehu to White Island, as alarming rumours were in circulation as to the extent of country that had been affected. By this route we also obtained a distant but interesting view of the newly-raised cones of Tarawera from the eastward.

The incidents of the eruption have been so fully described by the Press that it is unnecessary for me to refer to them in this preliminary report, the chief object of my rapid inspection having been to ascertain the exact locality, nature, and extent of the outbreak, and its probable consequences to the district. A complete geological examination of the district has therefore been deferred until a more favourable season for field-work, and until the volcanic activity has sufficiently subsided to admit of accurate observation.

The focus of the disturbance was ascertained to be in a line extending from seven to ten miles in a north-east to south-west direction from the north end of the Tarawera Range to Okaro Lake, in position A B on the accompanying diagrammatic plan (Plan II.) The northern part of this line is occupied by the Tarawera Range. This range has three summits, the northernmost being Wahanga; the central, Ruawahia, 3,606ft. alt.; and the southernmost, Tarawera mountain proper.

The southern part of the line previous to the outburst was a depression occupied by Rotomahana Lake, surrounded by low undulating country composed of pumice-sands and overspreading deposits of siliceous sinter, most of which were connected with active geysers, amongst which the most famous were those at the Pink and White Terraces.

From the most reliable evidence it appears that the outbreak commenced at ten minutes past two on the morning of the 10th, by an eruption from the top of Wahanga, attended by a loud roaring noise, and slight earth-shocks. In a few minutes this was followed by a similar but more violent outburst from the top of Ruawahia—the middle peak of the range, and after a short interval this phase of the eruption culminated in a terrific explosion from the south end of Tarawera Range, north-east of Lake Rotomahana. For nearly two hours this was the only phase of the eruption, and was accompanied by the ejection of vast quantities of steam, pumice-dust, and hot stones, forming huge towering clouds, illuminated by lightning flashes.

It was at this time also that a great crack or fissure (A C on plan II.) was formed along the east face of the Tarawera Range. I only had a distant view of this fissure from the eastward, but Mr. Percy Smith, the Assistant Surveyor-General, who had a near view from the sides, reports that the whole east end of the mountain has been blown away, and that the *débris* covers the country to a distance of many miles. The white terrace of pumice-sand that I saw was singularly flat-topped, and seemed to slope abruptly from the mountain like a huge embankment 500ft. high. Besides these heavy sands that lodged close to the fissure in the mountain side, the lighter dust was spread out in the form of stratified clouds, which were distinctly seen, at this period of the eruption, from Rotorua, Tauranga, and Taupo.