The basin is emptied by an explosive effort, which throws the water to a height of 40 feet, emptying the basin, which again fills up rapidly. The water trickles over the ledges of the terrace, depositing fresh layers of siliceous sinter as it cools in its progress to the lake. The water in the basin has a deep azure blue colour, and a temperature of 210° Fahr.

As received at the Laboratory, the water was faintly turbid, but without any deposit, colourless, and having an alkaline reaction.

Analysis.

Silicate of soda	68·48
Mono-silicate of lime	1·62
Mono-silicate of magnesia	·53
Mono-silicate of iron	·51
Sulphate of potash	—
Sulphate of soda	7·84
Chloride of potassium	2·87
Chloride of sodium	62·61
Phosphate of alumina	traces
Lithia	traces
	144·46

All but the soda are mono-silicates; the little excess of silica, 7·66, is included in the soda silicate.

No. 2.—From Tapui Te Koutu, three-quarters of a mile from Ohinemutu, a large pool, 60 to 80 feet deep. The usual temperature of the water in this pool is from 90° to 100°, with westerly or southerly winds; but if the wind changes to N. or E., the water rises 4 feet in level, and the temperature increases to 180°, with a strong outflow. Thick masses of slimy confervoid plants line the bottom of the pool. As received, the water was clear and colourless, with an alkaline reaction.

Analysis.

Silicate of soda	32·12
Mono-silicate of lime	1·62
Mono-silicate of magnesia	·40
Mono-silicate of iron	·67
Sulphate of soda	7·06
Chloride of potassium	·97
Chloride of sodium	29·94
Phosphate of alumina	traces
	72·78

Excess of silica over what is required to pass these bases as mono-silicates is 5·55.

No. 3.—From Ture-Kore or Wakarewarewa, 2¾ miles from Ohinemutu. The sample was taken from a waterfall which drains from a large pond 300 yards long, the reservoir of a number of boiling springs that are in continual activity. The temperature of this fall is from 96° to 120°. The water is of a dirty brown colour, and is in great repute among the Maoris for the cure of all cutaneous diseases. As received, it was clear and colourless, with a faintly acid reaction, which changes to alkaline on boiling the water.

Analysis.

Silicate of soda	16·32
Silicate of lime	1·61
Silicate of magnesia	1·14
Silicate of iron	·39
Sulphate of soda	13·47
Chloride of potassium	1·24
Chloride of sodium	53·61
Phosphate of alumina	traces
	87·78

No. 4.—From Kuirau, in the Native village of Ohinemutu, on the shore of Rotorua Lake, where a strong stream flows from a number of hot springs which cover an extent of about thirty acres. This has a temperature of from 136° to 156°, and is so soft that clothes can be washed in it without the use of soap. It deposited a white flocculent sediment in the bottles, leaving the water clear, with a faint yellow tint, and an alkaline reaction.

Analysis.

Mono-silicate of soda	2·57
Mono-silicate of lime	·34
Mono-silicate of magnesia	·12
Mono-silicate of iron	·31
Sulphate of soda	10·31
Chloride of potassium	2·08
Chloride of sodium	45·70
Phosphate of alumina	traces
Silica, free	18·42
	79·85