Waitākere Water Treatment Plant
Annual Monitoring Report 2024-2025

Final - July 2025

Watercare

QUALITY INFORMATION

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Date	28 July 2025
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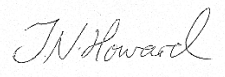
REVISION HISTORY

Rev	Revision Date	Name	Position	Signature
1	28/07/2025	Michiel Jonker	Environmental Care Manager	
2	17/07/2025	Martyn Lee	Operations Controller	
3	17/07/2025	Isaac Howard	Water Production Manager North	

APPROVED

Date	Name	Position	Signature
DD/MM/YYYY	Michiel Jonker	Environmental Care Manager	

CONSENT CHANGE AND MONITORING HISTORY

Change type	Description	Effective date	Reference / condition	Reporting / monitoring implications
Consent Issued	To authorise the diversion and discharge of water from a lagoon and from surrounding catchment into an unnamed tributary of the Swanson Stream.		Consent 26982	Report all monitoring undertaken in quarterly reports.
Consent Reissue	Variation to incorporate a situation where the full plant flow is discharged (off-spec water).	2/10/2009	Consent 36380	Report all monitoring undertaken in annual monitoring report.
Annual Reporting	Report to include raw data, graphed data showing degree of compliance, analysis of any potential environmental effects.	31/07/2011	Condition 3(i) note c. & d.	Annual report submitted 31 July each year.
Discharge Management Plan	Update discharge management plan.	In progress	Condition 8	Management plan to reflect current operations.

Explanatory note:

This is subject to two associated consents: Consent 36380, which authorises the discharge of off-spec water to the lagoon and subsequently to the Swanson Stream, and Consent 26983, which authorises the discharge of water treatment sludge to a purpose-built landfill. The Discharge Management Plan (DMP) referenced in the table above, has been developed to address the operational requirements, monitoring, and incident response obligations under both consents, to integrate management of discharges and alignment with compliance conditions. This report specifically meets the requirements Consent 36380

EXECUTIVE SUMMARY

This annual report for the Waitākere Water Treatment Plant (WTP) presents the monitoring results for the period from July 1 2024, to June 30 2025. The report fulfils the requirements of Consent 36380, which mandates weekly sampling of the lagoon discharge and control site. These samples are analysed for pH, total and soluble aluminium, fluoride, and suspended solids to ensure compliance with the specified standards.

Key findings:

- Sampling compliance: weekly samples were consistently collected from both the lagoon discharge and control sites, with no missed samples throughout the reporting period.
- pH Levels: all collected samples met the specified pH range (5.5 – 9), ensuring compliance with consent condition 3(ii).
- Soluble and total aluminium: the median values (from all samples) for both soluble and total aluminium, at the discharge site, remained below the 24-month running 80th percentile results from the control site, satisfying condition 3(iii). Additionally, total aluminium levels in all samples were no greater than the consent limit of 1 mg/L.
- Fluoride: fluoride levels in all samples were no greater than the consent limit of 1 mg/L.
- Suspended solids: suspended solid levels in all samples were well below the consent limit of 30 mg/L.

The WTP demonstrated compliance with the consent requirements for the 2024-2025 period, with all monitored parameters within the consent limits, affirming the plant's effective management and operational standards.

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1 INTRODUCTION

The Waitākere Water Treatment Plant (WTP) in an important facility within Auckland's water supply network, supplying western and central communities. The WTP processes water drawn from the Waitākere dam, which is the oldest dam currently supplying water to the Auckland region. The plant utilises resource consents to permit automated overflow of off spec-water, diversion and discharge of water from lagoon and surrounding catchment into an unnamed tributary of the Swanson Stream, and to carry out a landfilling operation to dispose of water filter sludge material to a built landfill.

This report contains annual monitoring results for the period 1 July 2024 to 30 June 2025. Raw data for compliance monitoring period is attached in Appendix A**.**

1.1 Consent requirements

Consent 36380 requires weekly samples from the WTP lagoon discharge outlet and control site (raw water sampling tap at inlet to treatment plant). No changes to sampling locations were made during the reporting period. Locations remain consistent with those previously approved by Auckland Council. The samples are collected and analysed for pH, total and soluble aluminium, fluoride and suspended solids. The discharge from the lagoon should comply with the standards provided in Table 1-1 as per the consent. Sampling was carried out in accordance with American Public Health Association Standard Methods for the Examination of Water and Wastewater as required under Condition 3(i)(b) of Consent 36380.

