



Drinking Water Audit Report

County:	Co. Cork	Date of Audit:	14/04/2015
Plant visited:	Templemartin PWS (0500PUB3104)	Date of issue of Audit Report:	21/04/2015
		File Reference:	DW2015/45
		Auditors:	M. Cliona Ní Eidhin Ms. Michelle Roche
Audit Criteria:	<ul style="list-style-type: none"> • The <i>European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014)</i>. • The <i>EPA Handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies (ISBN: 978-1-84095-349-7)</i> • The recommendations specified in the <i>EPA Drinking Water Report</i>. • The recommendations in any previous audit reports. 		

MAIN FINDINGS

- i. *The concrete chamber enclosing the uncapped well head is part covered by a roadside earthen embankment establishing the potential for ingress into the well.*
- ii. *The disinfection alarm currently alerts only one individual when triggered. There is no dial-out cascade in place.*
- iii. *The sodium hypochlorite in use as a disinfectant in this supply was reported during the audit to be of a suspected different strength to that indicated on the canisters.*

1. INTRODUCTION

Under the *European Union (Drinking Water) Regulations 2014* the Environmental Protection Agency is the supervisory authority in relation to Irish Water and its role in the provision of public water supplies. This audit was carried out to assess the performance of Irish Water in providing clean and wholesome drinking water. Where the text refers to the Water Service Authority this refers to Irish Water in accordance with Section 7 of the Water Services (No. 2) Act 2013.

The Templemartin public water supply is a former group water scheme which was taken in charge by the local authority prior to the establishment of Irish Water. It is located some 22 km west south west of Cork City and 4km south of Cloughduv village, Co. Cork. The raw water source is a single borehole located at the side of a country road, external to a small treatment building. The supply produces 12 m³/day on average and serves 18 houses dispersed rurally in the locality of the well. Treatment comprises disinfection with sodium hypochlorite followed immediately by pH correction using sodium carbonate. There is no storage of treated water in this supply and the pump operates on demand sending treated water to distribution via a pressure vessel located within the treatment building.

This unannounced audit commenced at 12.00pm at Templemartin. The scope and purpose of the audit were outlined at the opening meeting. The audit process consisted of interviews with staff, review of records and observations made during an inspection of the treatment plant. The audit observations and

recommendations are listed in Section 2 and 4 of this report. Photographs taken by Cliona Ní Eidhin during the audit are attached to this report and are referred to in the text where relevant.

The following were in attendance during the audit and closing meeting:

Representing Irish Water:
Kevin Murphy – Water Engineer Deirdre O’Loughlin – Compliance Analyst Dennis O’Regan – A/Engineer (Cork County Council) Padraig Thornton – A/Senior Engineer (Cork County Council) Dave Sheehan – Executive Scientist (Cork County Council) Finbarr Harrington – Water Curator (Cork County Council)
Representing the Environmental Protection Agency:
Cliona Ní Eidhin - Inspector Michelle Roche - Inspector

2. AUDIT OBSERVATIONS

The audit process is a random sample on a particular day of a facility's operation. Where an observation or recommendation against a particular issue has not been reported, this should not be construed to mean that this issue is fully addressed.

1.	<p>Source Protection</p> <p>a. As this was an unannounced audit, the WSA did not have the Cryptosporidium Risk Assessment score for this supply available for the audit.</p> <p>b. The WSA confirmed that the farmer owning lands around the well had been written to and informed of his obligations under the Good Agricultural Practice Regulations.</p> <p>c. The well head is enclosed within a concrete chamber raised above ground level. The chamber, however, has become part-covered by an earthen roadside embankment. This, it was noted, presents a risk of surface water ingress. (See Photograph 1)</p> <p>d. The well head was not accessible for inspection during the audit as it is housed within a heavy-lidded concrete chamber. The WSA informed the auditor, however, that it had been inspected 3 years ago when the pump was replaced and confirmed that the borehole is not capped.</p>
2.	<p>Monitoring and Sampling Programme for raw water</p> <p>a. As this was an unannounced audit, no raw water monitoring data were available for inspection during the audit.</p>
3.	<p>Chlorination and Disinfection</p> <p>a. Disinfection apparatus were examined during the audit and no deficiencies or observations of concern were noted. Duty and standby disinfection dosing pumps were confirmed to be in place, with automatic switchover in the event of duty pump failure. A chlorine monitor is in place; a low level set point of 0.2 mg/l is set. A chlorine level of 0.5 mg/l is aimed for in water leaving the treatment plant.</p> <p>b. The disinfection contact time calculation was not available at the audit as this was an unannounced audit.</p> <p>c. No chlorine residual readings from the network were available for inspection as this was an unannounced audit.</p> <p>d. The disinfection alarm currently alerts only one individual when triggered. There is no dial-out cascade in place.</p>

