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Water Technology Results Report

Client Name	Ann Conroy O'Brien
Client Reference	
Sample ID	WT76838
Report Date	14-Aug-25
Sample Source	Spring Well
Sample Point	

Results

Parameter	Units	Value	EU Drinking Water Guidelines	Action Required
pH	pH Units	6.09	6.5<=pH<=9.5	Yes
Conductivity	µS/cm	90.3	2500 µS/cm	No
Total Dissolved Solids	mg/L	58.2	1500 mg/L	No
Total Hardness	mg/L	20	No limit	No
Total Alkalinity	mg/L	12	No limit	No
Total Iron	mg/L	0.008	0.2 mg/L	No
Manganese	mg/L	0.006	0.05 mg/L	No
Nitrate as $NO3^-$	mg/L	<1	50 mg/L	No
Total bacterial count @ 37C/ml	TVC/ml 48 hr @ 37C	4200	No abnormal change	No
Total bacteria count @22C/ml	TVC/ml 72 hr @20-22	>10000	No abnormal change	No
Total coliforms	MPN/100ml	Nil	Nil	No
Faecal coliform	MPN/100ml	Nil	Nil	No

Additional sample information

Appearance of water at time of sampling	
Appearance of water at time of analysis	Clear
Does kitchen tap always run clear	
Reason for testing the water	Planning Permission
Problems noted in using the water	
Taste reported yes/no	
Type of taste if yes	
Odour reported yes/no	
Description of odour type if yes	
Discolouration after rain yes/no	
Tank in attic	
Direct Pump System	
Storage for pumped system	
Number of people in the home	
Type of supply	

General Comments and Recommendations

The water meets the EU directive for Coliform bacteria in water, however, the general bacteria levels are higher than expected.

A few possible reasons are as follows:

- The water quality from the well has not settled yet.
- The mixer tap (if present) needs cleaning and disinfection.
- The area around the well needs to be checked to see if any infiltration is possible.
- The well and pipework may need to be disinfected if it was not done during installation of a pump for the new well.

Individual Parameter Comment

Parameter	Comments
pH	While this pH fails to meet the EU directive for water supplies, it is not health related and concerns corrosion of copper. At this pH value, you will only need to consider treatment if you have visible signs of copper corrosion, such as blue green staining of baths, sinks, showers etc. or leaks in copper piping or cylinder.
Conductivity	This result is within the EU directive for conductivity.
Total Dissolved Solids	This level of Total Dissolved Solids meets the EU directive level of 1500 mg/L for TDS. High dissolved solids can leave deposits on glasses and fixtures, cause staining or give water an undesirable taste. When required, treatment can be accomplished with a reverse osmosis filter system.
Total Hardness	Most supplies with water hardness levels of < 130 do not cause serious scale issues. Calcium and magnesium are the primary components of water hardness and are essential nutrients. High water hardness can result in scaling of bathtubs, water heaters, pipes, and other plumbing fixtures as well as soap not lathering well, the guideline of 130 mg/L is there to prevent these effects. You will only require a water softener if you have scale issues.
Total Alkalinity	Alkalinity in itself does not have an EU directive level, but is important as an indicator of high hardness in water. High water hardness can result in scaling of bathtubs, water heaters, pipes, and other plumbing fixtures as well as soap not lathering well. A hardness level of less than 120 mg/L is recommended to prevent scaling. A water softener is used to remove hardness.
Total Iron	This iron result meets the EU directive level of 0.2 mg/L for iron. Iron is an essential nutrient, but iron levels above the directive level can cause rusty water colour, sedimentation, metallic taste, and reddish or orange staining. Iron can be removed by ion-exchange, oxidation filters, chlorinator-and-filter units and oxidation by aeration followed by filtration.
Manganese	This manganese result meets the required standard of 0.05 mg/L for manganese. Manganese is an essential element in trace amounts for plants and animals. Adverse health effects can be observed for both underexposure and overexposure. The Irish Water guidelines recommend drinking water manganese of 0.12 mg/l (120 ug/l) or less to avoid potential health complications. Manganese levels above 0.05 mg/L (50 ug/l) in drinking

	water can cause a bitter taste and dark coloured staining of plumbing and laundry. Filtration systems are available to remove manganese from water. For more information on the Irish Water guidelines for manganese in drinking water see question 4 on www.hse.ie/eng/health/hl/water/drinkingwater/manganese-in-drinking-water-faqs.docx
Nitrate as $NO3^-$	This nitrate result meets the EU directive of 50 mg/l of Nitrate as nitrogen (NO3). However please contact us if the level is over 10 mg/l and you are using if for making baby formula. In drinking water, high nitrate concentrations can have serious effects on the health of infants. Nitrate affects the blood's ability to absorb oxygen and can cause shortness of breath and/or blue-baby-syndrome in infants less than six months old. Nitrate problems in drinking water are usually seen when groundwater is the water source. Nitrate is best removed by a reverse osmosis. filtration system.
Total bacterial count @ 37C/ml	Once the normal range for total bacteria is established for a water supply, it is only considered an issue if the levels rise above the normal range.
Total bacteria count @22C/ml	Once the normal range for total bacteria is established for a water supply, it is only considered an issue if the levels rise above the normal range.
Total coliforms	This level of Total Coliform meets the EU directive of having no total coliforms. Total Coliforms are bacteria that can be associated with soil or silage. Their presence in drinking water is a strong indication of contamination.
Faecal coliform	This level of Faecal E Coli meets the EU directive of containing no faecal coliforms. "Faecal coliforms are bacteria that are associated with human or animal wastes. They usually live in human or animal intestinal tracts, and their presence in drinking water is a strong indication of recent sewage or animal waste contamination"