Community liaison meeting – Christchurch ocean outfall (CRC 051724)

Manager Operations – Adam Twose

Resource Consent Compliance Coordinator - Vanessa Irvine

Process Engineer – Ramsay Huang

9 October 2024

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Introduction

- Condition 36 of CRC 051724 (which is the Resource Consent held by the CCC to operate the Ocean Outfall) requires that we establish and maintain a Community Liaison Group and meet at least once per year.
- These meetings were placed on hold in 2017 by agreement with ECAN, after a few years with close to no attendees.
- Since the fire which destroyed the trickling filters in 2021, there has been renewed interest in the quality of treated wastewater discharged into Pegasus Bay.

    - *This presentation will be sent out to all email address groups*

Introduction

- What will be covered as part of this presentation:
  - Quality of the water being discharged.
  - Performance of the Ocean Outfall.
  - Compliance with our resource consent conditions.
  - Opportunity to ask questions at the end.
  - Full information on the CWTP fire recovery plan can be found at:
    https://ccc.govt.nz/services/water-and-drainage/wastewater/treatment-plants/christchurch-wastewater-treatment-plant/wastewaterfire

In Scope

- Operation of the interim solution
- Activities being undertaken to mitigate odours

Out of Scope

- Implementation of the findings of the Independent Review
- Current status of the insurance claim
- Status of the permanent replacement solution

Introduction

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The Christchurch Ocean Outfall - background

- Historically tertiary treated wastewater was discharged into the Avon-Heathcote estuary over a period of 2 - 4 hours during each high tide, from where it flows out to the coastal area of Pegasus Bay.
- Even though the discharge water is generally of high quality, the community had significant reservations about continuing with the discharge to the estuary, as recreational water quality in the estuary was not being met consistently.
- Following a lengthy period of options studies, consultation and two resource consent hearings, consents were finally granted in November 2005 for an ocean outfall to discharge 3 km offshore, with a requirement to be operational by 30 September 2009
- The project was originally programmed for a 22 month construction period but took 42 months largely due to weather and rough sea conditions.

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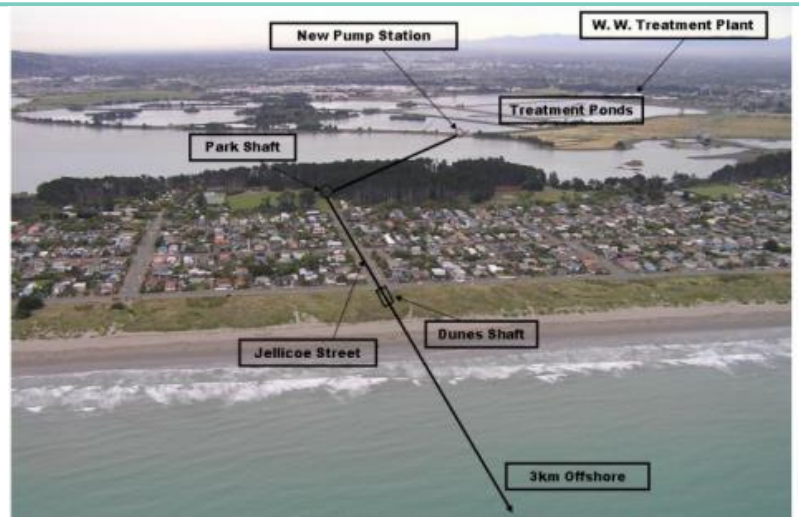
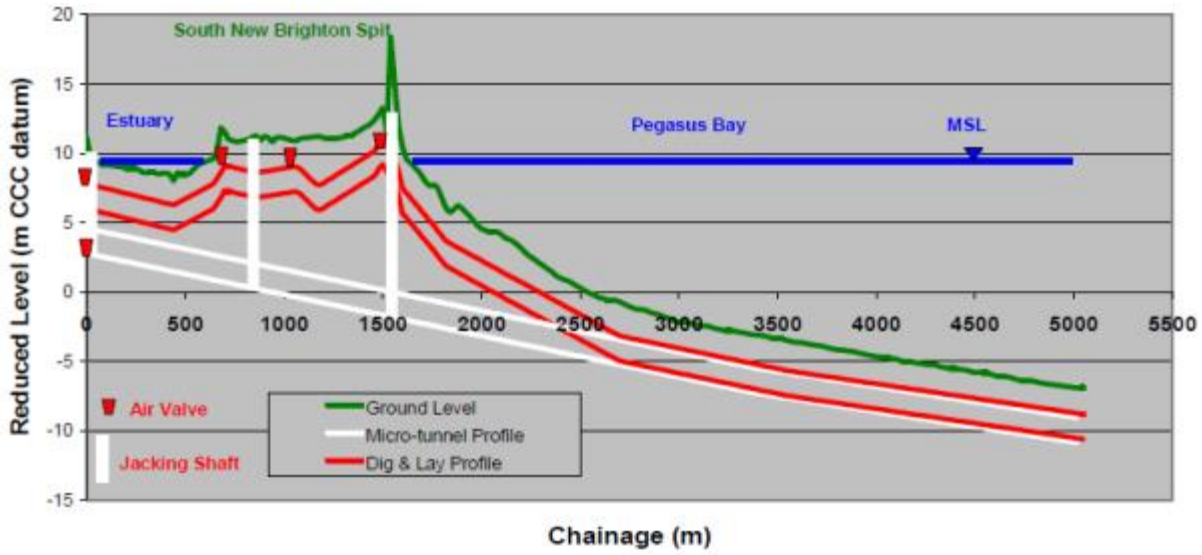
The Christchurch Ocean Outfall - background

- Officially opened on 24/3/2010
- Total pipe length is 5km at 1.8m diameter
- The end of the pipe is 3km offshore
- The design max flow rate is 6.5m/s
- 2.3km of concrete pipe was installed by microtunneling and 2.53 km of HDPE pipe installed by dredge and lay.





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Key components of the CWTP Temporary Solution

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Current and anticipated compliance with the resource consents

- We are currently complying with all resource consent conditions
- We are forecasting that we should continue maintain compliance
- However, the temporary treatment systems we have installed are highly lean, with minimal redundancy, operating at its maximum capacity
- Maintaining compliance will be subject to no ***significant*** mechanical breakdowns

Compliance review – CRC051725 - last year annual report (FY24)

- This covers the period 1st July 23- 31st June -24
- Will run through a high-level summary of all compliance against all consent conditions initially
- Then look at performance against each condition individually where there is routine monitoring

Condition 2, 3, 4, 9, 10, 12 – FY 24

Consent Condition	Parameter	Condition Detail	Condition Timeframe	Comments	Overall
2	Discharge Content	Discharge is only treated wastewater from the CWTP	Continuous	Discharge is all and only from the CWTP ponds	☺
3	Discharge Volume	Recorded	Continuous	Future slide	☺
4	Discharge Rate	Recorded	Continuous	Future slide	☺
9	Outfall Maintenance	Routine maintenance of the discharge system completed and recorded	Continuous	Discharge system is the pump station, pipeline and diffuser outlets	☺
10	Outfall Condition	Visual inspection of outfall	Five yearly	Completed in March 2022	☺
12	Pumping Pressure for a given flow	Monitored at the pump station	Continuous	Print out available	😐

Key: ☺ Full Compliance 😐 Minor, Isolated or Risk of Non-Compliance ☹ Major or Consistent Non-Compliance

