

Responses to Martin Freeth's questions to SWDC about the Martinborough water incidents

5 September 2019

1. The Council statement of 30 July states that the "likely source" of e-coli contamination could not be found. Why could the source (actual or likely) not be found? Could the Council please give an explanation for why it has failed to identify the contamination source?

For the first incident in February, the most likely cause of contamination was the failure of the UV disinfection system. The UV disinfection system was fixed so it was working to manufacturer's specifications and all high-risk backflow prevention sites throughout the water network were addressed.

Following the second incident, analysis of the UV data ruled this out as the cause. For the incident in April, the most likely cause is failure of a backflow prevention mechanism.

Given that there are over 900 known private backflow prevention mechanisms, to date we have not been able to identify which one was the likely cause of the contamination.

In addition, we can't rule out the possibility that there was more than one mechanism at fault and whether this cause contributed to the first contamination incident.

2. The officers report to the Council on 24 April stated that it was "virtually impossible to conclusively determine the cause of the latest water contamination incident". Was there, in fact, any further investigation to determine the source after 24 April?

As above.

3. Note that officers told the Council on 24 April that "backflow" from an unknown number of connections to the water supply system was a likely cause. Why has the Council not been able to confirm this and/or to identify which instances of backflow are most likely to have caused contamination?

As above.

4. The Lutra report (5 April) identifies a malfunction of the UV treatment equipment was the "probable cause" of the first contamination incident. Has the Council determined that this was not, in fact, the case and if so, how was this conclusion reached?

Online monitoring of the UV dose as well as sampling taken at the plant ruled out the UV system as the likely cause of the second incident.

5. Does the Council not agree that whenever a major problem occurs with a piece of infrastructure, identifying the cause of the problem is a necessary first step to deciding the best solution to the problem?

Ensuring the health and wellbeing of the community was the first step. Once this was addressed by issuing the Boil Water Notice, we set about to systematically identify and address the high-risk sites of contamination, in an effort to identify the source.

There are a total of 900 known backflow prevention mechanisms that we are advised would cost approximately \$600 each to get checked. Given the cost and magnitude of carrying out this work, and that there is no guarantee it would result in identifying the cause of the problem, we do not

believe this would be in the public interest. Chlorination is a more immediate and effective solution to ensuring safe drinking water.

6. The Council resolved on 24 April that officers would “complete their investigation of the impact of chlorination on the vineyard and breweries in Martinborough and take action by 13 May to ensure chlorination does not adversely impact the products from these businesses”. What was the outcome of this investigation and what actions did officers identify as necessary to avoid adverse impacts?

After a number of workshops with the wine representatives, temporary chlorination was delayed by two weeks to give them time to make arrangements to ensure no negative impacts on their products, for example to install carbon filters or find an alternative source of water.

7. On 24 April, the Council further resolved to “review whether carbon filters suitable for wineries could be purchased via Wellington Water, and whether interest-free terms can be arranged”. Could the Council please report on the outcome of this review? Were carbon filters available and were free loans available?

Bulk purchasing of carbon filters for the wineries was explored but given the range of carbon filter options available and the different needs of the wineries/breweries, Council concluded this was not feasible. Council decided instead to offer interest-free loans to the wineries and breweries.

8. The Council reported on 30 July that \$296,000 of costs were incurred as a result of the contamination events. Was any of that money used to purchase carbon filters for the use of wineries and breweries, and/or was any of that money used to fund interest-free loans to those particular businesses? If so, what was that portion of the total cost used to ensure no impact of chlorination on wineries and breweries?

No. The \$296,000 given as the cost of the incidents to Council did not include the cost for providing interest-free loans.

9. Have any wineries or breweries been supplied with chlorinated water by the Council since the second boiled water notice was lifted soon after 13 May?

No, wineries and breweries are not taking the chlorinated water to our knowledge. Vineyards may be using chlorinated water for irrigation purposes. Council has been able to provide an unchlorinated water supply to three wineries.

10. On 24 April, the Council formally resolved to adopt “temporary chlorination” of the water supply. Has the Council now formally resolved to adopt permanent chlorination and if not, is there an intention to do so before or after installation of equipment to remove manganese from the Martinborough town bores?

Council has formally adopted to install a manganese removal plant, which is required to be able to draw water from all the bores to meet water demand over summer. Council believes that permanent chlorination is the best solution for providing a multibarrier approach to the town’s drinking water supply. We are awaiting the conclusion of community engagement to ensure we have considered all the information before Council formally makes the decision to permanently chlorinate. This decision will be made prior to the installation of the manganese removal plant.

