



CRATER BAY, THE ONLY LANDING PLACE ON WHITE ISLAND.

## AN ISLAND OF SULPHUR.

BY JAMES R. FALCONER.

*Illustrated from Photographs by CHARLES SPENCER, Auckland.*

ABOUT thirty miles from the shore in the Bay of Plenty, North Island, New Zealand, an immense rock, or rather series of rocks, three miles in circumference, rises precipitously from the sea to a height of eight hundred and sixty feet. It is a desolate island, only inhabited by the wild sea-fowl, and almost forgotten save by the few men who occasionally visit the island to mine the sulphur. White Island is the name given to this spot, and certainly it would be difficult to hit upon a more applicable title, inasmuch as it is constantly enveloped in thick, impenetrable clouds of white vapour, which rise to over ten thousand feet in height, thus making White Island a conspicuous object for many miles round. This is, perhaps, the most extraordinary island in the world. In the first place, it is practically one mass of sulphur, while the clouds of vapour constantly issuing from the craters are highly charged with sulphuric and hydrochloric acid fumes, so powerful at times that the sulphurous odour can be discerned sixty miles away.

So impressive is its appearance from the sea, and so abruptly do the rocks rise from the water's edge, that at first sight it seems

impossible to effect a landing. But as the steamer sweeps round the southern side of the island into Crater Bay a beach comes into view, small, it is true, but sufficient to admit of disembarkation provided the sea be calm. This is the only level stretch of land on the island, the rest being nothing but towering, irregular rocks.

In the centre of the island, nestling among the rocks, is an immense lake about fifty acres in extent, about twelve feet in depth and fifteen feet above the level of the sea. But the most remarkable characteristic of this lake is that the water contains vast quantities of hydrochloric and sulphuric acids, hissing and bubbling at a temperature of  $110^{\circ}$  F. The dark, green-coloured water looks particularly uninviting. Dense clouds of sulphurous fumes constantly roll off this boiling cauldron, and care has to be exercised in approaching the lake to avoid the risk of suffocation. On the opposite side of the lake may be seen the tremendous blowholes, which, when in full blast, present an awe-inspiring sight. The roar of the steam as it rushes forth into the air is deafening, and huge boulders and stones are often hurled out to a height of several hundred feet by

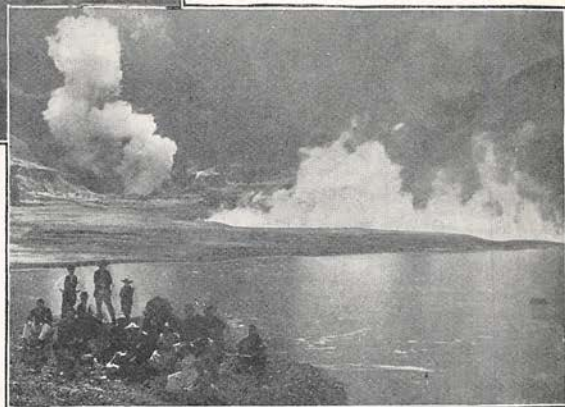
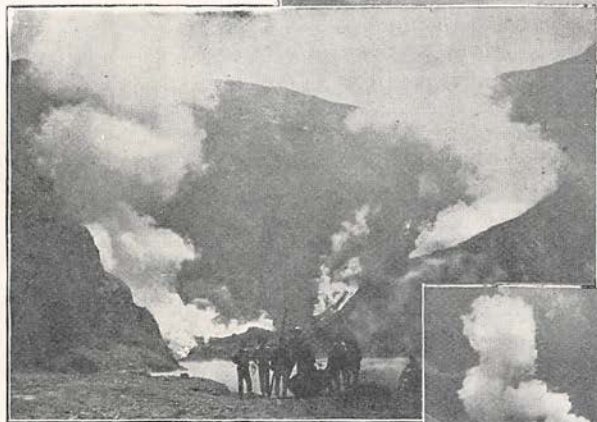
the various internal forces of Nature. On a bright day, with the sun shining, the scene is as pretty as it is novel. The clouds of steam then become glittering white, and the dark surrounding rocks show all the brilliant colours of the rainbow, with the blending of the bright yellow of the sulphur, the white of the gypsum, and the red of the hematite.