Condition 15a, 16a – FY 24

Consent Condition	Parameter	Compliance Condition	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Overall
15a	Dissolved BOD_5	Concentration does not exceed 20 g/m^3	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	Total Suspended Solids	Concentration does not exceed 50 g/m^3	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	Ammoniacal Nitrogen	Concentration does not exceed 40 g/m^3	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
16a	Faecal Coliforms	Concentration does not exceed 1,000(standard)/ 5,000(higher) MPN/100mL	😐	☺	😐	😐	☺	☺	☺	☺	☺	😐	😐	☺	☺
	Enterococci	Concentration does not exceed 1,500 MPN/100mL	😐	☺	☺	😐	☺	😐	☺	☺	☺	☺	😐	☺	☺

Key: ☺ Full Compliance 😐 Minor, Isolated or Risk of Non-Compliance ☹ Major or Consistent Non-Compliance

Condition 18 – FY 24

Location	Parameter	Jul - Oct 23	Nov –Jan 24	Feb – Apr 24	May - Jun 24	Overall
South New Brighton Beach	Faecal Coliforms	☺	☺	☺	☺	☺
South New Brighton Beach	Enterococci	☺	☺	☺	☺	☺
Sumner Beach Surf Club	Faecal Coliforms	☺	☺	☺	☺	☺
Sumner Beach Surf Club	Enterococci	☺	☺	☺	☺	☺
New Brighton Beach Surf Club	Faecal Coliforms	☺	☺	☺	☺	☺
New Brighton Beach Surf Club	Enterococci	☺	☺	☺	☺	☺

Key: ☺ Full Compliance 😐 Minor, Isolated or Risk of Non-Compliance ☹ Major or Consistent Non-Compliance

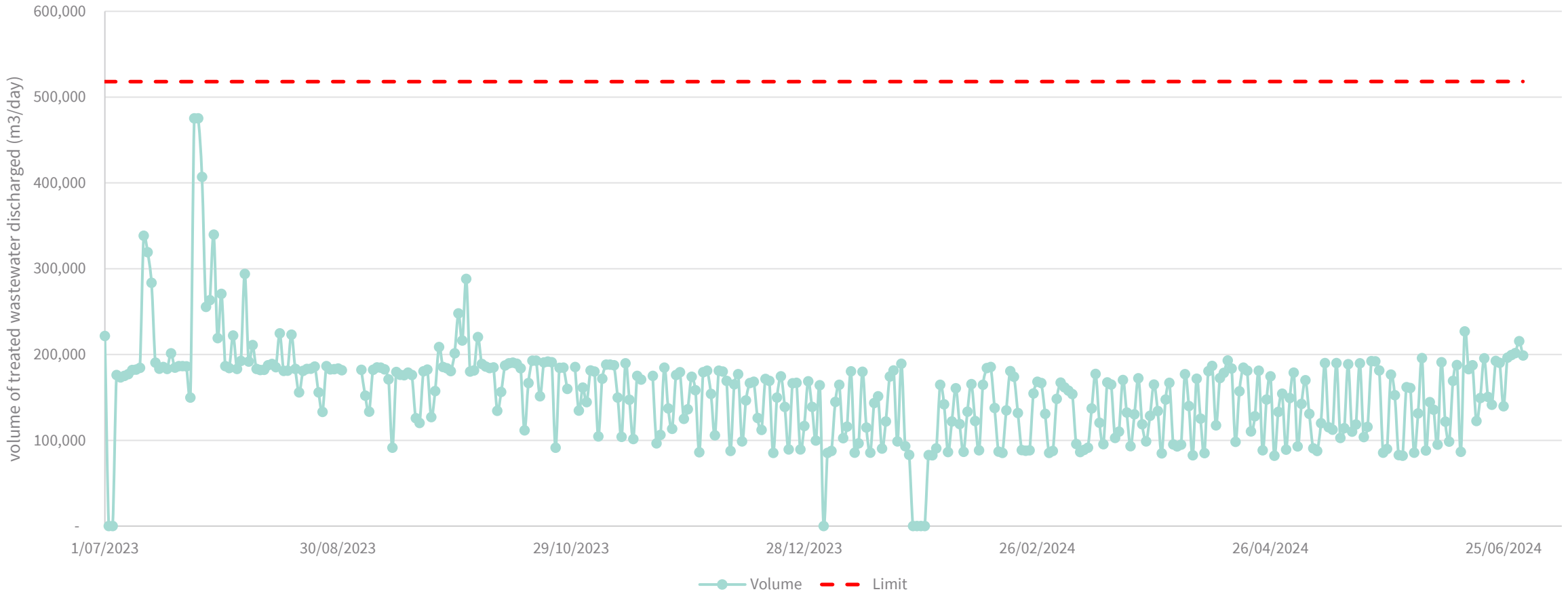
Condition 21 & 22 – Test conducted on FY 23

Consent Condition	Parameter	Condition Timeframe	North of the centre	South of the centre	West of inshore end	East of inshore end	Overall
22a	Temperature	Two yearly	☺	☺	☺	☺	☺
	DO	Two yearly	☺	☺	☺	☺	☺
	Salinity	Two yearly	☺	☺	☺	☺	☺
	Total Suspended Solids	Two yearly	☺	☺	☺	☺	☺
	Nitrogen Oxides	Two yearly	☺	☺	☺	☺	☺
	Ammoniacal Nitrogen	Two yearly	☺	☺	☺	☺	☺
	Dissolved Reactive Phosphorus	Two yearly	☺	☺	☺	☺	☺
	Chlorophyll-a	Two yearly	☺	☺	☺	☺	☺
	Trace Metals	Two yearly	☺	☺	☺	☺	☺
	Faecal Coliforms	Two yearly	☺	☺	☺	☺	☺
	Enterococci	Two yearly	☺	☺	☺	☺	☺
	Phytoplankton Species	Two yearly	☺	☺	☺	☺	☺

Condition 23 -36

Consent Condition	Parameter	Frequency	Compliance Condition	
23	Marine Sediments	5-yearly	Reported FY22	☺
25	Benthic Invertebrates	5-yearly	Reported FY22	☺
26	Epibenthic Fauna	5-yearly	Reported FY22	☺
27	Shellfish/Tuatua	Quarterly	ceased	☺
29	Complaints	As required	Recorded and Reported	☺
31	Annual Report	Annually	Report and information lodged with ECan	☺
32	Quarterly Report	Quarterly	Report and information lodged with ECan	☺
34	Management Plan	4 Years post commissioning	Report and information lodged with ECan – done March 2012 - 12/140121	☺
36	Community Liaison Group	Annually	Not required until 2022	☺

Condition 3 – discharge volume – FY 24



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Condition 4 – discharge flow rate - FY 24