11. On the Council CEO's cover note to the Lutra report (5 April), reference was made to that report being an input to the Council's "overall post-incident review". Will the Council publish a report upon completion of that overall review?

The Post-Incident Review has been actioned by the release of the Lessons Learned Report to the Assets and Services Committee on 4 September. This is also available on our website.

12. The Mayor is reported to have given an undertaking at the 8 April public meeting that the Council would "work through" the corrective actions proposed by its water expert consultants, Lutra. What further decisions are pending by the Council to deliver on that commitment or does the Council consider that all corrective actions are already decided upon?

Refer to the Appendix 1 in the Lessons Learned Report available on our website.

13. The officers report of 24 April refers to the "ongoing risk posed by backflow" and states that "a residual disinfectant in the network reduces this risk significantly, and is a further management tool in addition to (but not a replacement for) an actively managed backflow prevention program". Has the Council instigated an actively managed backflow prevention programme? If not, will the Council do so in the future? If not, why not?

Yes, Council has considered a managed backflow prevention programme. With a total of 900 known backflow prevention mechanisms that will cost \$600 per mechanism to check, there is a significant cost to implementing such a programme. As such, the proposed programme will be included in next year's Annual Plan consultation, for the community to give feedback on.

14. The Council's Asset Management reports and the Lutra report record that supply from the Martinborough water treatment plant has not for some years (or ever?) been compliant with the Drinking Water Standard for NZ. Will the Council give a public assurance that it will supply consistently compliant drinking water from a certain date in the near future, once all corrective actions that the Council deems necessary are taken? When will Martinborough receive DWSNZ compliant drinking water?

Council's stated objective is to provide clean, clear, safe and secure drinking water for the long term. The installation of the manganese removal plant and ongoing chlorination are important steps to ensuring the community receives DWSNZ-compliant drinking water.

15. Water quality and safety is impacted by the presence of pathogens, including e-coli, and by the levels of nitrates and phosphates. Is the Council aware of media coverage on the issue of nitrate contamination of groundwater and aquifers – and of risks to human health where this water is used for town or domestic supply – resulting from dairy farm runoff? Has the Council and its consultants given any consideration to these risks as also highlighted in the "Environment Aotearoa" report from the Ministry of the Environment and Statistics NZ (March 2019) and earlier reports by the Commissioner for the Environment?

Water quality can be affected by a range of factors. These are managed in the Water Safety Plan – refer to appendix 2 in the Lessons Learned Report available on our website for critical monitoring points of the source water and throughout the network.

Pathogens and E. coli are managed currently through treatment. Phosphates are not considered a risk for drinking water (DWSNZ). Nitrates are recognised and monitored and Council takes its guidance from the DWSNZ, which are reviewed continually.

16. Could the Council please explain whether adding chlorine to water supply will address risks of e-coli and also of unhealthy levels of nitrates and/or phosphates as these might exist in the short, medium and long terms?

E. coli is a bacterial indicator of contamination. Adding chlorine and UV disinfectants are proven treatments for addressing bacteria for water supplies. Our monitoring of water for nitrates shows nitrate levels in our drinking water are below but the thresholds of what is considered safe in DWSNZ.

17. The Lutra report notes that the Martinborough supply bores draw water from an aquifer that is “unconfined and highly permeable”. Council information shows the bores are on dairy farmland adjacent to the Ruamahanga River. What consideration has the Council given to relocation of Martinborough’s water source to avoid possible contamination from farm runoff including e-coli and/or nitrate contamination? If no consideration has been given, why not in light of the Council’s statement (30 July) that “protecting public health and the resilience of the town’s water supply is our highest priority”?

OPUS conducted a catchment risk assessment resulting in the installation of UV disinfection system and chlorination. Yes we have considered this and we continue to look for other water sources for the purposes of security of supply.

18. Will the Council give full effect to Principle 2 of the “six principles for safe drinking water” adopted after the Havelock North contamination crisis: Protection of source water is of paramount importance? In light of the priority stated above, will the Council consider the long-term suitability of the current bores in comparison with alternative water sources that are not under dairy farmland adjacent to the Ruamahanga?

Yes. Council will continue to consider the bores long-term suitability and alternative water sources, taking into consideration the effects of land use in the area. Ground water travels a considerable distance so the effects of pastoral land use are likely to be present in all groundwater.