

Rawburn WTW Taste and odour failures July 2020

DWQR Inspector:
Moira Malcolm

Event No. 11084

Event Category: Significant

A scheduled raw water sample from the Watch Water reservoir on 20 April 2020 noted an increase in total algal cells (3190/ml) which prompted further sampling from the raw and final water of Rawburn WTW and weekly visual checks of the reservoir. Throughout April and May sampling continued and the plant was optimised as no specific treatment is available at Rawburn for the removal of algae or associated taste and odour compounds. Algal cell counts continued to increase and by the end of June raw water geosmin was also increasing. Consumer contacts started to be received for 'earth/musty' taste and odour consistent with geosmin from 6 July and prompted distribution sampling which began on 9 July. This corresponded with a peak in raw water geosmin of 143.5ng/l and corresponding 18.0ng/l in the final water on 10th July. Geosmin is detectable to the human palate at 5ng/l. The peak in distribution was on 14 July at 17.7ng/l. An Operations meeting was called on 14 July to discuss potential interventions, resulting in increased sampling in the raw and final waters and in distribution, and the draw-off point at the reservoir was changed to minimise surface water algae entry at the intake. Investigation were also made in the use of specialist PAC treatment and samples from an alternative source were analysed to see if this could be used, however the geosmin levels were comparable to Watch Water.

Sampling continued throughout August and September, with levels in distribution finally dropping below the detectable taste and odour threshold at the end of August. Consumer contacts were recorded until 18th August. Investigations into the water quality continued and a catchment visit was made in September to assess the catchment and any potential further interventions required. Across July and August a total of 32 consumer contacts were received.

The cause of the incident was an increased level of geosmin in the raw water supplying Rawburn WTW. This reservoir does not have a history of geosmin and there is no specific geosmin removal stage at the works. I note that future mitigation in the form of an air curtain for the reservoir is with Scottish Water's Managed Delivery team to progress, and that Scottish Water have instigated a project to further investigate the rise in algae and taste and odour issues in raw waters affecting their assets across Scotland.

The event has been categorised as Significant. Scottish Water has identified five actions which DWQR accepts are appropriate and will monitor to ensure they are completed prior to signing off the incident. DWQR made no additional recommendations.