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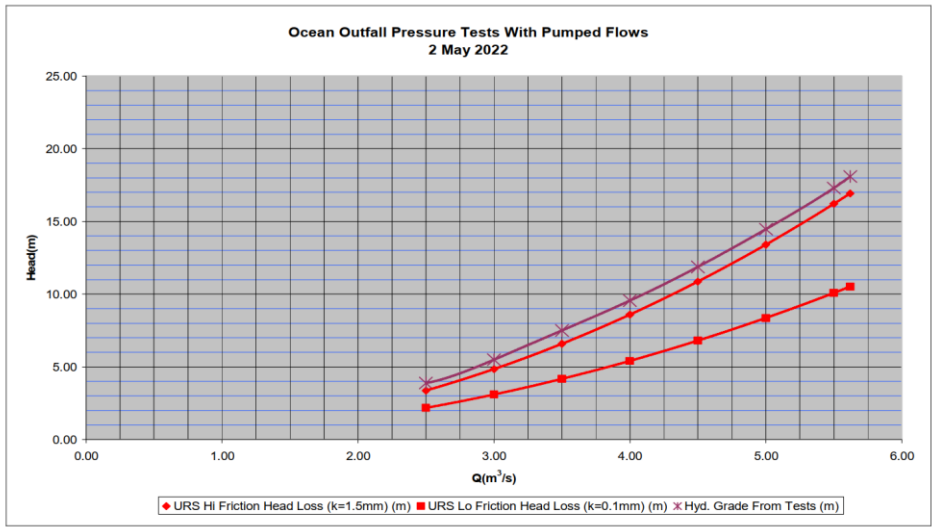
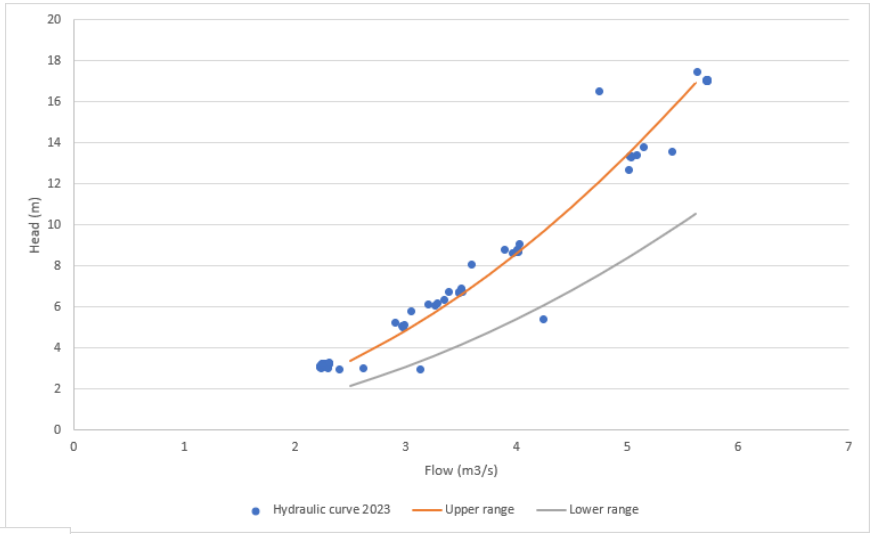
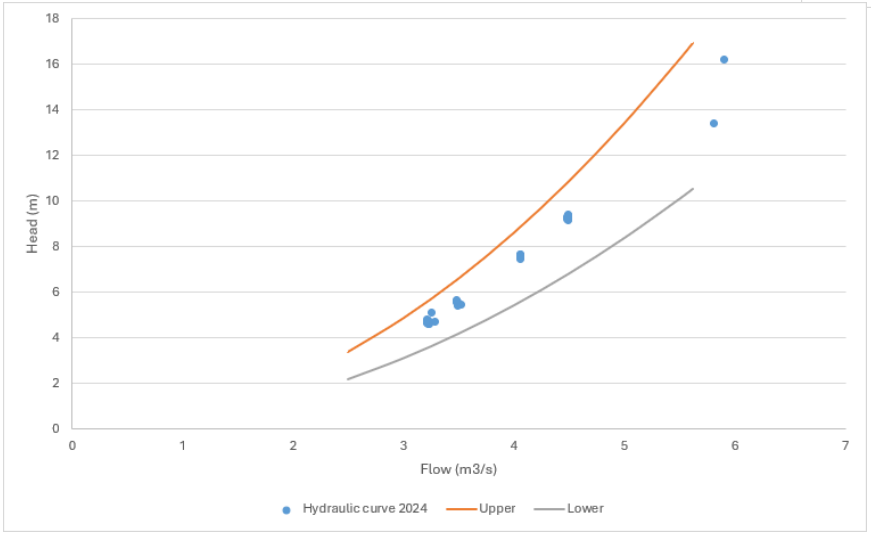
Condition 12, Ocean Outfall hydraulic 2022, 2023 & 2024







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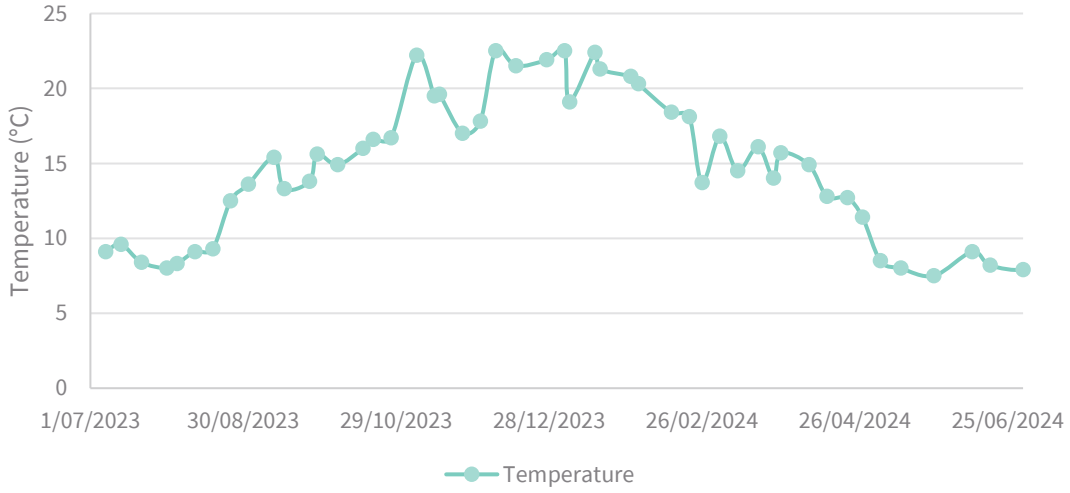
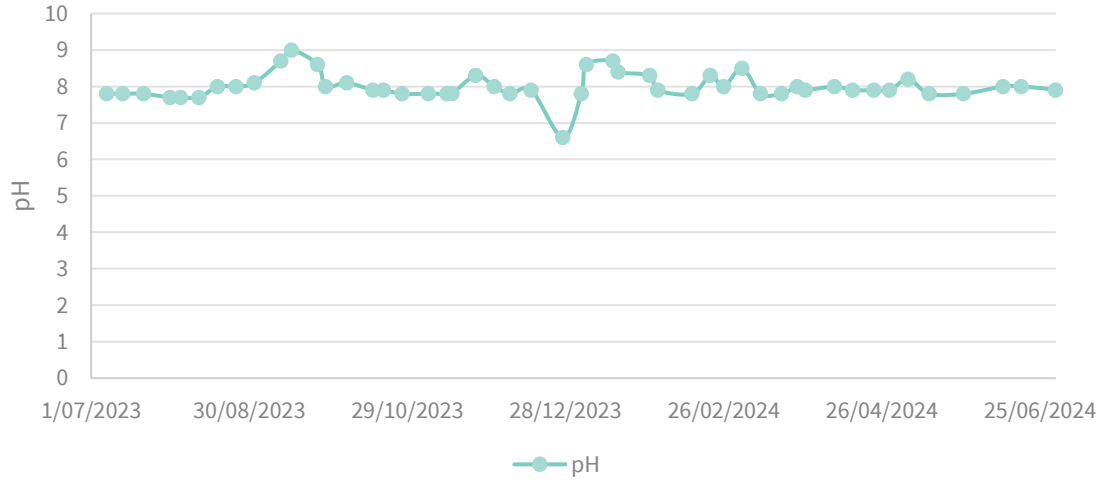
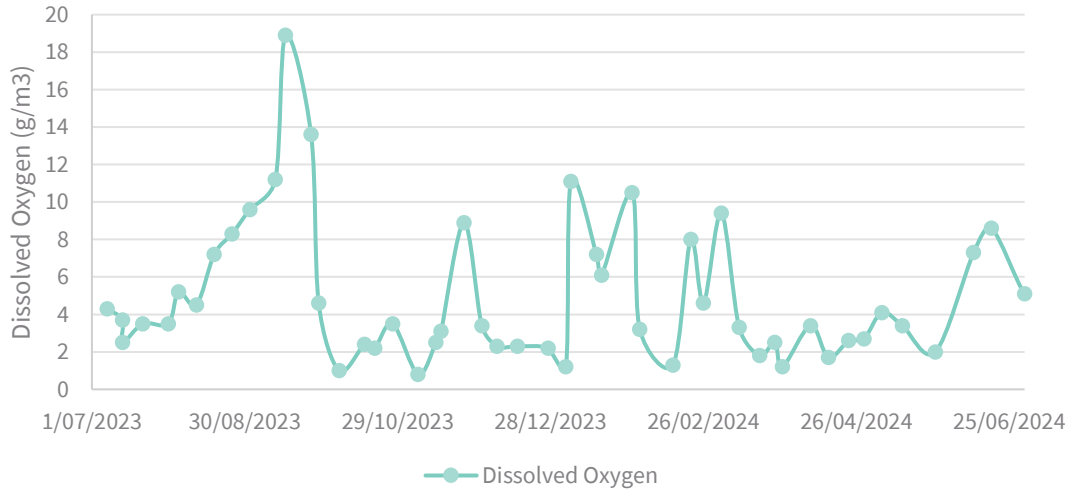
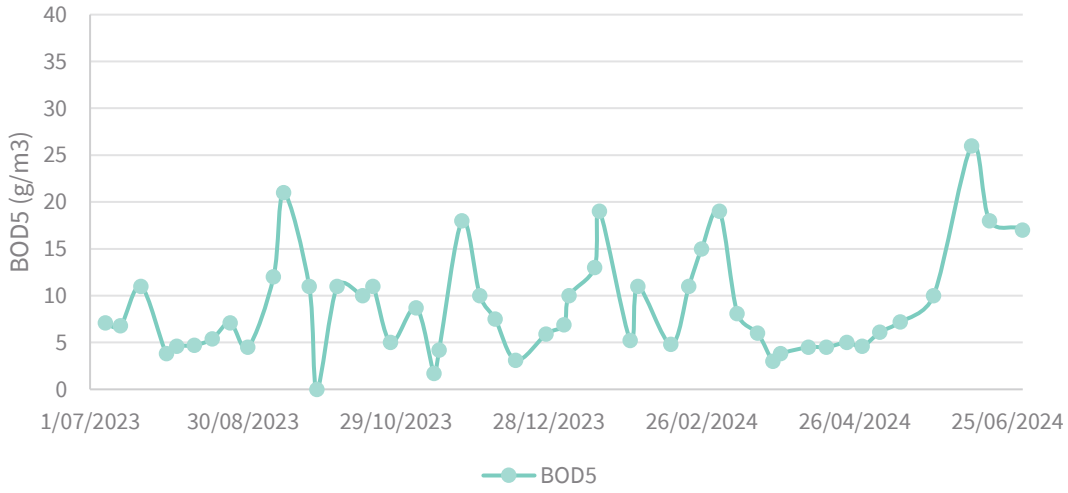
Condition 13c – Weekly Monitoring - FY 24









