

## Technical Inspection of Milngavie WTW

<b>Date of Inspection</b>	08/11/2017
<b>DWQR Staff Present</b>	Colette Robertson-Kellie, Bill Byers, Alison Seton
<b>Scottish Water Staff Present</b>	Drew Lowrie, Kevin Callacher, Amy Gove, Gillian McAlpine, Alison Fraser, Les Stirling, Iain Ogilvie, John Gow
<b>Guests</b>	Chris Stark, Sean Jamieson (Scottish Government)

### Summary of Inspection

Milngavie WTW appears to be a well designed and operated modern treatment works, and the quality of the water leaving the works at the time of the audit was of a high standard. The operational staff (Senior Operator, Team Leader and Team Manager) had an excellent level of understanding of the works, and were well supported by the asset planner and process scientists. Routine tasks and record keeping were up to date and records checked were good (task scheduling, water quality instrumentation calibration and servicing, filter logbooks). General housekeeping was excellent. The three lead test rigs in the network showed that the dosing of orthophosphoric acid for plumbosolvency control optimisation is well managed. At the time of the audit, the raw water colour monitor had failed in the early hours of the morning as the deionised water supply to the instrument had run out, and from the many reagents kept on the site, one set were a few days out of date. Neither of these findings were significant, particularly as the raw water quality of the supply is generally stable, and both issues were resolved immediately. The backwashing of filter 11 was observed; air scour patterns, flushing and turbidity trends when the filter was returned to service were all satisfactory. Filter media depth is routinely measured using an effective device designed by the Team Leader, which shows that there is little media loss from the filter, and filter logbook entries are comprehensive. Readings from on-line instrumentation corresponded well with manual samples measured on bench instrumentation, and all instruments appeared to be appropriately calibrated and serviced. Task scheduling was well completed, and the staff are trialling a new electronic system in parallel with the traditional paper system. Routine maintenance tasks are completed, and innovative approaches are taken to make improvements to the site, such as air blowing the polyelectrolyte line to ensure it does not block. Trends on the SCADA system showed that the quality of the supply is consistently high and well managed, and well written site diary entries ensured that the Senior Operator was able to explain and discuss changes in trends. Labelling of instrumentation around the site was good, and well written guides to water quality readings were displayed next to instrumentation. The raw and final water Cryptosporidium sample points had comprehensive sampling records next to them, and there was a supply of spare Cryptosporidium sample filters in case of emergency. The final water sample point was well labelled and securely housed. The Drinking Water Safety Plan (DWSP) showed that there is a facility to bypass filtration, disinfection and the clearwater tank, but all of these bypasses are locked.

The DWSP was discussed with the Asset Planner on the 21st November; it was noted that the raw water schematic did not make reference to the raw water sources (Loch Katrine and Loch Arklet), the treatment works schematic showed two raw water Cryptosporidium sample points instead of the one that is on site, and there are a number of risks where likelihood has either not been given a score or is scored as zero. It is recommended that the DWSP is reviewed.

There are no recommendations from this audit.