

10TH JUNE, 1909.

ON THE GROWTH OF ALGÆ IN RESERVOIRS AND HOW TO TREAT IT

(By JAMES FAULKNER)

This communication was read by the President (Mr. James Shirra).

For some years the Service Reservoirs in Perth have developed a growth of Algæ (*Spirillum*) during the summer, always commencing after the warm artesian water is put into use. The algæ arrives at maturity about the sixth day, and though it is in itself harmless, when it is decomposing it imparts an earthy taste and unpleasant smell to the water.

I had read papers dealing with this subject, but these all dealt with Impounding Reservoirs, but no algæ grew in our Impounding Reservoirs, only in the Concrete Service Reservoirs, and my difficulty was to treat the water without stopping the supply, and how far it was permissible to dose the water with poison and still continue the supply to the consumer without check.

I made several experiments with sulphate of copper, but for the reason stated I did not use enough to be effective. At the beginning of the summer, November, 1908, after the algæ had been in evidence a week, I invoked the advice and assistance of the Government Analyst. He advised a dose of the copper salts of four ounces to one million pounds of water. As there were sixteen millions of pounds of water to treat, the full charge was four pounds, cost 1s. 4d. The method of applying the salt was: It was placed in a filter cloth, this was placed in one of the channels through which the warm artesian water flows, the salt was gradually dissolved and thoroughly mixed with the water from the impounding reservoir and artesian bores. This was quite successful. Within 48 hours the algæ turned from a brilliant green color to a shabby

brown, it looked and felt like leather, the taste and smell also disappeared. There was often a green oily appearance on the surface of the water, this was caused by myriads of fragments of the algæ, this also disappeared, leaving the water clear and limpid. The water has been dosed every week since, and there have been no complaints of the reedy taste since the first week this summer.

You will observe that a dose of the sulphate put directly in the water only protects the walls one week, the algæ does not grow in the water, but on the walls of the reservoir, and in the water, for that reason I considered that there was considerable waste in allowing the copper salts to be diffused through the whole body of water. I also noticed that where the cloth, which had the sulphate in it, had rested on the bottom of the concrete channel, that there was a blue stain, and there was never any appearance of growth there. I therefore had a portion of the east and west walls of the No. 1 service reservoir cleaned free from algæ, and washed the walls with water in which a few pounds of the sulphate of copper had been dissolved, and kept this experiment under close observation. The first appearance of algæ on this part of the wall was 40 days after the wall had been prepared. A further trial was made with a greater area of wall, and with practically the same result. This proves that the algæ cannot grow on a prepared, viz., poisoned surface. I have had no trouble with the algæ since, and absolutely no complaints from the consumers on this account.

I hope this short paper will be of interest and value to some of your members. Yours faithfully,

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On the motion of Mr. E. J. Erskine, a vote of thanks was accorded Mr. Faulkner for his valuable contribution.