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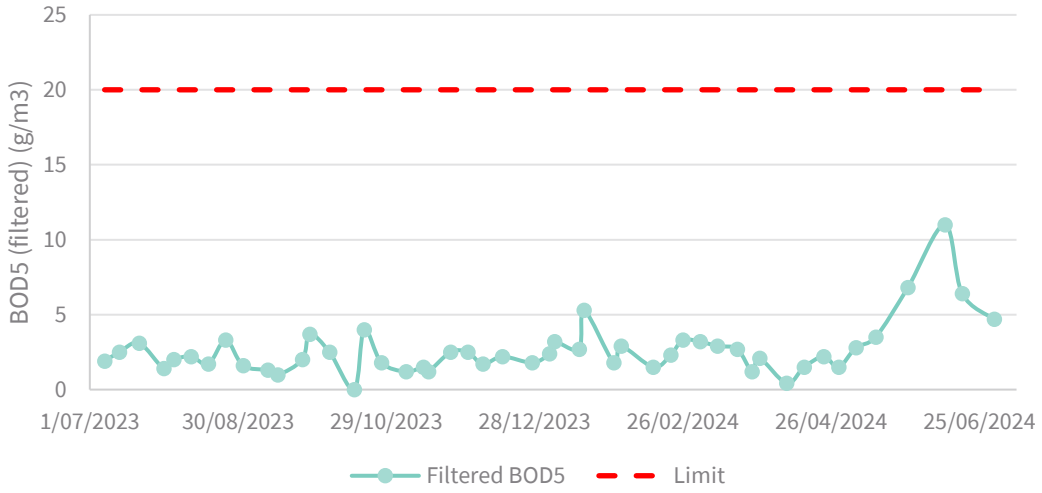
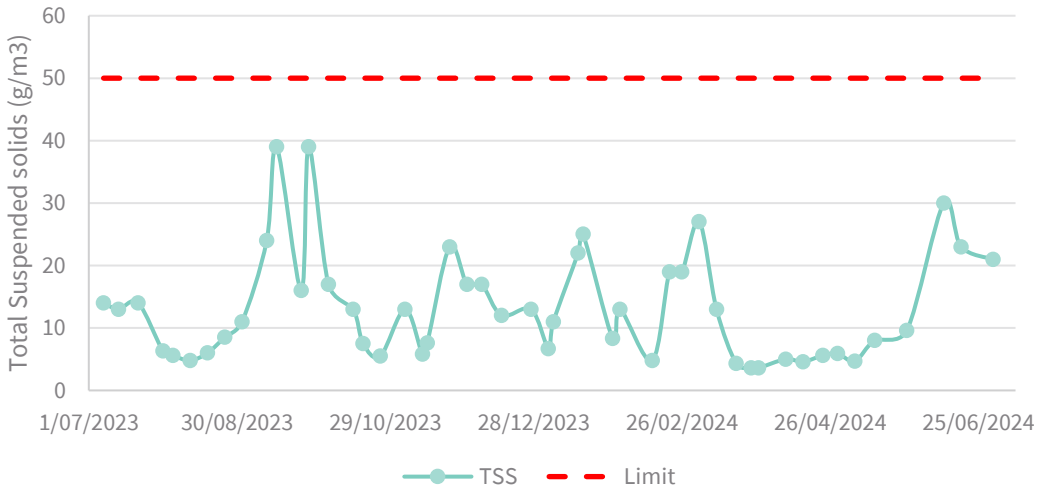
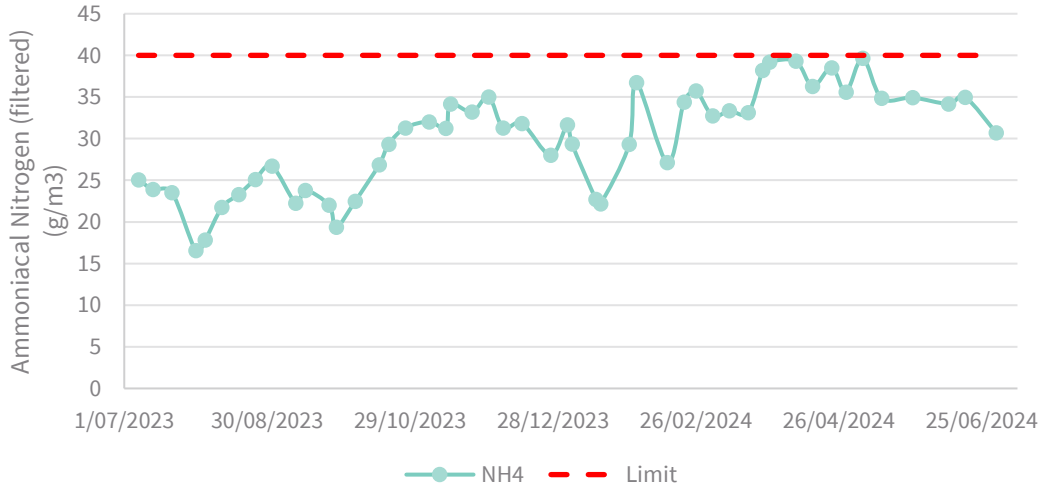
Condition 13c/15a – Weekly Monitoring - FY 24







