

# Groundwater Public Water Supply (PWS) Audit Report



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

|  |                     |                              |                                  |
|--|---------------------|------------------------------|----------------------------------|
| Date of visit  | 12/03/2012 09:37:00 | Water Service Authority      | Wexford County Council           |
| WFD Site Code  | 26_010              | Site name                    | S.Wexford RWS (Rathmacknee BH)   |
| Water Supply Zone Code                               | 3300PUB1314         | Name of Water Supply         | Fardystown Regional Water Supply |
|  |                     | Easting : 303580             | Northing : 113946                |
| Name of WSA Personnel 1                              | Tony Quirke         | Job Title of WSA Personnel 1 | Executive Engineer               |
| Name of WSA Personnel 2                              | Paul Delahunty      | Job Title of WSA Personnel 2 | Other                            |
| Time In  | 9:36                | Time Out                     | 10:09                            |
| Site Contact   | Enda Lambert        |                              |                                  |
| Meteorological conditions at the time of audit       | Calm, Cloudy, Dry   |                              |                                  |
| Meteorological conditions over the previous 24 hours | Dry                 |                              |                                  |
| Name of Auditor                                      | Pat Groves          |                              |                                  |

| General  | Response                              | Comment  |
|--|---------------------------------------|--|
| 1. Has the caretaker completed a recognized training course on disinfection ?  | No                                    |  |
| 2. Is there a single ground water bore hole in use ?   | Yes                                   |  |
| 3. If there is more than one ground water borehole in use specify the numbers  | N/A                                   |  |
| 4. Specify the volumes in m3/day of groundwater abstracted from each of the boreholes ?                                      | Approximately 1,000m3/d over 20 hours |  |
| 5. Is there a surface water source in use in addition to the groundwater source ?  | No                                    |  |
| 6. If there is a surface water source in use in addition to the groundwater source specifies the volume abstracted in m3/day | N/A                                   |  |
| 7. In the case of multiple sources are they mixed prior to treatment ?   | No                                    | Added to distribution network at site location |
| 8. How long does it take water to get to the first consumer (in minutes approx) ?  | Approx. 10 hours from tower           |  |
| 9. Has a photograph of the well/borehole or spring been taken ?  | Yes                                   |  |

| Treatment Processes                                    | Response      | Comment |
|--|---------------|---------|
| 10. Is the supply fluoridated ?                        | Yes           |         |
| 11. Is the water passed through a filtration process ? | Rapid Gravity |         |
| 12. Is pH correction being used at the plant ?         | No            |         |
| 13. Specify any other treatment processes at the plant | Other Specify |         |

| Source Protection   | Response | Comment  |
|---|----------|--|
| 14. Are there borehold logs and construction details available for the supply ? | No       | Not available at time of audit   |
| 15. Is there visual evidence of surface water ingress at the source ?           | No       |  |
| 16. Is the spring or wellhead adequately protected ?                            | Yes      |  |
| 17. Is a Source Protection Zone delineated ?                                    | Yes      |  |
| 18. Are there any abandoned well/boreholes for this supply ?                    | Yes      | 1 test well  |
| 19. If yes, have they been decommissioned in accordance with best practice ?    | No       | Capped only  |
| 20. Have the GAP regulation setback distances been put in place ?               | No       | Generl good agricultural practice required as regulated by the Co. Co. |
| 21. Has the landowner been advised in writing of the setback distances ?        | No       | No written advice on file  |
| 22. Is there any evidence of landspreading within the setback distances ?       | No       |  |

|   |    |  |
|---|----|--|
| 23. Is there an on-site wastewater treatment system at the plant or within 60m of the borehole(s) ? | No | Private sewer treatment unit within approx. 60m NW of borehole |
|---|----|--|

| Water Quality   | Response | Comment            |
|---|----------|--------------------|
| 24. Is the source susceptible to rapid variations in raw water quality ?  | No       |                    |
| 25. Does an assessment of the historical raw water data indicate microbiological contamination ?                    | No       |                    |
| 26. Does an assessment of the historical raw water data indicate turbidity levels routinely in excess of 1 N.T.U. ? | N/A      | No turbidity meter |
| 27. Is there a turbidity meter and alarm in place ?   | No       |                    |
| 28. Is the turbidity reading at the time of the audit less than 1 N.T.U. ?  | N/A      |                    |
| 29. Is the source routinely monitored for Cryptosporidium ?   | No       |                    |
| 30. What is the frequency of Cryptosporidium monitoring ?   | N/A      |                    |

