

ANALYTICAL NOTES.

Iodine was not found in any of these waters, although carefully sought for in them as concentrated.

Lithia, though examined for microscopically in each water, was only found in a few of them.

The amount of carbonic acid was not determined, as there was no indication of its presence in quantity in any of these waters. The fact of silica or other acids being in excess in any water at a high temperature is of course unfavourable to the retention by it of carbonic acid.

From these analytical results it is evident that, while, with one or two exceptions, the waters in question are of an eminently siliceous character, they manifest other characters in some variety, and which are often of such strength that we can classify them thereon, which I attempt in the following schedule. Those waters are placed superiorly in each division which manifest the character of its class to the larger degree :—

Alkaline Water.

No.	Locality.
6.	Otukupuarangi, the Pink Terrace of Rotomahana.
1.	Te Tarata. This forms the great White Terrace of Rotomahana.
2.	Ta-pui Te Koutu.
5.	Koroteoteo, "Oil Bath" at Wakarewarewa.
4.	Kuirau, Native village of Ohinemutu.
7.	Manupirua, south-east shore of Rotoiti.

Acidic Water.

No.	Locality.
9.	Cameron's Bath, Otukupuarangi.
12.	Arikikapakapa.
10.	Perekari.

Acidic and Hepatic Water.

No.	Locality.
14.	Te Kute, the "Great Spring."
11.	Te Kauwhanga.
8.	Te Kauwhanga.
13.	Sulphur Bay Spring, edge of Lake Rotorua.
15.	Te Mimi, Okakahi Waterfall.

Chlorinated Water.

No.	Locality.
3.	Turi-Kore, or Wakarewarewa.

The specific uses of each of these classes of water for hygienic purposes need not be stated here : they are given at length in medical works on the subject.

PAHUA MINERAL WATER.

The last mineral water I have to note here is that from Pahua District, Wairarapa East, No. 1907, contributed by Mr. Sutherland. So far back as the year 1873 a three-ounce bottle of this water was qualitatively examined, and its marked ioduretted character ascertained. A quantity of it was therefore requested, sufficient to allow a complete analysis to be made upon it; but not until the current year has any further supply of the water been received. It was found to be clear, but with a very faint brown tint. A sediment had formed, which was, however, very small. Its reaction is distinctly alkaline, even when unconcentrated and its gaseous contents unexpelled.

This water is characterized by containing sodic chloride in very large quantity in conjunction with iodine or ioduretted compounds in a proportion thereto which is unusually great for mineral water. The amount of sulphates present therein is, as compared with that of the chlorides, remarkably small, being far below that which obtains in the case of sea-water, or water generally, a circumstance which may fairly be taken as indicating that sulphuric acid has been removed, and to a notable extent, by a barytic salt such as the carbonate, from the water supplying the spring whence my sample was procured. This theory is seen to be a very valid one when the fact is considered that sulphate of baryta (heavy-spar) is a pretty common product of the geological district in question. The acid may have been, however, decomposed by organic matter in the place of being eliminated unchanged by the compound named; but, as no evidence of the presence of sulphuretted hydrogen in the water was found, I think the former hypothesis the correct one. Lithia was not found even when spectroscopically examined for in the spirituous extract of half a gallon of the water concentrated to half a fluid ounce.

The total quantity of iodine present (free and combined) in one gallon of the water is 2.127 grains, of which no less than 1.595 grains is in an uncombined state. That any of it should be in this condition is I believe very remarkable, as the existence of native iodine has not yet been announced in any of our standard works, at least to my knowledge, and, this being so, I refrain from any further observation upon this matter, merely stating here that further knowledge in reference to the apparent occurrence of native iodine in this water is very desirable, and is being sought for.

Annexed are the results obtained in analyzing the contents of this water. They are expressed in grains upon the gallon :—