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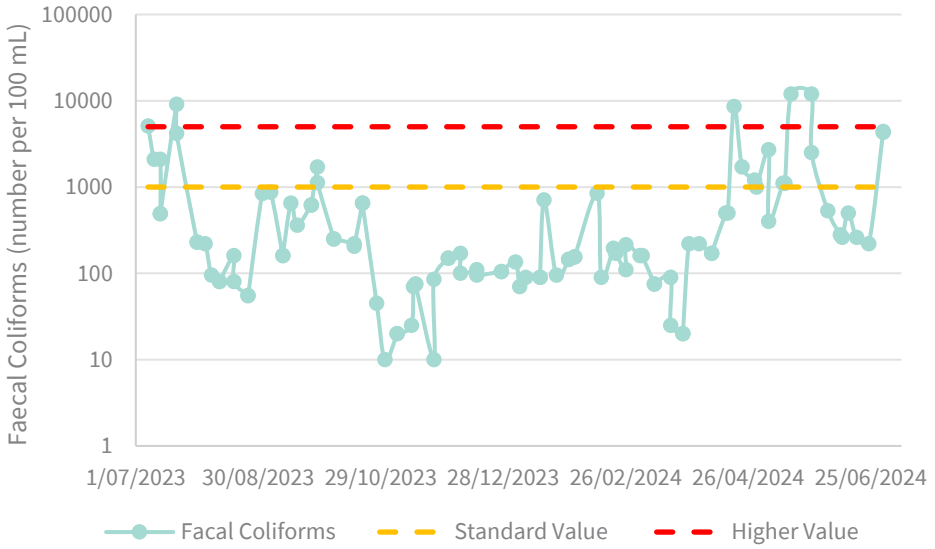
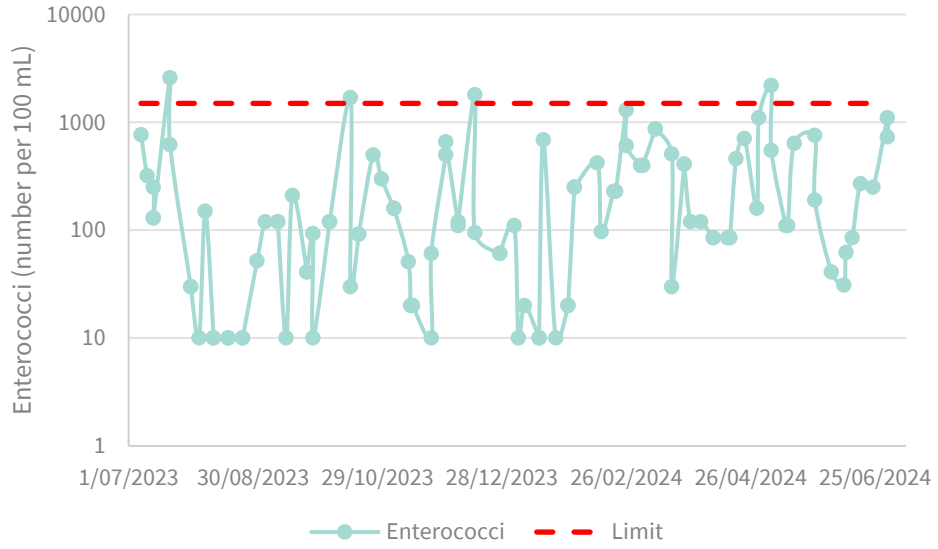
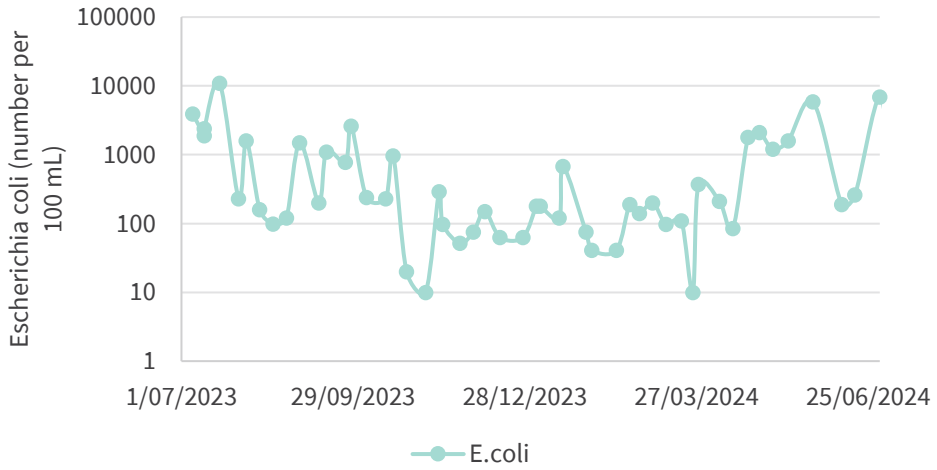
Condition 13c/16a – Weekly Monitoring - FY 24