Table 1-1: Compliance standards for lagoon discharge

Parameter	Limit
pH	Between 5.5 and 9
Fluoride	No greater than 1 mg/L
Total aluminium	No greater than 1 mg/L
Suspended solids	No greater than 30 mg/L

1.2 Scope

The scope of this report is to present the findings from the weekly sampling of the lagoon discharge and control site at the WTP. The report covers the period from July 2024 to June 2025, during which no sampling events were missed. The report aims to provide a comprehensive overview of the water quality and consent compliance of these samples.

2 MONITORING RESULTS

2.1 pH

All samples collected during this monitoring period were within the specified range for pH, with little variation over the course of the monitoring period. This therefore satisfies the requirements of consent condition 3(ii).

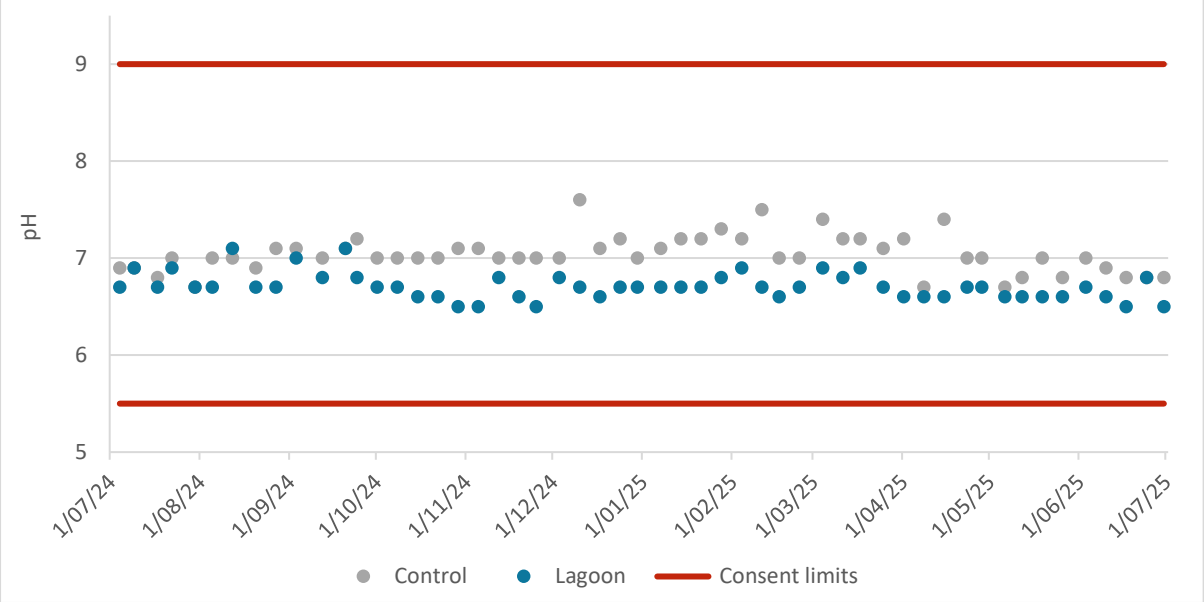

Figure 2-1: pH results for the Waitākere lagoon discharge and control site for the period 1 July 2024 to 30 June 2025.

2.2 Fluoride

Similarly, all lagoon fluoride results were well below the limit with little variation over the period.

