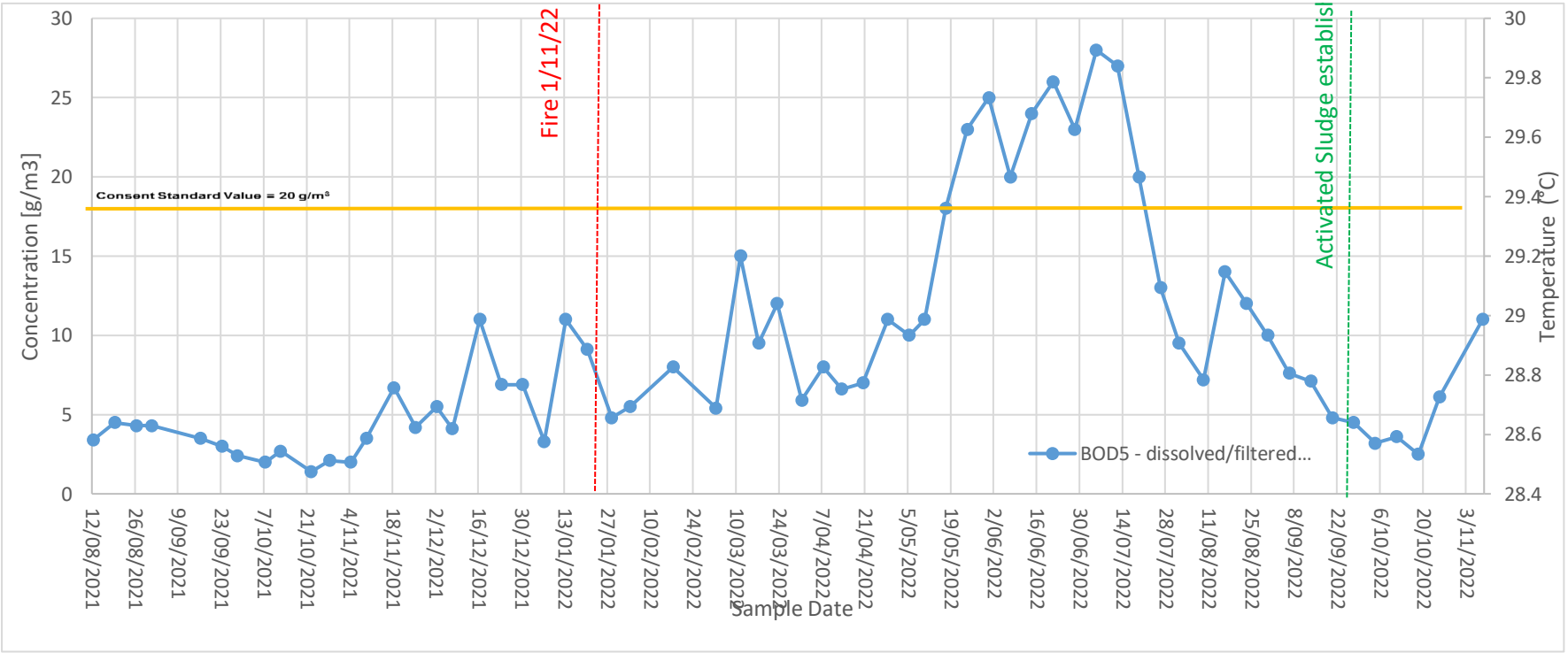
These graphs show the sampled discharge parameters of the wastewater which is discharged from the Christchurch Wastewater Treatment Plant (CWTP).