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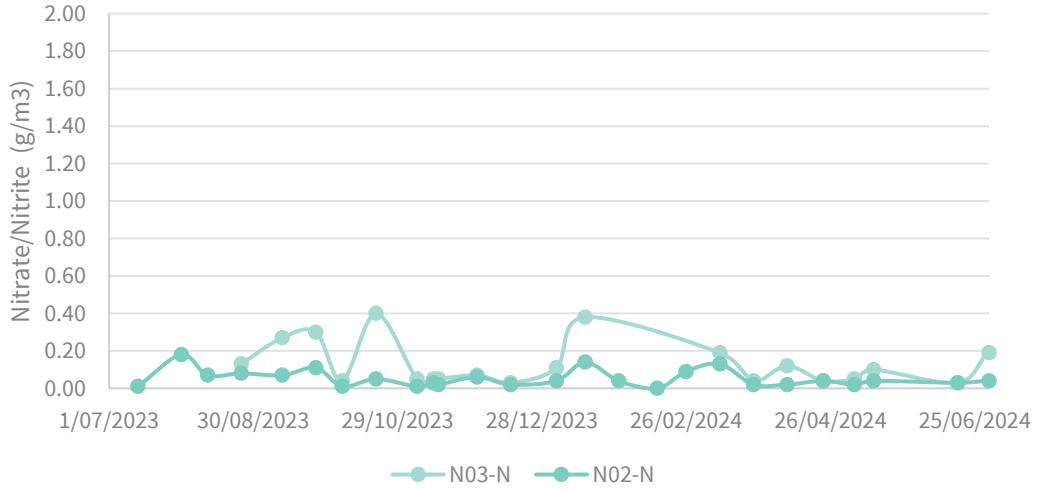
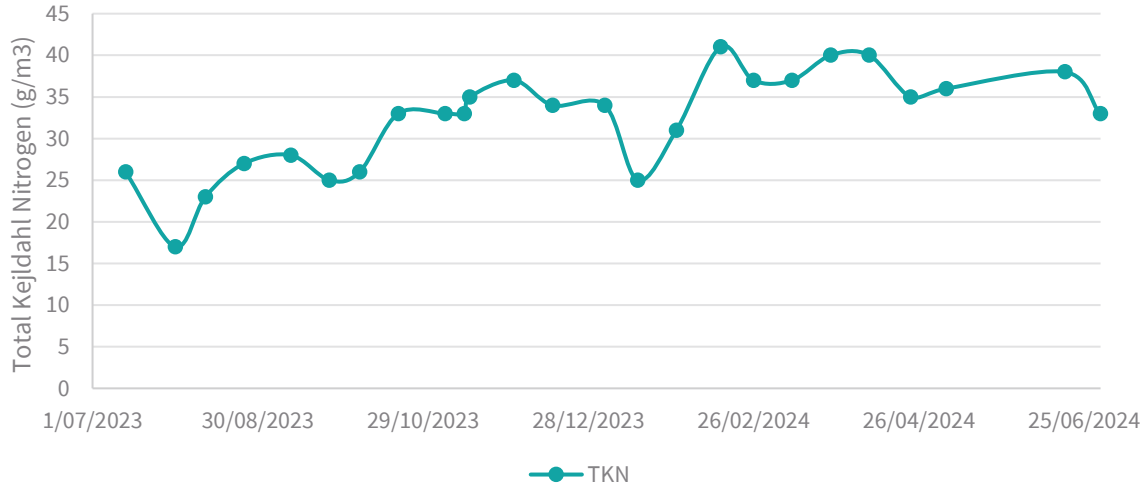
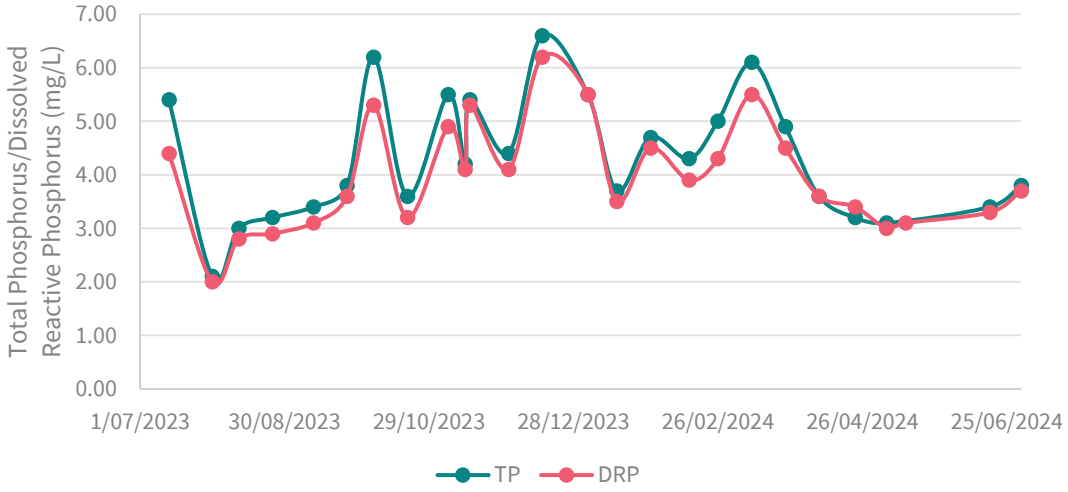
Condition 13d – Two Weekly Monitoring – FY 24







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Condition 13e – Annually Monitoring – FY 24

Date	Salmonella sp.	Campylobacter sp.	Giardia	Cryptosporidium	Adenovirus	Enterovirus
	MPN/100 mL	MPN/100 mL	Count/10L	Count/10L	Quantitation by culture	Quantitation by culture
1/5/2024	<0.3	43	<0.67	0.67	5	0

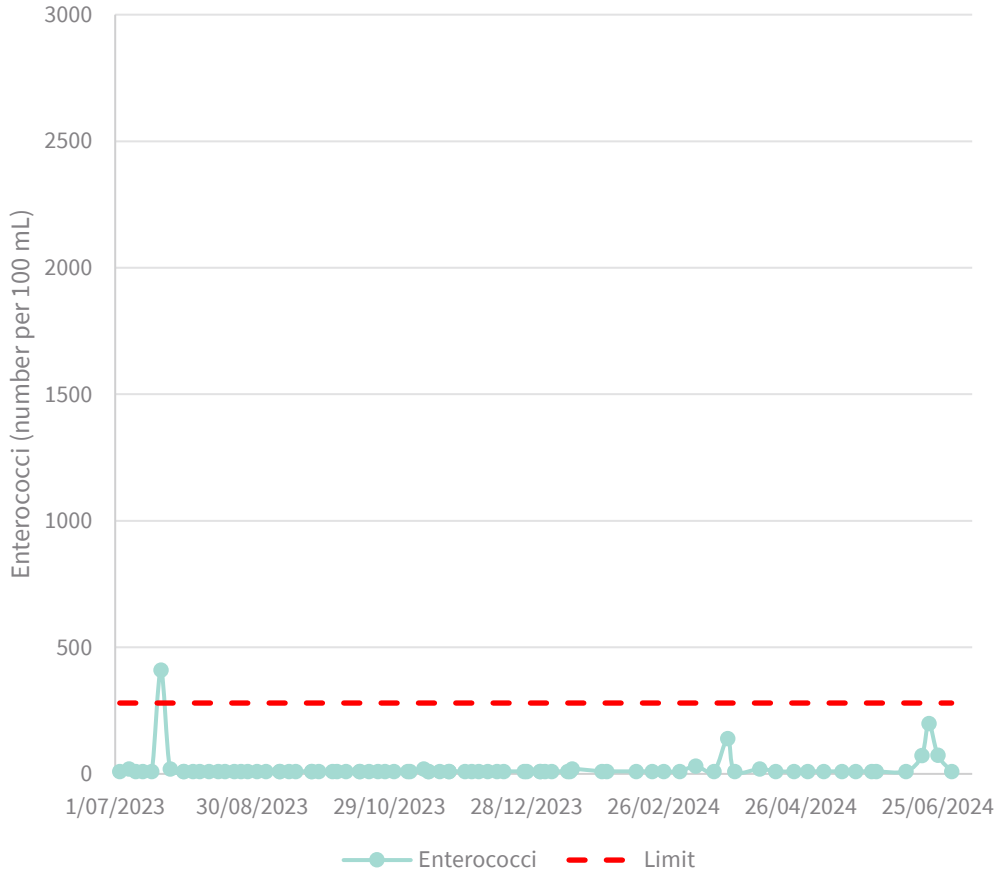
Condition 13f – Six Monthly Metals Monitoring – FY 24

