[redacted]

From: EIR
Sent: 04 December 2024 15:45
To: [redacted]
Subject: [redacted]
Attachments: Cryptosporidium Data Request_Final_AW_Dec2024.xlsx

Dear [redacted]

Provision of requested information

Thank you for your request for information about Cryptosporidium measurements in surface and groundwater abstraction sites, which we received on 7 November 2024. Your request has been considered under the Environmental Information Regulations 2004.

As requested, please find attached our surface and ground raw water Cryptosporidium data covering the period 2000 to date. The data includes the requirements detailed in your email of Cryptosporidium concentration (oocysts/L) and sample volume so you can calculate Cryptosporidium counts. The date/time of sampling, the location and qualifiers are also included. This data is supplied in the attached Excel file.

With regard to the methodology, I have obtained the details below from our laboratory. The method of analysis for each sample is attached to the data in column I of the supplied Excel file.

Method Information

CUNO Polypropylene Wound Filter

- An 'on-site', single use, filter used for taking large volume raw and treated water cryptosporidium samples.
- Sample volume range from 50 to >1000L.
- Wound polypropylene filter cut up and separated at laboratory and eluted by 'stomaching' in Tween 80 Solution.
- Centrifugation of eluant followed by Dynal Immuno-Magnetic Separation and slide preparation.
- FITC stain & epifluorescence microscopy.
- **Poor recoveries, typically 0-5% depending on sample**.

Grab Sample and Pall-Gelman Versapor 1.2um membrane filtration

- Small volume (typically 10L) 'Grab' sample collected and analysed at laboratory.
- Filtered through 1.2µm Versapor Pall-Gelman 142mm Membrane
- Membrane washed in 50ml Tween20-PBS solution
- Centrifugation of eluant followed by by Dynal Immuno-Magnetic Separation and slide preparation.
- FITC stain & epifluorescence microscopy.
- **High recoveries, typically 60-80% depending on sample.**

Genera (IDEXX) Filta-Max

- An ‘on-site’, single use, filter used for taking large volume raw and treated water cryptosporidium samples.
- Sample volume range from 50 to >1000L.
- Compressed PE foam filter, expanded at laboratory and manually eluted with PBS-Tween 20 elution buffer.
- Membrane filtration, elution and centrifugation of eluant followed by Dynal Immuno-Magnetic Separation and slide preparation.
- FITC stain & epifluorescence microscopy.
- **Good Recoveries, typically 30-50%**
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Genera (IDEXX) Filta-Max Xpress (2009 Onwards)

- An ‘on-site’, single use, filter used for taking large volume raw and treated water cryptosporidium samples.
- Sample volume range from 50 to >1000L.
- Compressed, dual density PE foam filter, eluted in automated elution station with PBS-Tween 20 elution buffer.
- Centrifugation of eluant followed by Dynal Immuno-Magnetic Separation and slide preparation.
- FITC stain & epifluorescence microscopy.
- **Good Recoveries, typically 30-50%**

Cryptosporidium Recoveries
Cryptosporidium recoveries are variable and dependent on the nature of the sample and the analytical method used.
Recoveries from Cuno filters were typically very low and this historic method was replaced with the analysis of smaller grab samples which could be analysed with a much higher percentage recovery. Therefore, low results obtained from large volume Cuno filter samples can be misleading. The results from membrane filtered grab samples are more robust, and this method is particularly effective for ‘dirtier’ Surface Water samples.

Should you have any queries regarding the Cryptosporidium analysis or the data provided, our Principal Scientist Data and Reporting, [redacted] would be happy to be contacted to discuss any questions. His email contact is [redacted]

I trust the attached data is useful and wish you well with your studies.

If you are unhappy with the service you have received in relation to your request and wish to request an internal review, you should email EIR@anglianwater.co.uk or write to:

Legal Director, Anglian Water Services, Lancaster House, Lancaster Way, Ermine Business Park, Huntingdon PE29 6XU

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted at:

Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire SK9 5AF

If you have any queries about this email, please contact me.

Yours sincerely

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