

A REMARKABLE MINERAL WATER.

[Memorandum regarding a Carmine-coloured Water (No. 8124/L) from Stinking Creek, Marlborough, to the Under-Secretary for Mines. By WILLIAM SKEY.]

On the 14th March, 1898, I had a mineral water sent to me by the Secretary of the Department of Agriculture. It proved to be such a remarkable one that it was not before I had certain proofs* that it occurred naturally as alleged in the advices accompanying it that I examined it to the length that I now have.

This water, as I have hitherto had it, varies from a pale to a rich carmine colour, and it keeps persistently turbid for some weeks. It has a strong saline taste and a feeble odour of sulphuretted hydrogen. The proportion of fixed salts found in it was 3·51 per cent. thereon, and this is mainly sodic chloride. It therefore classifies with the chlorinated waters of our text-books, and, indeed, so far as I have as yet been able to get results upon the very limited quantity at my disposal, they show that it compares very well with certain of our sea waters in every way except for the presence of the substance to which its singular colour is due. This substance is quite insoluble in water (hot or cold), but is easily soluble in alcohol, ether, and benzol; and feebly soluble in alkalinized waters, but precipitated therefrom by excess of acids generally. It remains in suspension in water along with the clayey matters, but does not appear to be combined with these matters (as a lake), as particles of it burn entirely away.

Taking all these facts into due consideration, one must look upon this substance as being a resin, and most probably in the series of acid or oxygenated resins. Particulars as to the nature of the surroundings of this spring will be collected for publication, and a complete analysis of the water will be made and reported on as soon as a sufficient quantity of it is to hand for the purpose. It is just probable that this spring passes over a bed of rock-salt; also probable that the red colour that some of our rock-salts have is owing to a red resin such as the one here described; and, further, that the blue colour of the rock-salt of Stassfurt is due to the presence therein of a finely divided coloured resin.

I reserve further remarks for a future occasion.

The Secretary for Agriculture, Wellington.

I BEG to forward a sample of water brought to this office to-day by Mr. Jackson, chemist, which was procured from Stinking Creek, Awatere, this morning. Mr. Jackson would be glad to ascertain the analysis of same. The water is as taken from the creek, no colouring matter having been introduced.

Blenheim, 10th March, 1898.

JOHN MOORE, Stock Inspector.

Inspector Moore, Blenheim.

ATTACHED please find Analyst's report on sample of water forwarded per Mr. Richardson. Kindly see Mr. Skey's remarks, and say if the sample sent is in its natural condition. At same time please forward larger sample—say, about a quart.

23rd March, 1898.

R. EVATT, *pro.* Secretary.

Mineral Water of a Full Pink Hue.

This is a highly saline water, and belongs to the class of mineral waters known as the chlorinated waters. The colouring matter is organic, with a mordant of alumina. It resembles cochineal. I have no knowledge of any natural water occurring that is coloured like this water; so, before I fully analyse the water, I would like to be certain that it is natural and unsophisticated water.

15th March, 1898.

WILLIAM SKEY, Analyst to the Mines Department.

Pink Mineral Water from Stinking Creek, Awatere.

The Secretary for Agriculture, Wellington.

THE sample forwarded for analysis was natural water as taken from the creek, and has had no colouring matter added. I have written to request Agent McKenzie to take a clean quart bottle to the creek, fill, and bring it in himself, and will forward on receipt.

Blenheim, 24th March, 1898.

JOHN MOORE, Stock Inspector.

The Secretary for Agriculture, Wellington.

I HAVE forwarded by mail this day two bottles containing water from Stinking Creek—one perfectly colourless, but containing fibrous roots, watercress; I think the other taken from the stream a mile below the spring-head and highly coloured, as in case of last sample forwarded. These samples may be depended on as natural, as taken from the creek and put into a clean bottle.

Blenheim, 4th April, 1898.

JOHN MOORE, Inspector of Stock.

THE RELATIVE STRENGTH OF WROUGHT-IRON AND STEEL PIPE.

[From the *Engineering and Mining Journal*, New York.]

An investigation into the relative strength of wrought-iron and steel pipe was recently made by Professor Henry M. Howe at the instance of the National Tube-work Company, and the results of these tests have been made public. Three points were included in the trials, the resistance to bursting under pressure, the tensile strength, and the friction, or resistance to the pressure of water. In each three classes of pipes were tried, 2 in. line pipes, 2 in. tubes, and 5½ in. casing. The steel pipes were made at the National Tube-works, and were taken from the ordinary market stock; the wrought-iron pipes were obtained from three makers of good standing, and also represented the usual stock quality.

* See copies of letters.