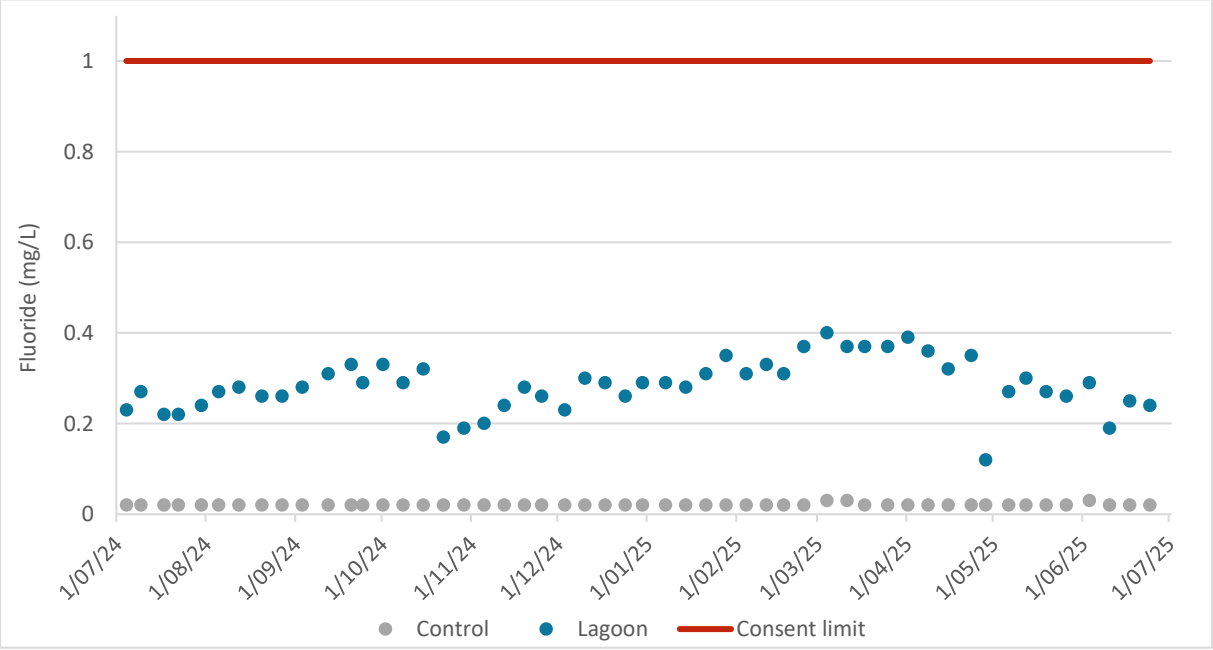

Figure 2-2: Fluoride results for the Waitākere lagoon discharge and control site for the period 1 July 2024 to 30 June 2025

2.3 Total Aluminium

The rolling median value for all total aluminium results remained below the rolling 24 month 80th percentile of the results from the control site (Figure 2-3). Also, the total aluminium results for the period 1 July 2024 to 30 June 2025 remained below the 1 mg/L limit (Figure 2-4). Thus, both requirements of the consent conditions were met.

