

# Site Visit Report

Under the *European Union (Drinking Water) Regulations 2023*, the Environmental Protection Agency (EPA) is the supervisory authority in relation to Uisce Éireann and its role in the provision of public drinking water supplies. This audit was carried out to assess the performance of Uisce Éireann in providing clean and wholesome water to the public water supply named below.

The audit process is a sample of the performance of a water treatment plant and public water supply on a given date.

Water Supply Zone	
<b>Name of Installation</b>	Grallagh
<b>Organisation</b>	Uisce Éireann
<b>Scheme Code</b>	3100PUB1053
<b>County</b>	Waterford
<b>Site Visit Reference No.</b>	SV28440

Report Detail	
<b>Issue Date</b>	05/01/2024
<b>Prepared By</b>	Paul Buckley

Site Visit Detail			
<b>Date Of Inspection</b>	13/12/2023	<b>Announced</b>	Yes
<b>Time In</b>	14:00	<b>Time Out</b>	14:50
<b>EPA Inspector(s)</b>	Paul Buckley Regina Campbell		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Uisce Éireann: Denis McGrath. Waterford City and County Council (working in partnership with Uisce Éireann): David Hourigan, David Whelan and Denis Conway.		

## > Summary of Key Findings

1. A Boil Water Notice was placed on the Grallagh Public Water Supply on 19/10/2023 in response to a period of elevated turbidity in the raw water ( $> 1$  NTU) following a period of heavy rain. The audit confirmed that the incident had been appropriately escalated and responded to in order to protect consumers. The Boil Water Notice was rescinded on 23/11/2023.
2. Uisce Éireann were unable to confirm the protozoal log treatment requirement for the Grallagh Public Water Supply. No monitoring for *Cryptosporidium* in line with Uisce Éireann's Rationale for Determining the Frequency of *Cryptosporidium* Monitoring in Public Water Supplies is currently taking place for the supply.
3. Grallagh Public Water Supply is on the Uisce Éireann National pH file as it has persistent low pH ( $< 6.5$  pH). Remedial works to correct the pH issue are proposed to be completed under Phase 2 of the Uisce Éireann Disinfection Programme and Uisce Éireann should ensure that these works are undertaken without delay.
4. Further upgrade works under the Uisce Éireann Water Treatment Programme are planned at the Grallagh Water Treatment Plant.

## > Introduction

The Grallagh Public Water Supply (PWS) supplies an average of 17 m<sup>3</sup>/day of water, serving a population of 67 people. This is not reflective of the supply volume noted on the EPA EDEN website.

Raw water is obtained from one borehole located adjacent to the water treatment plant (WTP). Treatment consists of chlorination.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water following the imposition of a Boil Water Notice (BWN) on the supply on 19/10/2023, and which was rescinded on 23/11/2023. The BWN was placed on the supply due to persistent elevated turbidity following a period of heavy rainfall.

## > Supply Zones Areas Inspected

The borehole and chlorination disinfection system at the water treatment plant were inspected.



## 1. Incident Management

	Answer
1.1 Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?	Yes
<b>Comment</b>	
<p>Following a period of heavy rainfall on 17/10/2023 and 18/10/2023, raw water turbidity at the Grallagh water treatment plant rose above 1 NTU resulting in a plant shutdown. The turbidity remained elevated and a Boil Water Notice was put in place on 19/10/2023 for a portion of the network, impacting approximately 30 consumers, and the remainder of the network was supplied from the Clashmore Public Water Scheme. The Boil Water Notice was lifted on 23/11/2023 following 3 clear bacteriological samples, the stabilization of turbidity below 1 NTU and stable network residual chlorine concentrations above 0.1 mg/l.</p>	



## 2. Source Protection

	Answer
2.1 Is the abstraction source(s) adequately protected against contamination?	No
<b>Comment</b>	
A crack was noted in the borehole wellhead chamber exterior and the area surrounding the dip tube was not adequately sealed.	



### 3. Management and Control

	Answer	
3.1	Is the water treatment plant resilient enough to cope with significant variations in raw water quality or demand?	No
<b>Comment</b>		
<p>Elevated turbidity (&gt; 1 NTU) has been noted in the borehole supply from time to time in recent years. Shutdown is in place if turbidity rises above &gt; 1 NTU.</p> <p>Low pH (&lt; 6.5) has also been noted in the borehole supply in recent years.</p> <p>Uisce Éireann indicated during the audit that further upgrade works are planned for the water treatment plant however no timelines for the completion of works were available.</p>		

	Answer	
3.2	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
<b>Comment</b>		
<p>The protozoal compliance log treatment requirement has not been identified for the supply.</p>		

	Answer	
3.3	Are instrument calibrations within date?	No
<b>Comment</b>		
<p>No calibration labels were visible on the duty and standby chlorine pumps.</p> <p>Calibration labels on the turbidity monitors noted a "Next Calibration Date" of December 2023.</p>		



## 4. Drinking Water Quality

		Answer
4.1	Is <i>Cryptosporidium</i> monitoring being carried out in accordance with Irish Water's 'Rationale for Determining the Frequency of <i>Cryptosporidium</i> Monitoring in Public Water Supplies'?	No
<b>Comment</b>		
Uisce Éireann stated during the audit that no <i>Cryptosporidium</i> monitoring is currently being undertaken on the supply.		

## Recommendations

<b>Subject</b>	13122023 Grallagh Audit Recommendations	<b>Due Date</b>	05/02/2024
<b>Action Text</b>	<p><b>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</b></p> <ol style="list-style-type: none"><li>1. Put remedial measures in place to ensure that future incidents of elevated turbidity do not impact the security of the supply.</li><li>2. i) Confirm the protozoal log treatment requirement for the supply, ii) provide details of how any protozoal log treatment deficit, if identified, will be addressed, and iii) commence monitoring of the supply in line with the Uisce Éireann Rationale for Determining the Frequency of <i>Cryptosporidium</i> Monitoring in Public Water Supplies.</li><li>3. Ensure that i) all instruments have been calibrated as per the manufacturer's requirements, and ii) labels are displayed on all instruments.</li><li>4. Update EDEN with the correct volume distributed in the supply.</li><li>5. Submit a programme of works, with timeframes, to address the persistent low pH issue in the supply.</li><li>6. Ensure the borehole is lined and sealed in accordance with EPA Advice Note No. 14: Wellhead Protection and Borehole Construction.</li></ol> <p><b>Actions required by Uisce Éireann</b></p> <p>During the audit, Uisce Éireann representatives were advised of the audit findings and that action must be taken by Uisce Éireann to address the issues raised.</p> <p>Uisce Éireann should submit a report to the EPA on or before 05/02/2024 detailing the actions taken and planned, with timescales, to close out the above recommendations.</p> <p>The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.</p>		