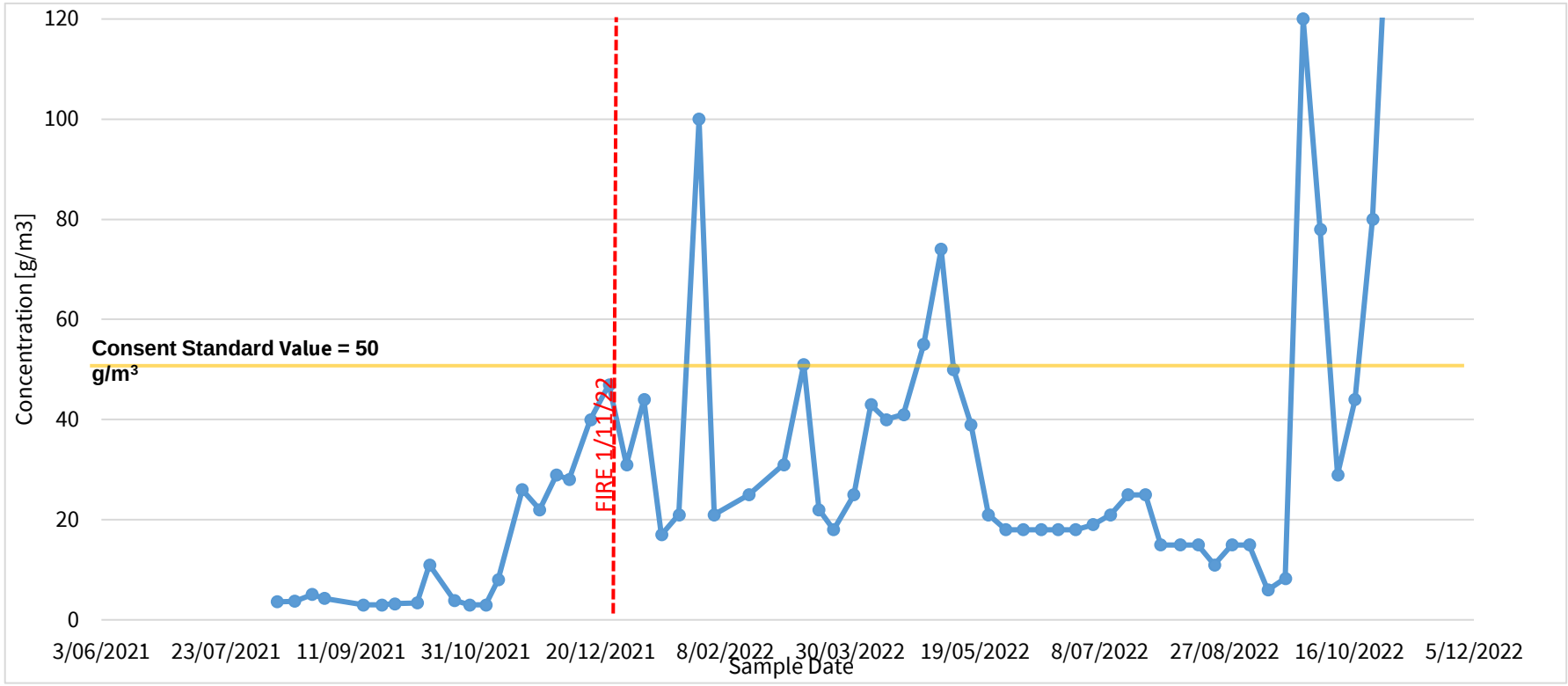
BOD5 (5 Day Biological Oxygen Demand)



Dissolved oxygen is an essential element in a healthy aquatic environment. Biological Oxygen Demand (BOD5) is a measure of how much dissolved oxygen is required to breakdown organic matter in a sample.
This in turn can inform us on the environmental impact a sample (treated wastewater in this case) would have on the receiving environment.
A high measure of BOD5 indicates the sample will consume/deplete a proportionality high amount of oxygen in the environment into which it is discharged. Before the activated sludge plant was established, there were not enough microorganisms to digest this Dissolved Oxygen.

Updated on 24/11/2022

Total suspended solids



Suspended solids (TSS) are those solids which are large enough to be captured in filter paper. The intention is to provide a measure of the amount of particulates and debris either organic or inorganic contained in a sample. Clean water obviously has very few suspended solids so using clean water as a reference or desirable benchmark, we can gauge by the concentration of TSS how contaminated a sample may be without needing to find out exactly what the sample contains. As we move into the warmer summer months, we can expect to see higher TSS levels due to algae growth being stimulated through high temperatures and high sunlight hours.

