

Assynt RSZ Microbiological Contamination of Water Main November 2014

DWQR Inspector:
Matt Bower

Event No. 5739

Event Classification: Significant

Summary of Incident

Following complaints of no water from a number of properties in Kings Court, Beauly, on 27 November 2013, Scottish Water investigated and discovered that boundary boxes were choked with the remains of an animal. Following consultation with NHS Highland, an immediate *Don't Use for Drinking, Cooking or Washing* notice was issued to 23 properties. Bottled water was provided to all affected consumers. Scottish Water investigated all possible routes of ingress, including sampling more widely in the network and at storage points.

Samples taken from the affected properties were found to contain large numbers of coliforms, but samples from the wider area were clear, suggesting a localised issue.

Over the following days, Scottish Water undertook flushing of water mains and injected additional chlorine into the network. This continued until 2 December, when, following clear samples and further inspection it was possible to lift the restrictions at all but one property. Sampling continued and over the next few days samples from a number of properties sporadically contained low levels of coliforms. As a result, one additional property was returned to a boil notice. It was 9 December before clear samples were returned at all properties and all restrictions were lifted.

The animal remains were identified as belonging to a rabbit. Scottish Water investigated possible routes by which the animal could have entered the main, although this has proved inconclusive.

DWQR Assessment of Cause of Incident

Strict hygiene measures are in place during the laying of new water mains and the repair of existing ones in order to prevent contamination, although this incident suggests that these measures failed on this occasion. Scottish Water has been unable to pinpoint the exact occasion and location at which the rabbit entered the water main. The company has reviewed all recent work on water mains in the area. The affected properties are on a relatively new development for which the water main was laid in 2010. Scottish Water have used forensic techniques to positively identify the remains as a rabbit and establish that it is likely to have died within the last year. Scottish Water has been unable to identify any specific opportunity in the vicinity during which access could have been gained to the water main within this timescale. Samples and paperwork for all work on water mains in the area in recent years have been reviewed and found to be in order.



This incident is totally unacceptable, and there is clear sample evidence that the introduction of an animal corpse into the water main, whenever this occurred, caused microbiological contamination of the water supply. Although no pathogenic organisms were detected in any of the samples, and chlorine residuals were satisfactory throughout, it is not possible to categorically state that the health of those drinking the water was not put at risk.

DWQR Assessment of Actions Taken by Scottish Water

Once Scottish Water was alerted to a problem, the company moved quickly to notify the Health Board and precautionary restrictions were quickly put in place. Appropriate samples were taken and the main was flushed to remove any remaining contamination. Chlorine solution was injected into the main over two days and sampling continued. DWQR considers that Scottish Water were diligent in their actions to restore quality and ensure consumers were protected. Liaison with stakeholders appears to have been good.

Scottish Water has been able to exclude the possibility that the rabbit entered a long way upstream in the system, either at the treatment works or a service reservoir, but there are a number of potential occasions when local work on the water main could have allowed ingress. None of these exactly match the circumstances suggested by the likely age of the rabbit, however. Although it is disappointing that Scottish Water has been unable to pinpoint exactly how and when the rabbit was able to enter the water main, it is clear that mains opening or asset integrity procedures have failed here. It is of some reassurance that Scottish Water has been able to locate and review paperwork for all of the identified occasions when work on the water main took place and confirm that these appear in order.

DWQR has classified this event as Significant. Scottish Water has identified and completed two actions associated with this incident.