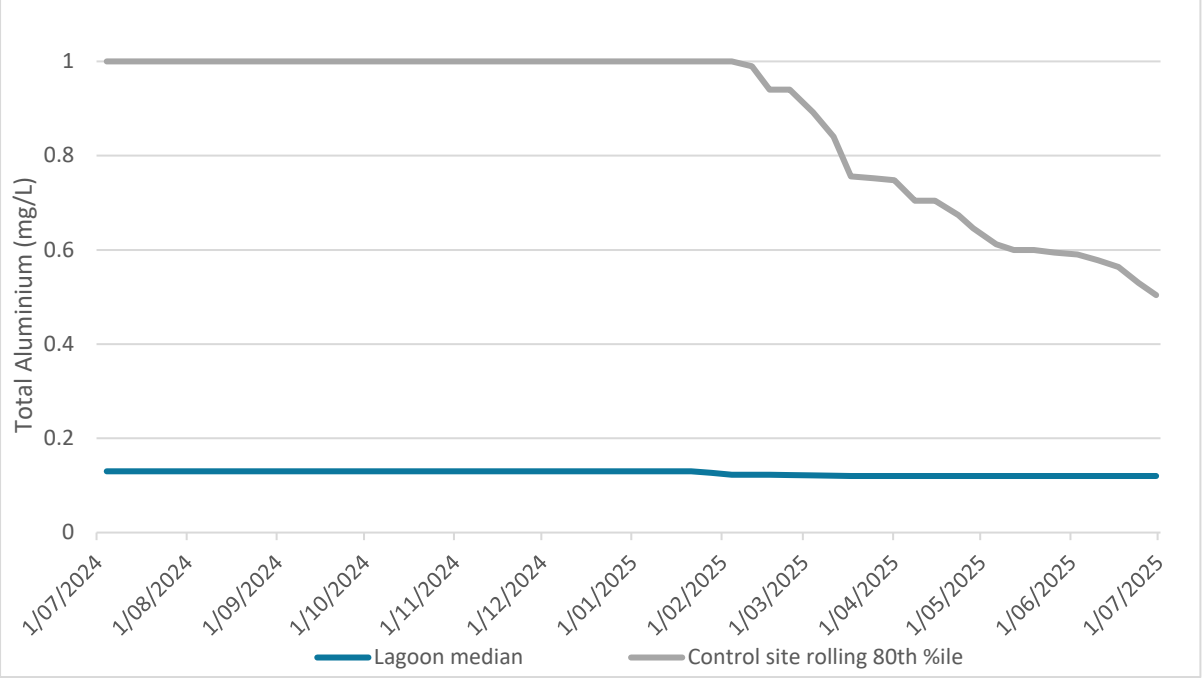

Figure 2-3: Waitākere lagoon median of all results and the control site's rolling 24 month 80th percentile results for total aluminium

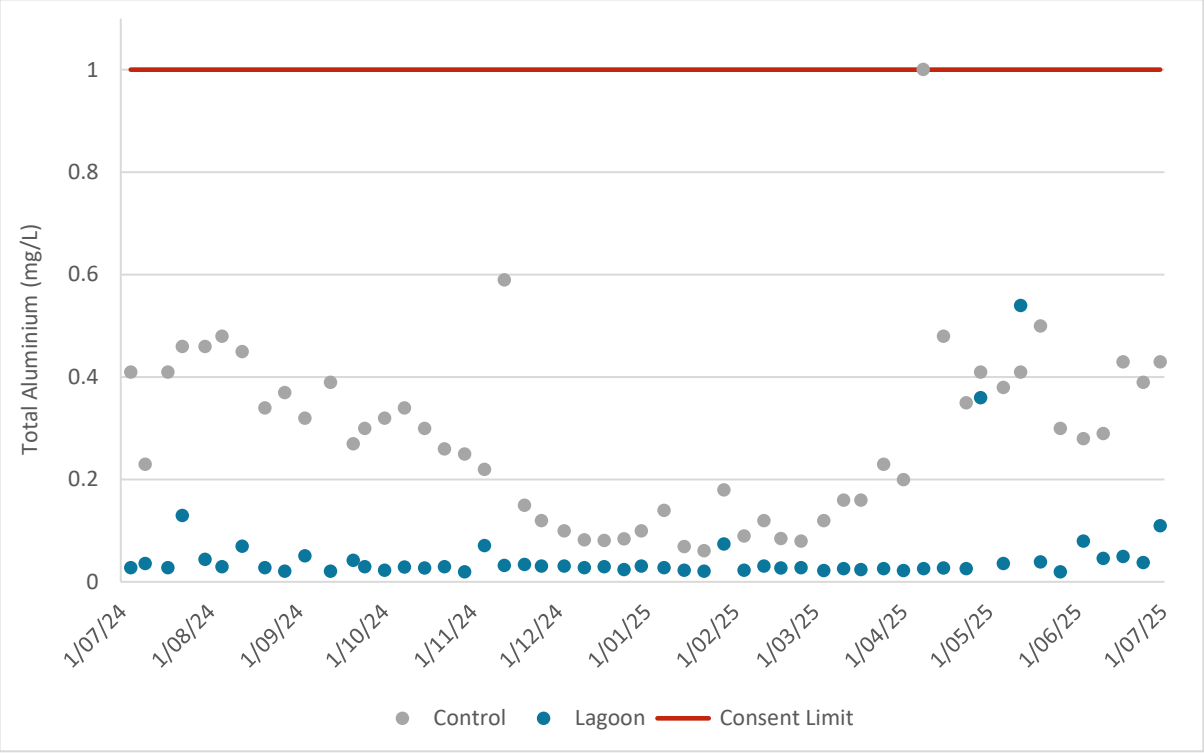

Figure 2-4: Total aluminium results for the Waitākere lagoon discharge and control site for the period 1 July 2024 to 30 June 2025.

2.4 Soluble Aluminium

The rolling median values for soluble aluminium from the lagoon discharge remained below the rolling 24 month 80th percentile of results from the control site, again satisfying condition 3(iii).