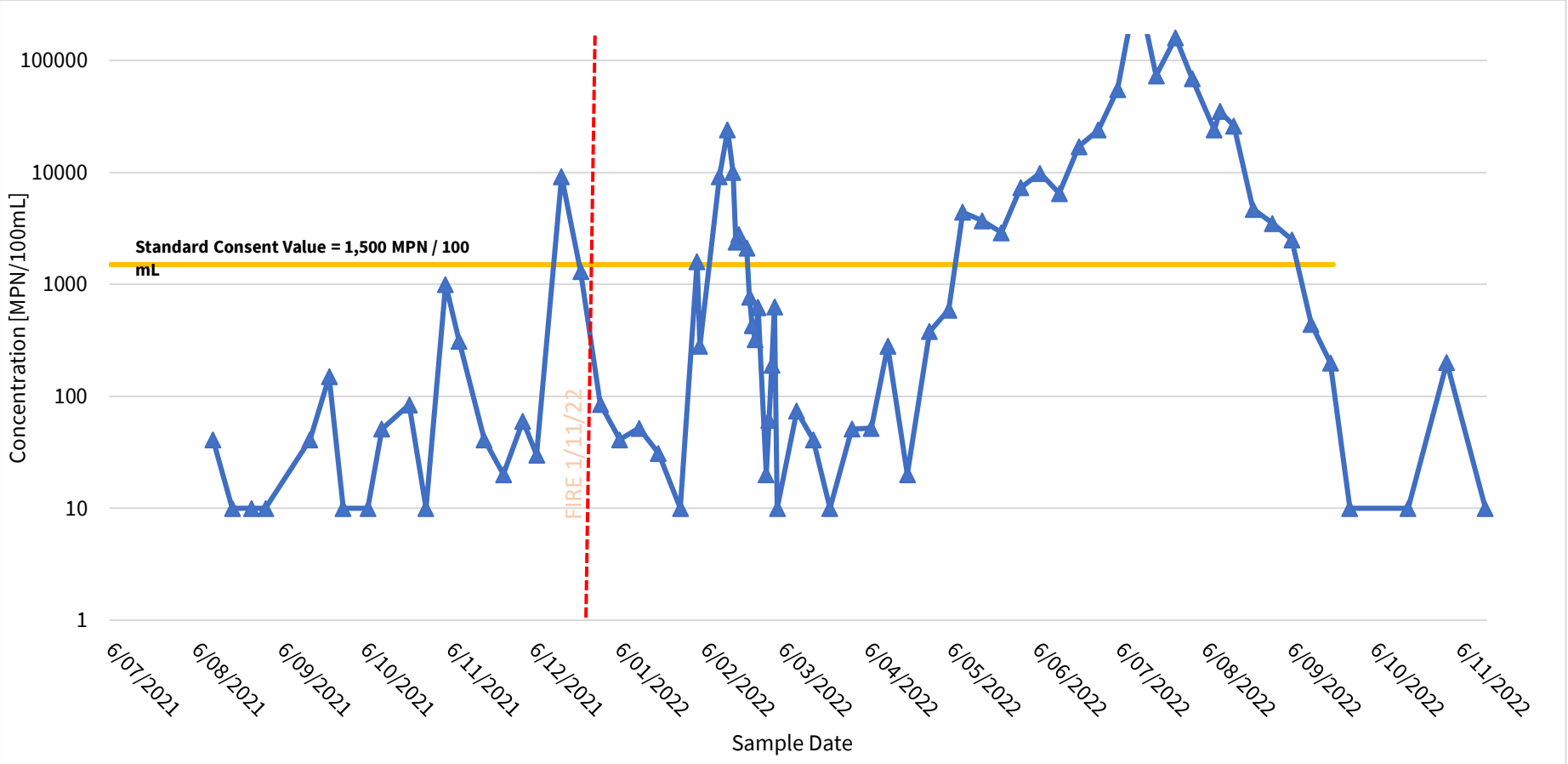
Updated on 24/11/2022

Ammoniacal Nitrogen

Ammonical nitrogen is a measure of ammonia in wastewater. High levels of ammonia are toxic to fish and other aquatic life.
All sample results for ammoniacal nitrogen over the last 12 months are fully compliant and within the limits set by ECAN in City Councils treated wastewater discharge consent.

