

## Daer WTW Elevated Manganese Late Summer 2021

DWQR Inspector:  
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Event No. 11955

### **Event Category: Major**

Elevated manganese concentrations in water leaving Daer WTW between August and October 2021 caused discoloured water complaints from consumers. The manganese was caused by exceptionally low water levels in Daer reservoir, a situation that also affected nearby Camps reservoir. The treatment process at Daer did not have a manganese removal stage. Eventually, a temporary process was installed and this began to have some effect in reducing manganese concentrations. A considerable number of contacts from consumers were received about discoloured water by Scottish Water during the period. The Daer Water Supply Zone recorded a total of 5727 discolouration contacts in the period August to early October, while the shared Daer / Camps supply zone recorded 6352.

It is apparent that manganese concentrations in the raw water rose rapidly, once the reservoir fell to a certain level. As manganese was not routinely monitored in water leaving the treatment works (regulatory monitoring is at consumers' taps) the issue with the raw water was not spotted immediately. Daer WTW had no treatment process capable of removing manganese, meaning that the manganese passed through the plant and into the distribution system. Here it caused intermittent discoloured water supplies for an extended period and over a wide area. Possibly, greater consideration should have been given to the risk of manganese at the site, with regular monitoring ex-works, although it is acknowledged that on this occasion, levels rose very quickly meaning a quicker response may not have been possible.

Once the manganese left the treatment works it accumulated in the distribution system, periodically causing discolouration to consumers' supplies over a wide area. Although contacts about discolouration reduced once the temporary manganese removal process was installed, it is likely that deposits of manganese remain in the system that may need to be managed to avoid future incidents.

The event has been categorised as major. Scottish Water has identified fourteen actions which DWQR accepts are appropriate and will monitor to ensure they are completed prior to signing off the incident. DWQR made three additional recommendations.