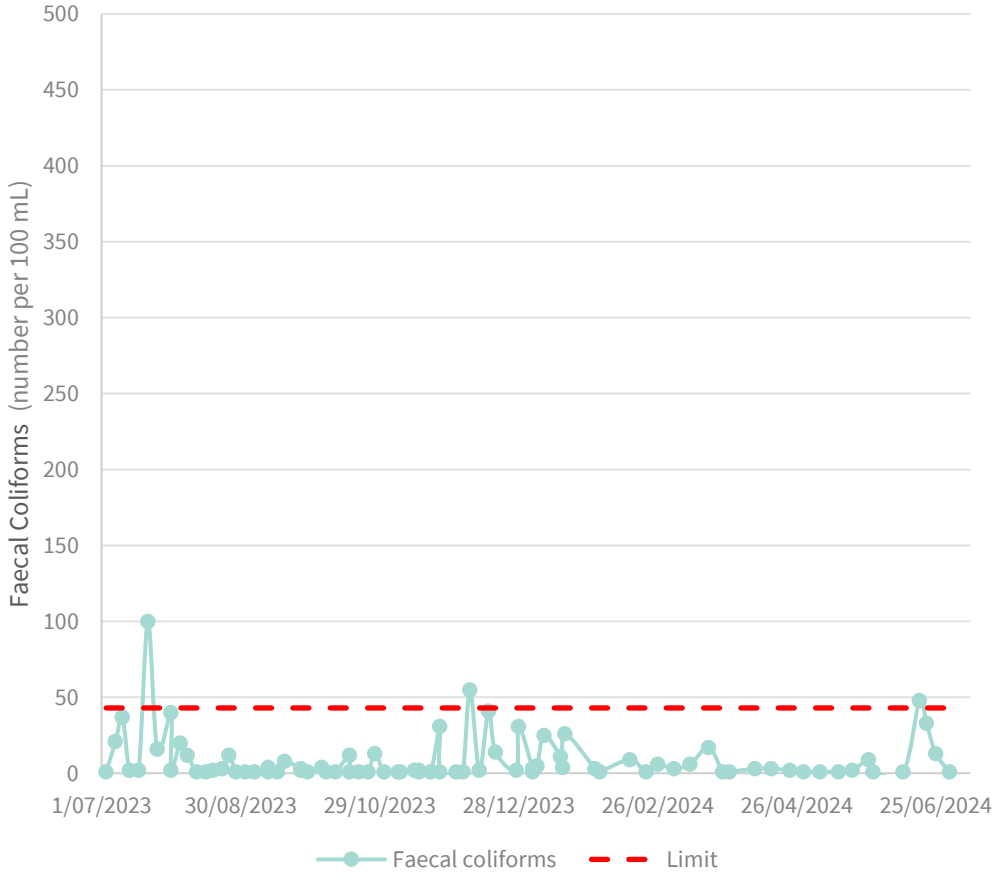
Date	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury
	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
04/06/2024	0.002	<0.001	0	0	<0.001	0.01	0.01	<0.00005
1/12/2023	0.003	<0.001	0.01	0.01	<0.001	0	0.03	<0.00005
19/7/2023	0.003	<0.001	0.01	0	<0.001	0	0.02	<0.00005

Condition 13g – Annually Monitoring – FY 24

Test	Result (print out is available)
Organochlorine pesticides	All below the detection limit
Organophosphate pesticides	All below the detection limit, except Terbuthylazine 1.7 ug/L
Polychiorinated biphenyls	All below the detection limit
Polycyclic aromatic hydrocarbons	All below the detection limit

Condition 18 –Receiving Environment Monitoring New Brighton Surf Club – FY24





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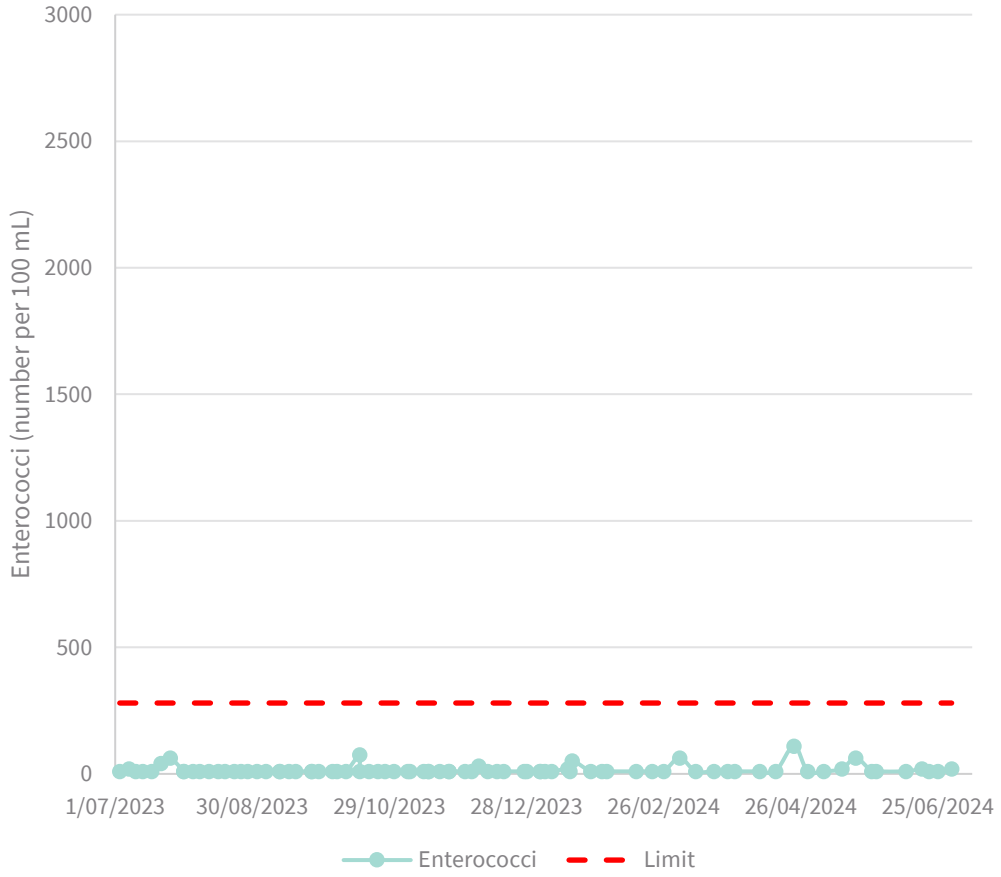
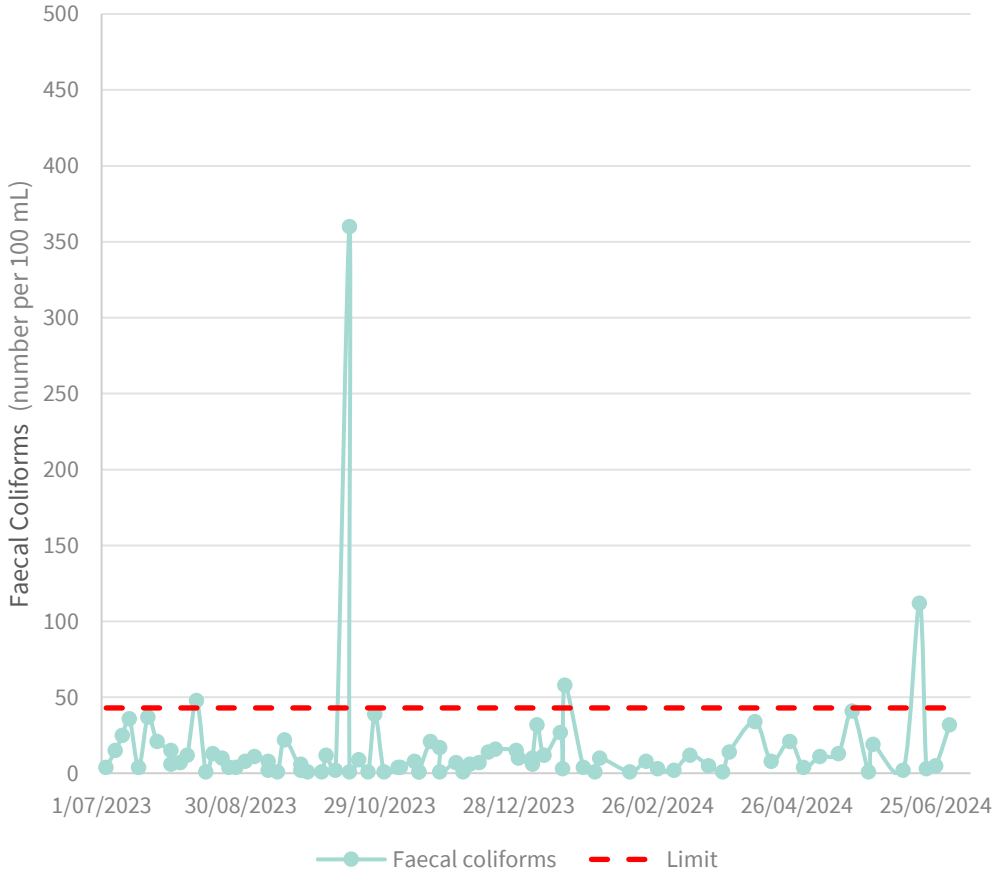
Condition 18 – Receiving Environment Monitoring Sumner Beach – FY24