Updated on 24/11/2022

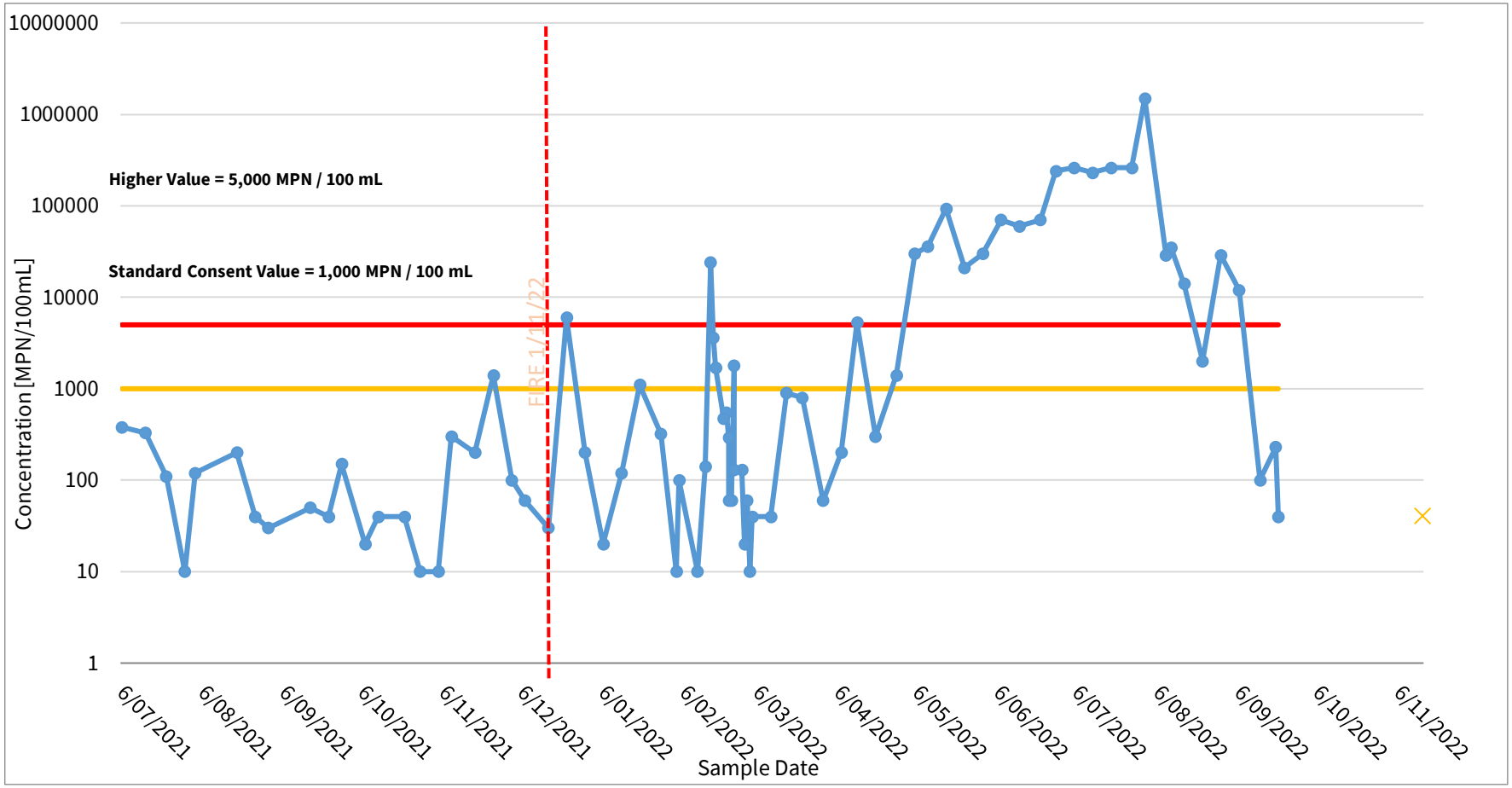
Enterococci



Enterococci are pathogenic bacteria. If the concentration in any sample is above the standard a second sample must be collected within 24 hours. Two samples above the standard require notification to Environment Canterbury and the Medical Officer of Health as these bacteria can cause disease. They're commonly found in untreated wastewater (sewage), and therefore, a measure of these bacteria is a useful indicator to determine how effective a treatment system, such as our treatment plant in this case, is performing. After the maturation of the new activated sludge plant in August 2022, the enterococci levels have been below the consented level, indicating that the plant is now working well.

Updated on 24/11/2022

Faecal Coliforms



Faecal coliforms are bacteria that originate in the intestines of warm-blooded animals and are an indicator of faecal contamination.
They're commonly found in wastewater and indicate the effectiveness of the treatment. After the maturation of the new activated sludge plant in August 2022, the faecal coliform levels have been below the consented level, indicating that the plant is now working well.

Updated on 24/11/2022