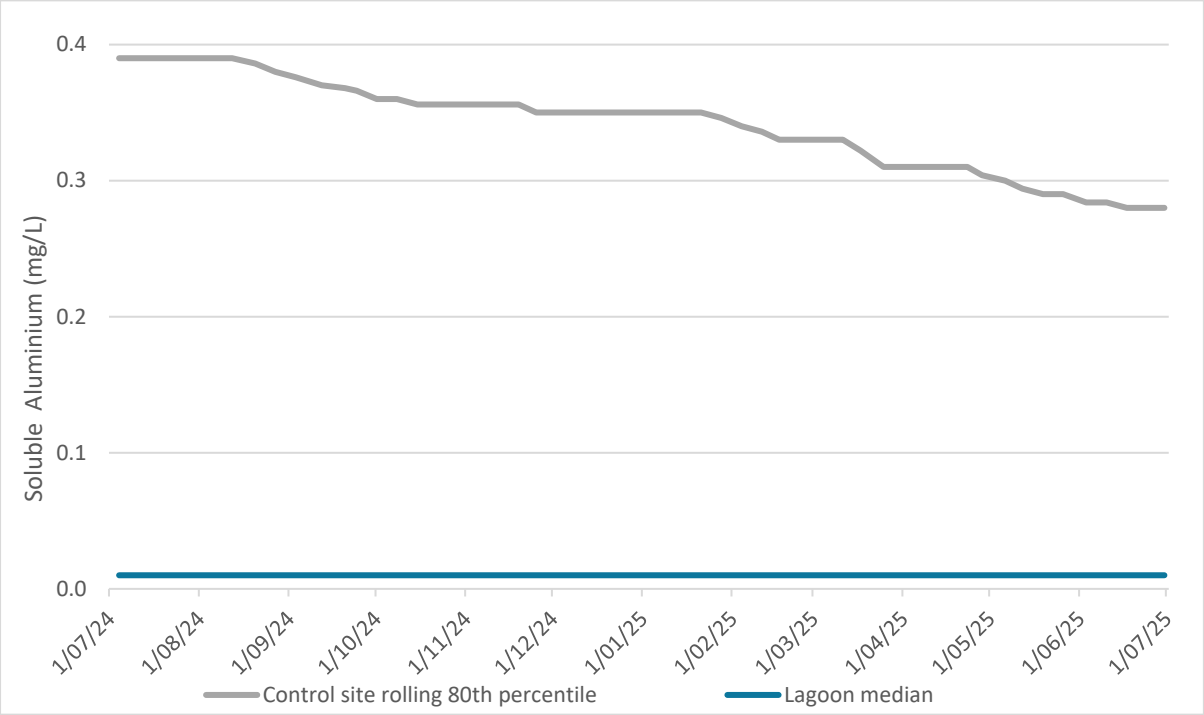

Figure 2-5: Waitākere lagoon median of all results and the control site's rolling 24 month 80th percentile results for soluble aluminium.

2.5 Suspended Solids

All suspended solids results remained within the 30 mg/L limit, again satisfying condition 3(ii).

