

Kinnesswood Borehole 2 Cryptosporidium Detection 16 August 2012

DWQR Inspector:
William Byers

Event 4875

Summary of Incident

The analysis of a sample taken on 16 August as routine monitoring for cryptosporidium, detected 0.014 Oocysts/10 litres. In response to the result, the Operations team closed down the borehole as a precautionary measure. Some construction activity was taking place on the site at this time and since the detection was an unusual occurrence it was decided the borehole would remain out of service until the cause could be established.

DWQR Assessment of Cause of Incident

DWQR considers the likely cause of the Cryptosporidium detection to be ingress to the borehole. Declaration as an incident however is due to the failure of management processes to ensure water quality is safeguarded. Construction works were being carried out at the site to improve protection against inundation of the borehole by flood waters which involved the direct coupling of the borehole sleeve and wellhead and sealing of ancillary tappings to the borehole. Commencing in July 2011, an aspect of the work was not completed and this permitted ingress as the wellhead chamber flooded. In addition, earlier unrelated works carried out on the access road to the site, had the effect of diverting surface water run-off towards the borehole and with heavy rainfall in the days prior to the detection, it is likely that this provided the route for Cryptosporidium to enter the supply. Samples taken in the days leading up to the detection showed there to be no Cryptosporidium issues.

DWQR Assessment of Actions Taken by Scottish Water

DWQR is satisfied that Scottish Water took the necessary immediate actions to safeguard consumers and the borehole remained unavailable for service until all works were completed. It is however of grave concern that the risks of ingress to an active public water supply source appear not to have been fully understood by works designers and planners and also by the contractors during construction works at the site. Failure to recognise the possible passage of surface water between chambers to the wellhead as a significant risk and identify the necessary work to remove the risk, together with the persistence of incomplete work through the project sign-off process, allowed the conditions for this incident to exist for an undue length of time. DWQR expects Scottish Water to provide the highest level of attention to hygiene issues in the design, planning and management of construction works to prevent contamination of water supplies.

DWQR made three recommendations and will be monitoring to ensure they are completed prior to signing off the incident.