4.	<p>Monitoring and Sampling Programmes for Treated Water</p> <p>a. As this was an unannounced audit, no treated water monitoring data were available for inspection during the audit.</p>
5.	<p>Hygiene and Housekeeping</p> <p>a. The treatment plant building was very tidy and clean and no observations of concern were noted.</p>
6.	<p>Management and Control</p> <p>a. The WSA informed the auditor that the batch of Sodium Hypochlorite currently in use would appear to not be of the strength stated on the canisters and that a new supplier was being sought for future batches of chemical purchased.</p> <p>b. No procedure is documented and available at the treatment plant building for the mixing of soda ash in the day-tank for use in pH correction.</p> <p>c. The window to the treatment plant hut was noted to be open and potentially accessible to small animals or birds.</p>

3. AUDITORS COMMENTS

The Templemartin Public Water Supply was found to have all the required disinfection treatment and verification apparatus in place and was well maintained. The security of the borehole itself requires addressing as it is almost covered by an earthen embankment. Arrangements should be put in place for the setting up of a dial-out cascade when a disinfection alarm is triggered and an early resolution to the issue with the sodium hypochlorite batch in use should be expedited.

4. RECOMMENDATIONS

Source Protection

1. Irish Water should submit the source protection, catchment risk, and overall score for the *Cryptosporidium* risk assessment of the Templemartin PWS.
2. Irish Water should undertake works to remove the accumulated earthen embankment and vegetation from immediately around the borehole chamber to prevent ingress of surface water or drainage water and to facilitate access to the borehole for maintenance and inspection.
3. Irish Water should ensure that the borehole is capped and sealed in order to prevent ingress.

Monitoring and Sampling Programmes for Raw Water

4. Irish Water should submit all available raw water monitoring results for the Templemartin PWS to the EPA for the period January 2014 to date.

Disinfection

5. Irish Water should submit a calculation of the effective contact time to the Agency.
6. Irish Water should establish a dial-out cascade such that more than one person is alerted when an alarm is triggered. A documented procedure should be developed and maintained in a Plant manual detailing actions taken by participants in the cascade in response to an alarm.
7. Irish Water should submit chlorine residual readings taken in the network for the period January 2015 to the date of the audit on 14/04/2015.

Monitoring and Sampling Programmes for Treated Water

8. Irish Water should submit treated water monitoring results for the Templemartin PWS to the EPA for the period January 2014 to date.

Management and Control

9. Irish Water should take action to ensure that sodium hypochlorite in use for disinfection is of verified strength and reliable for use as a disinfectant.
10. Irish Water should develop operating procedures for the mixing of sodium carbonate and have these available at the treatment plant building within a Plant Manual.
11. Irish Water should ensure that the treatment building is made inaccessible to small animals or birds.

FOLLOW-UP ACTIONS REQUIRED BY IRISH WATER

During the audit Irish Water representatives were advised of the audit findings and that action must be taken as a priority by Irish Water to address the issues raised. This report has been reviewed and approved by Ms Yvonne Doris, Drinking Water Team Leader.

Irish Water should submit a report to the Agency within one month of the date of this audit report detailing how it has dealt with the issues of concern identified during this audit. The report should include details on the action taken and planned to address the various recommendations, including timeframe for commencement and completion of any planned work.

The EPA also advises that the findings and recommendations from this audit report should, where relevant, be addressed at all other treatment plants operated and managed by Irish Water.

Please quote the File Reference Number **DW2015/45** in any future correspondence in relation to this Report.

Report prepared by:

Celina Ní Licháin

Date:

21/04/2015

Inspector

Photograph No. 1: Concrete chamber containing uncapped well head – part-covered by earthen embankment.

