

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	05/03/2012 21:53:54		Water Service Authority	Galway County Council	
WFD Site Code	07_002		Site name	Ballygar	
Water Supply Zone Code	1200PUB1006	Name of Water Supply	Ballygar P.S.	Easting : 176525	Northing : 252950
Name of WSA Personnel 1	Tina Ryan		Job Title of WSA Personnel 1	Executive Scientist	
Name of WSA Personnel 2			Job Title of WSA Personnel 2		
Time In	21:53		Time Out	22:16	
Site Contact	Michael Killilea				
Meteorological conditions at the time of audit	Dry				
Meteorological conditions over the previous 24 hours	Wet				
Name of Auditor	Ronan Doyle				

General	Response	Comment
1. Has the caretaker completed a recognized training course on disinfection ?	Yes	
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		
4. Specify the volumes in m3/day of groundwater abstracted from each of the boreholes ?	500m3/day	
5. Is there a surface water source in use in addition to the groundwater source ?	Yes	Spring
6. If there is a surface water source in use in addition to the groundwater source specifies the volume abstracted in m3/day	Not sure	
7. In the case of multiple sources are they mixed prior to treatment ?	Yes	
8. How long does it take water to get to the first consumer (in minutes approx) ?	1 min. after contact/storage tank which has 1 days supply	
9. Has a photograph of the well/borehole or spring been taken ?	Yes	

Treatment Processes	Response	Comment
10. Is the supply fluoridated ?	No	
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		

Source Protection	Response	Comment
14. Are there borehold logs and construction details available for the supply ?	No	
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 ?	No	
18. Are there any abandoned well/boreholes for this supply ?	No	
19. If yes, have they been decommissioned in accordance with best practice ?		
20. Have the GAP regulation setback distances been put in place ?	Yes	Generic setback distances set out in the regulations
21. Has the landowner been advised in writing of the setback distances ?	No	
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	
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Water Quality	Response	Comment
24. Is the source susceptible to rapid variations in raw water quality ?	Yes	
25. Does an assessment of the historical raw water data indicate microbiological contamination ?	Yes	
26. Does an assessment of the historical raw water data indicate turbidity levels routinely in excess of 1 N.T.U. ?	No	
27. Is there a turbidity meter and alarm in place ?	Yes	
28. Is the turbidity reading at the time of the audit less than 1 N.T.U. ?	Yes	0.120NTU
29. Is the source routinely monitored for Cryptosporidium ?	Yes	Was sampled in 2011 but new plant has UV so not anymore
30. What is the frequency of Cryptosporidium monitoring ?	See above	

Disinfection - Chlorination	Response	Comment
31. Is the water disinfected using chlorination ?	Yes	
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	Not available at time of audit
34. What is the chlorine residual reading on the monitor at the time of the audit ?	0.61mg/l	
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	
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 ?	4	
43. Specify the frequency of chlorine monitoring in the network	Daily	
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. ?	Yes	
46. Is there a validation certificate for the U.V. treatment unit ?	Yes	
47. Was the system operated within its validated range within the past month ?	Yes	
48. Is there a continuous U.V.T. or U.V.I. monitor and alarm in place ? If not elaborate in comments	Yes	
49. Is there a documented procedure for responding to the alarm in place at the treatment plant ?	Yes	
50. Is there a duty/standby U.V. system in place ?	Yes	
51. Is there an automatic changeover of the system ?	No	
52. Is there an automatic shut off of the pump in the event of both systems failing ?	Yes	Raw water only

Audit Notes

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 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).

Recommendation 3 (This recommendation related to audit question 51) :

The Water Services Authority should ensure that the UV disinfection units should be fitted with automatic changeover in the event of failure of one of the UV disinfection units.

Auditors signature :



Date reviewed : 30/03/2012

Reviewers signature



Audit Photographs

Ballygar pumphouse



Wellhead



Chlorine monitors

New treatment plant Ballygar



UV unit

Turbidity monitors