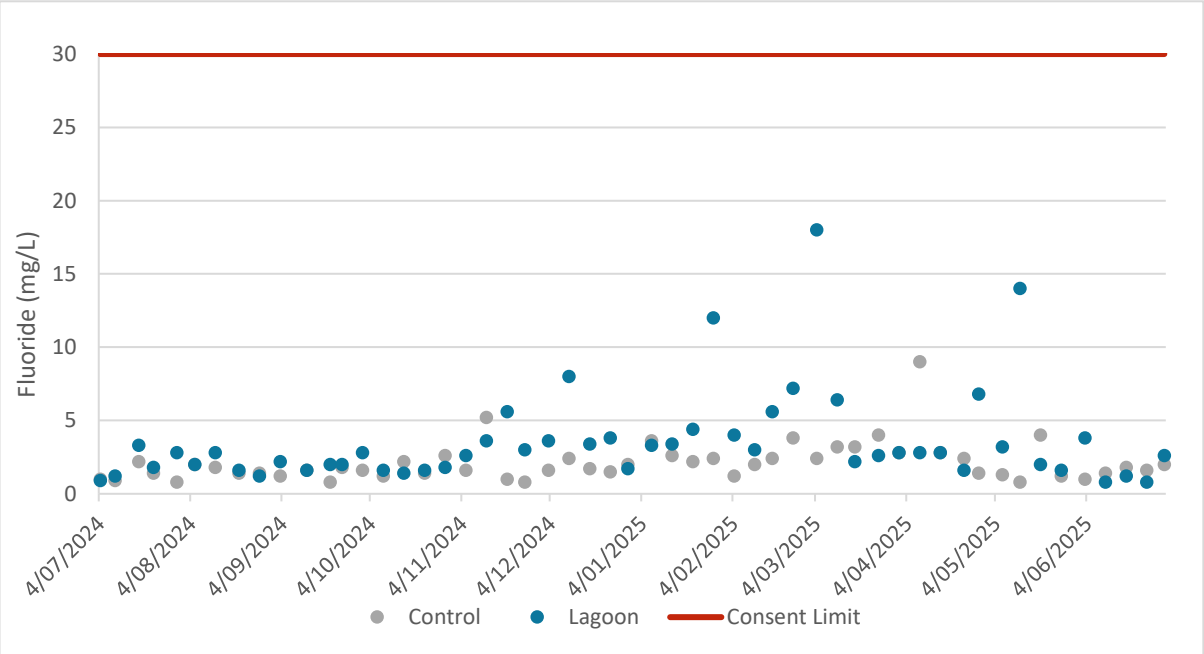

Figure 2-6: Suspended solids results for the Waitākere lagoon discharge and control site for the period 1 July 2024 to 30 June 2025.

3 CONCLUSION

The Waitākere WTP consistently met the consent requirements for the 2024-25 reporting period, affirming the plant's effective maintenance and operational standards. There were no exceedances and therefore no detrimental effect to the environment as a result of off-spec water discharges.

Appendix A. Raw Laboratory Data for Waitākere WTP Lagoon Discharge and Control Site

	Control					Lagoon				
Date	Aluminium Soluble (mg/L)	Aluminium Total (mg/L)	Fluoride (mg/L)	Suspended Solids (mg/L)	pH (at 20°C)	Aluminium Soluble (mg/L)	Aluminium Total (mg/L)	Fluoride (mg/L)	Suspended Solids (mg/L)	pH (at 20°C)
4/07/2024	0.25	0.41	0.02	1	6.9	0.0082	0.028	0.23	0.9	6.7
9/07/2024	0.25	0.23	0.02	0.9	6.9	0.0089	0.036	0.27	1.2	6.9
17/07/2024	0.2	0.41	0.02	2.2	6.8	0.0078	0.028	0.22	3.3	6.7
22/07/2024	0.29	0.46	0.02	1.4	7	0.019	0.13	0.22	1.8	6.9
30/07/2024	0.27	0.46	0.02	0.8	6.7	0.0083	0.044	0.24	2.8	6.7
5/08/2024	0.31	0.48	0.02	2	7	0.0097	0.03	0.27	2	6.7
12/08/2024	0.26	0.45	0.02	1.8	7	0.0074	0.07	0.28	2.8	7.1
20/08/2024	0.21	0.34	0.02	1.4	6.9	0.0075	0.028	0.26	1.6	6.7
27/08/2024	0.19	0.37	0.02	1.4	7.1	0.0067	0.021	0.26	1.2	6.7
3/09/2024	0.17	0.32	0.02	1.2	7.1	0.005	0.051	0.28	2.2	7
12/09/2024	0.19	0.39	0.02	1.6	7	0.0059	0.021	0.31	1.6	6.8
20/09/2024	0.16	0.27	0.02	0.8	7.1	0.0083	0.042	0.33	2	7.1
24/09/2024	0.19	0.3	0.02	1.8	7.2	0.0073	0.03	0.29	2	6.8
1/10/2024	0.25	0.32	0.02	1.6	7	0.0091	0.023	0.33	2.8	6.7
8/10/2024	0.16	0.34	0.02	1.2	7	0.0074	0.029	0.29	1.6	6.7
15/10/2024	0.2	0.3	0.02	2.2	7	0.0095	0.027	0.32	1.4	6.6
22/10/2024	0.16	0.26	0.02	1.4	7	0.0068	0.03	0.17	1.6	6.6
29/10/2024	0.14	0.25	0.02	2.6	7.1	0.0083	0.02	0.19	1.8	6.5
5/11/2024	0.092	0.22	0.02	1.6	7.1	0.0081	0.071	0.2	2.6	6.5
12/11/2024	0.067	0.59	0.02	5.2	7	0.0077	0.032	0.24	3.6	6.8
19/11/2024	0.074	0.15	0.02	1	7	0.0064	0.034	0.28	5.6	6.6
25/11/2024	0.052	0.12	0.02	0.8	7	0.0051	0.031	0.26	3	6.5
3/12/2024	0.046	0.1	0.02	1.6	7	0.0085	0.031	0.23	3.6	6.8
10/12/2024	0.03	0.082	0.02	2.4	7.6	0.0095	0.028	0.3	8	6.7
17/12/2024	0.025	0.081	0.02	1.7	7.1	0.0098	0.03	0.29	3.4	6.6
24/12/2024	0.018	0.084	0.02	1.5	7.2	0.0069	0.024	0.26	3.8	6.7
30/12/2024	0.019	0.1	0.02	2	7	0.0064	0.031	0.29	1.7	6.7

