

# Incident Summary

## Tullich WTW Taste and odour complaints May 2019

DWQR Inspector:  
Moira Malcolm

Event No. 10181

### Event Category: Significant

On 25th May 2019 the operator at Tullich WTW noticed a musty taste from his water bottle. He informed his team leader and they checked that the works had no ongoing performance issues. It was escalated to Water Operations North Manager and the Public Health Team (PHT) where it was discussed as a possible algal issue. During the conversation it was noted that nine taste and odour contacts had been received from 23-25 May, so sampling for algae and geosmin and a catchment review were scheduled. The operator checked the source at Loch Na Gleann A Bhearraidh but found nothing of significance. By Monday 27th, 23 consumer contacts had been received. An incident team discussed and planned to change the source water to Loch Nell, which had been used during the commissioning of the new WTW and as a result was still connected to the works. On Tuesday 28th the sampling confirmed that the source loch had geosmin levels of 383ng/l and there were elevated levels in the filtered and final water at Tullich WTW (13.3 and 15.1ng/l), and in the zone (15.7ng/l). This indicated that the treatment process was removing the majority of geosmin, but not eliminating it completely. In addition the supernatant return was recirculating water with a level of 34-46ng/l to the head of the works and this was diverted to waste. The proposed alternative source – Loch Nell – had very low levels of geosmin and these results were consistent over the next few days of sampling. On the 28th the plans to change the source water to Loch Nell were agreed with SEPA and finalised. The pipework was flushed and Water Operations input was increased to manage the new raw water and optimise treatment control. The source was then changed on the 29th, and an immediate decrease in geosmin levels were demonstrated after the DAF and RGF stages, with interstage, final water and zonal samples reducing the following day to <5.0ng/l (the normal limit of detection by taste and odour). Elevated levels were found in service reservoirs over the next few days and by 6th June all samples demonstrated normal levels of geosmin. The final consumer contact was recorded on 8th June.

Geosmin levels in Loch Na Gleann A Bhearraidh dropped to 58ng/l by 4th June, but remained elevated around this level until the end of June. After several off-line trials to ensure that low level (30-40ng/l) of geosmin from Loch Na Gleann A Bhearraidh could be removed by the WTW, the raw water was returned to this source in mid-August, where the geosmin level in the loch was now 5ng/l. During the incident a total of 39 taste and odour consumer contacts were received.

The incident was caused by high levels of geosmin in the raw water from Loch Na Gleann A Bhearraidh, which was not removed by the WTW and persisted in the network - despite the change of source water - for two weeks. Scottish Water was unaware that geosmin was a potential issue in the raw water, as the previous WTW used a different mix of treatment solutions which would have removed any geosmin present.

The event has been categorised as Significant. Scottish Water has identified nine 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.