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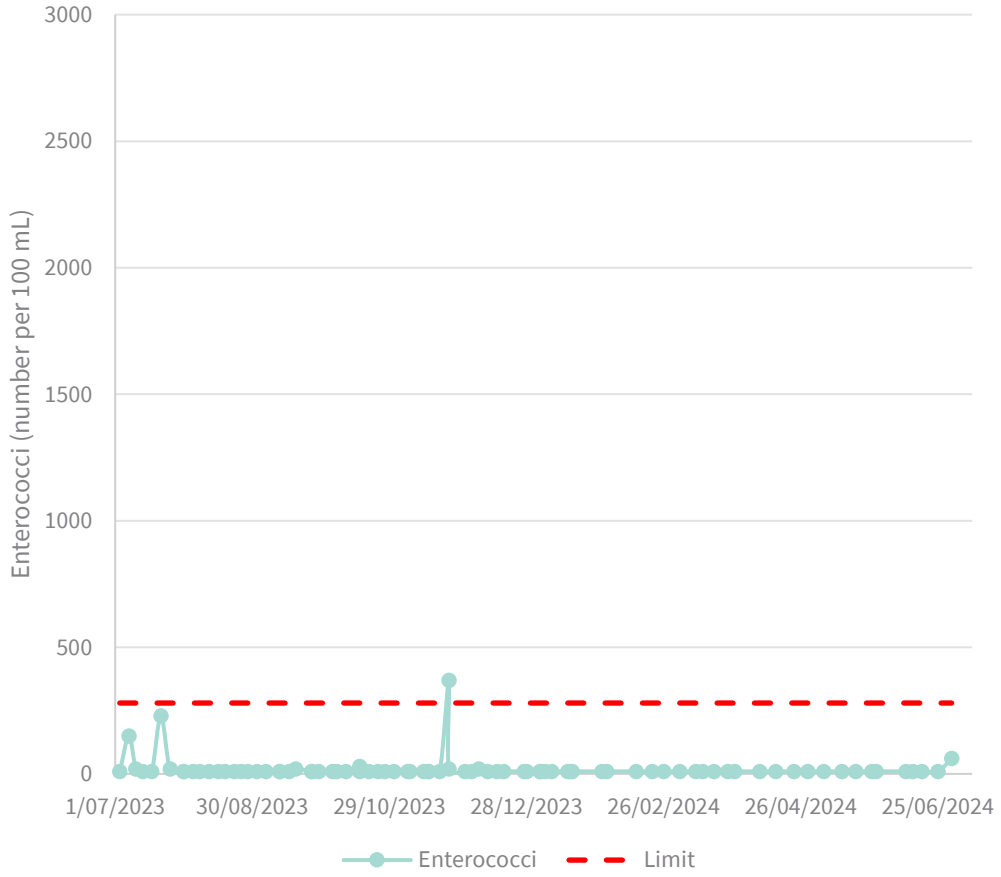
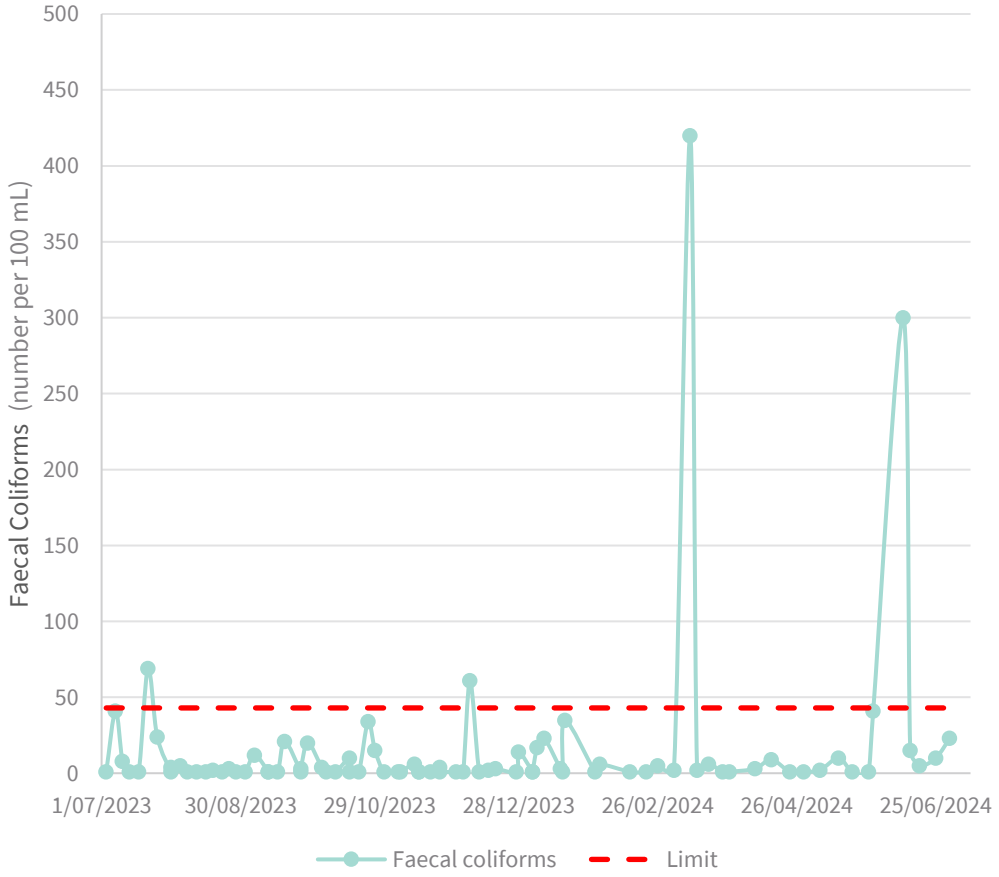
Condition 18 – Receiving Environment Monitoring South New Brighton Beach – FY24





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Current and anticipated compliance with the resource consents

- We are currently complying with all resource consent conditions
- We don’t see any adverse environmental effect from our ocean outfall

Thank you for your time & attendance

- Any questions?