	Control					Lagoon				
Date	Aluminium Soluble (mg/L)	Aluminium Total (mg/L)	Fluoride (mg/L)	Suspended Solids (mg/L)	pH (at 20°C)	Aluminium Soluble (mg/L)	Aluminium Total (mg/L)	Fluoride (mg/L)	Suspended Solids (mg/L)	pH (at 20°C)
7/01/2025	0.014	0.14	0.02	3.6	7.1	0.0064	0.028	0.29	3.3	6.7
14/01/2025	0.012	0.069	0.02	2.6	7.2	0.0063	0.023	0.28	3.4	6.7
21/01/2025	0.012	0.061	0.02	2.2	7.2	0.0053	0.021	0.31	4.4	6.7
28/01/2025	0.019	0.18	0.02	2.4	7.3	0.006	0.074	0.35	12	6.8
4/02/2025	0.017	0.09	0.02	1.2	7.2	0.0054	0.023	0.31	4	6.9
11/02/2025	0.018	0.12	0.02	2	7.5	0.0057	0.031	0.33	3	6.7
17/02/2025	0.013	0.085	0.02	2.4	7	0.0054	0.027	0.31	5.6	6.6
24/02/2025	0.014	0.08	0.02	3.8	7	0.0061	0.028	0.37	7.2	6.7
4/03/2025	0.017	0.12	0.03	2.4	7.4	0.005	0.022	0.4	18	6.9
11/03/2025	0.026	0.16	0.03	3.2	7.2	0.0057	0.026	0.37	6.4	6.8
17/03/2025	0.036	0.16	0.02	3.2	7.2	0.0059	0.024	0.37	2.2	6.9
25/03/2025	0.046	0.23	0.02	4	7.1	0.0056	0.026	0.37	2.6	6.7
1/04/2025	0.054	0.2	0.02	2.8	7.2	0.005	0.022	0.39	2.8	6.6
8/04/2025	0.29	1	0.02	9	6.7	0.0081	0.026	0.36	2.8	6.6
15/04/2025	0.23	0.48	0.02	2.8	7.4	0.008	0.027	0.32	2.8	6.6
23/04/2025	0.22	0.35	0.02	2.4	7	0.0068	0.026	0.35	1.6	6.7
28/04/2025	0.21	0.41	0.02	1.4	7	0.018	0.36	0.12	6.8	6.7
6/05/2025	0.2	0.38	0.02	1.3	6.7	0.0069	0.036	0.27	3.2	6.6
12/05/2025	0.23	0.41	0.02	0.8	6.8	0.0087	0.54	0.3	14	6.6
19/05/2025	0.22	0.5	0.02	4	7	0.0086	0.039	0.27	2	6.6
26/05/2025	0.19	0.3	0.02	1.2	6.8	0.0072	0.02	0.26	1.6	6.6
3/06/2025	0.17	0.28	0.03	1	7	0.0074	0.08	0.29	3.8	6.7
10/06/2025	0.17	0.29	0.02	1.4	6.9	0.012	0.046	0.19	0.8	6.6
17/06/2025	0.24	0.43	0.02	1.8	6.8	0.011	0.05	0.25	1.2	6.5
24/06/2025	0.21	0.39	0.02	1.6	6.8	0.0092	0.038	0.24	0.8	6.8
30/06/2025	0.25	0.43	0.02	2	6.8	0.01	0.11	0.21	2.6	6.5

Appendix B. Data Sources

Table 3-1: Download location of environmental monitoring data used in this report

Category	Parameters	Source platform	ID/ Lab Sample Location
Discharge Quality	pH, total and soluble aluminium, fluoride, suspended solids	Labware/ Infrastructure Data	WSL_C_WAITAKR_LAGOON
Control Site	pH, total and soluble aluminium, fluoride, suspended solids	Labware/ Infrastructure Data	WSL_C_WAITAKR_SLUDGE