| Disinfection - Chlorination  | Response                       | Comment                          |
|--|--------------------------------|----------------------------------|
| 31. Is the water disinfected using chlorination ?  | Yes                            | Sodium hypochlorite              |
| 32. Is there a chlorine monitor in place ?   | Yes                            |                                  |
| 33. Does the chlorine monitor have an alarm and if so what is the low alarm setting ?  | Yes                            | low 0.2; high 0.6                |
| 34. What is the chlorine residual reading on the monitor at the time of the audit ?  | 0.379                          |                                  |
| 35. Is the chlorine monitor after the contact tank / clear water tank ?  | Yes                            |                                  |
| 36. Is there a documented procedure for responding to the alarm in place at the treatment plant ?                                      | Yes                            |                                  |
| 37. Is there a duty and standby chlorine dosing pump in place ?  | Yes                            |                                  |
| 38. Does it have an automatic changeover in the event of failure of one of the pumps ?   | Yes                            |                                  |
| 39. Is there an automatic shut off of the abstraction pump in the event of chlorine residual levels dropping below low-alarm setting ? | No                             | chlorination at plant not source |
| 40. How is chlorine dosing in the treatment process achieved ?   | Flow Proportional              |                                  |
| 41. Is the chlorine residual manually checked in the network ?   | Yes                            |                                  |
| 42. How many locations in the network are routinely checked for chlorine residual ?  | Approximately 6-7 locations    |                                  |
| 43. Specify the frequency of chlorine monitoring in the network  | Every fortnight in the network |                                  |
| 44. Are result of chlorine monitoring in the network recorded and available for inspection ?   | Yes                            |                                  |

| Disinfection - U.V.  | Response | Comment |
|--|----------|---------|
| 45. Is the water disinfected using U.V. ?  | No       |         |
| 46. Is there a validation certificate for the U.V. treatment unit ?                                  |          |         |
| 47. Was the system operated within its validated range within the past month ?                       |          |         |
| 48. Is there a continuous U.V.T. or U.V.I. monitor and alarm in place ? If not elaborate in comments |          |         |
| 49. Is there a documented procedure for responding to the alarm in place at the treatment plant ?    |          |         |
| 50. Is there a duty/standby U.V. system in place ?   |          |         |
| 51. Is there an automatic changeover of the system ?   |          |         |
| 52. Is there an automatic shut off of the pump in the event of both systems failing ?                |          |         |

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| <b>Audit Notes</b> |
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## Recommendations

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

The EPA advise that the findings and recommendations from this audit should, where relevant, be addressed at all other treatment plants operated and managed by the Water Services Authority

**Recommendation 1 (This recommendation related to audit question 14) :**

The Water Service Authority (WSA) should collate all available information on the borehole and maintain a copy on site and in the WSA offices for future reference and management of the source. Information should include the hydrogeological report, borehole logs and construction details.

**Recommendation 2 (This recommendation related to audit question 19) :**

The WSA should ensure that all abandoned boreholes/wells are de-commissioned in accordance with guidelines issued by the UK Environment Agency (Environment Agency, National Groundwater and Contaminated Land Centre 'Decommissioning Redundant Boreholes and Wells' <http://publications.environment-agency.gov.uk/pdf/SCHO0499BEHE-e-e.pdf> or similar.

**Recommendation 3 (This recommendation related to audit question 20) :**

The Water Services Authority should implement the requirements of the European Communities (Good Agricultural Practice for the Protection of Waters) Regulations 2010 (SI No.610 of 2010) to ensure, unless an alternative setback distance has been set as per Article 17, that:  
i. Organic fertiliser or soiled water is not applied to land within 200 m of the abstraction point; and ii. Farmyard manure held in a field prior to landspreading is not placed within 250 m of the abstraction point.

**Recommendation 4 (This recommendation related to audit question 21) :**

The Water Services Authority should inform farmers about the buffer zones and set-back distances as outlined in the European Communities (Good Agricultural Practice for the Protection of Waters) Regulations 2010 (SI No.610 of 2010).

Auditors signature :



Date reviewed : 02/04/2012

Reviewers signature



**Audit Photographs**

**E18-26-010 Sth. Wexford WTW for Fardystown supply- entrance**



**E18-26-010 Sth. Wexford (Rathmacknee) -well head (RHS)**



**E18-26-010 Sth. Wexford (Rathmacknee) -sample tap**