A boat brought from the ship can be launched on the lake, and, if proper care be observed, the very edges of the blowholes may be safely explored. But the trip is by no means an enjoyable one. Only those who have inhaled the fumes of sulphuric or

propertied water may be gathered from the fact that the boat shown in our illustration almost dropped to pieces after all the passengers had been landed, under the corroding influence of the powerful acids.

The awful crater must be approached on the windward side, so as to escape the overpowering gases. This, however, is a very venturesome task, for a little slip may precipitate one into the boiling lake. There is also the risk of being suddenly enveloped in a dense cloud of fumes. Under such circumstances it is best to stand still, and to run the risk of being asphyxiated, until the wind carries the vapour into the proper direction.

The scene from the mouth of the blowholes is weird in the



BLOWHOLES IN FULL BLAST AND LAKE OF SULPHURIC AND HYDROCHLORIC ACIDS; THE BOAT IN THE SECOND PHOTO ALMOST DROPPED TO PIECES THROUGH THE CORROSION OF THE RIVETS BY THE ACIDS.

hydrochloric acid can form any idea of the overpowering and noxious gases given off from such an expanse. In addition there is a feeling of uneasiness lest by any mischance the boat upsets, as instantaneous death would be the inevitable result, and in addition the bodies would be absolutely destroyed in a few hours by the corroding action of the acids. Thus a cool head and no little nerve is required to make the expedition. But by cramming handkerchiefs into the mouth, and violently sneezing for a few moments, the other side of the lake may be reached, where a little fresh air can be obtained from the higher ground. Some idea of the strength of this acid-

extreme. Steam belches forth from every fissure and crevice in the rocks and ground, while the noise drowns all other sounds. The whole island is in a ceaseless state of

agitation. Possibly some day there will be a tremendous upheaval, by which the bed of the hot lake may be raised to the same height as the surrounding hills.

When the visitor first sets foot on the island he will probably wonder where the vast quantities of sulphur about which so much has been said are to be found. Except in the immediate neighbourhood of the craters no sulphur is apparent on the surface. But dig a little distance into the earth and rich beds of this mineral will be laid bare. The island is practically one mass of sulphur, mixed with a small quantity of gypsum and one or two other substances. The White Island sulphur is not to be equalled in purity and richness, and one of its most prominent advantages is that it can be utilised for any of the purposes for which sulphur is employed without any preliminary preparation. The new deposits of sulphur found round the mouths of the blowholes are practically pure, only containing two per cent. of foreign substances, while the older deposits consist of about ninety per cent. of pure sulphur.

It is surprising that the immense mines of wealth offered by this sulphur supply have not been more systematically worked. Some years ago a company was formed for the purpose of quarrying the deposits for the manufacture of sulphuric acid and

superphosphate fertilisers, but owing to lack of working capital the scheme fell through. True, a certain amount of sulphur and gypsum is at present exported, but the quantity is small and the means of running the deposits very crude indeed. In addition to these two minerals the valuable substance selenium is to be found mixed with the sulphur, and also hematite. Perhaps in the near future, when West Australia has lost its bewitching glamour for the company promoter, he will direct his attention to the rich and inexhaustible sulphur deposits of White Island. In this case the prospect will be more alluring than the mysterious Westralian gold and timber, for the sulphur is plentiful enough. In the event of a serious war between this country and some foreign nation there is little doubt but that the island would immediately rise to prominence, sulphur being one of the fundamental constituents of gunpowder, and only found in limited quantities in one or two parts of the world. England would therefore be compelled to support a Colonial industry, and to obtain its supply of sulphur from such an available source as White Island. But, in any case, it is to be hoped that the time is not far distant when sulphur will be included among the mineral exports of this far distant British Colony.



SHIPPING THE SULPHUR FROM THE PRIMITIVE LANDING STAGE NOW IN USE.