

27 August 2025

Chris Schneider
Managing Director
National Ceramic Industries Australia
PO Box 765
Maitland NSW 2320

Dear Chris

Environmental Monitoring for National Ceramic Industries Australia - July 2025

Please find enclosed the documentation for the environmental monitoring carried out for National Ceramic Industries Australia during July 2025. Sampling methodology and adopted assessment criteria are detailed below.

1.0 Sampling Methodology

Sampling was performed by AECOM Australia Pty Ltd (AECOM) and sample analysis was carried out by ALS (NATA accreditation 825). All sampling and analysis were carried out in accordance with Environmental Protection Authority (EPA) approved methods with reference to the following Australian Standards:

- monitoring of fine suspended particulates (PM₁₀) on the EPA six-day cycle in accordance with:
 - *AS/NZS 3580.9.6 (2015) Methods for the Sampling and Analysis of Ambient Air – Determination of Suspended Particulate Matter – PM₁₀ High Volume Sampler with Size Selective Inlet – Gravimetric Method.*
- monitoring of fluorides in ambient air in accordance with:
 - *AS/NZS 3580.13.2 (2013) Determination of fluorides – Gaseous and acid-soluble particulate fluorides – Manual, double filter paper sampling.*
- meteorological monitoring in accordance with:
 - *AS 3580.1.1 (2016) – Methods for sampling and analysis of ambient air – Part 1.1 – Guide to siting air monitoring equipment.*
 - *AS 3580.14 (2014) – Methods for sampling and analysis of ambient air – Part 14: Meteorological monitoring for ambient air quality monitoring.*
- monitoring of surface water quality in accordance with:
 - *AS/NZS 5667.1:1998 (R2016) Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples.*
 - *AS/NZS 5667.4:1998 (R2016) Guidance on sampling from lakes, natural and manmade.*

2.0 Assessment Criteria

Suspended particulate loads are assessed against the impact assessment criteria defined in the Project Approval conditions (09_0006 – National Ceramic Industries Australia Tile Manufacturing Facility Expansion Project, 19 January 2012). The assessment criteria for PM₁₀ (particulate matter with an aerodynamic diameter of less than 10 µm) are:

- 50 µg/m³ over a 24-hour period
- 30 µg/m³ as an annual average.

Ambient fluoride concentrations are assessed against the guidelines defined in NSW EPA *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA (2022)).

The NSW EPA impact assessment criteria for ambient fluoride are:

- 2.9 µg/m³ over a 24-hour period
- 1.7 µg/m³ over a 7-day period.

Surface waters are assessed in accordance with default trigger values for physical and chemical stressors for southeast Australia in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018). These values are:

- pH in the range of 6.5 - 8.5 (Table 3.3.2 - NSW Lowland River)
- electrical conductivity (EC) in the range of 125 – 2200 µS/cm (Table 3.3.3 - NSW Lowland River).

3.0 Monitoring Results

Monitoring results for the month of July 2025 are presented in the attachments to this letter. Monitoring results for the preceding two months are also presented to demonstrate quarterly trends in results.

The July 2025 monitoring results show that all ambient PM₁₀ results were below the short-term impact assessment criterion (50 µg/m³) as defined in the DPIE Project Approval (Schedule 3, Condition 15, Table 2).

The PM₁₀ rolling annual average concentration at the Southeast site remains below the Project Approval annual criterion of 30 µg/m³ with an average of 14.2 µg/m³ following the July monitoring period. The Northwest annual average is also below the criteria and is sitting at 18.6 µg/m³ following the completion of the July monitoring period.

Fluoride results for July remain below the relevant assessment criteria at both the Northwest and Southeast monitoring sites with no exceedances of either the 24-hour (2.9 µg/m³) or 7-day (1.7 µg/m³) criteria this month. It is noted that a final meter reading was not obtained for the Northwest 24-hour fluoride sample on 17 July 2025, nor was a meter start reading recorded for the 23 July sample. To provide results for these samples, the total volume (17th and 23rd) has been averaged.

Pond 4, being the last detention pond on site before water potentially leaves the site is monitored for pH, electrical conductivity and temperature on a weekly basis. The adopted ANZG 2018 guidelines for pH and conductivity are the default trigger values for slightly disturbed aquatic ecosystems in NSW lowland rivers.

pH measurements for July 2025 were within both the upper and lower limits of the adopted guidelines.

Electrical conductivity measurements for July were within both upper and lower limits of the adopted guidelines. Water temperature was also measured however no guideline is available for assessment.

Pond 4 was observed to be flowing to offsite during site visits on 3 and 31 July however parameters measured on these days were within the required ANZG guidelines.

A figure showing the monitoring locations and monitoring results and plots can be found attached along with the wind rose for July. Laboratory certificates, field sheets and calibration data along with relevant meteorology data can be provided on request.

If you require any further information, please contact Cyé Buckland on 0488 777 160.

Yours faithfully,



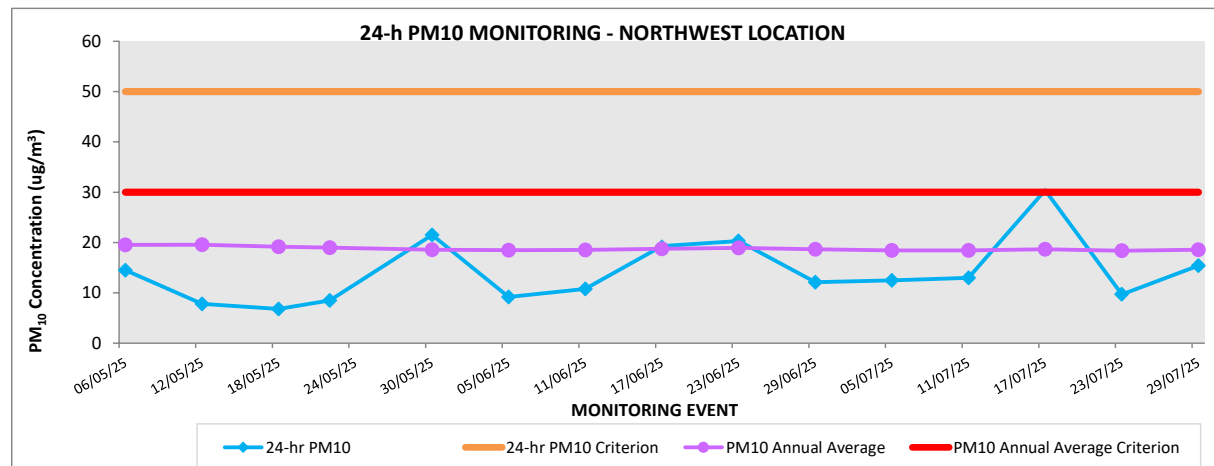
cye.buckland@aecom.com

Mobile: +61 488 777 160

encl: Monitoring data tables and charts, wind rose, monitoring locations

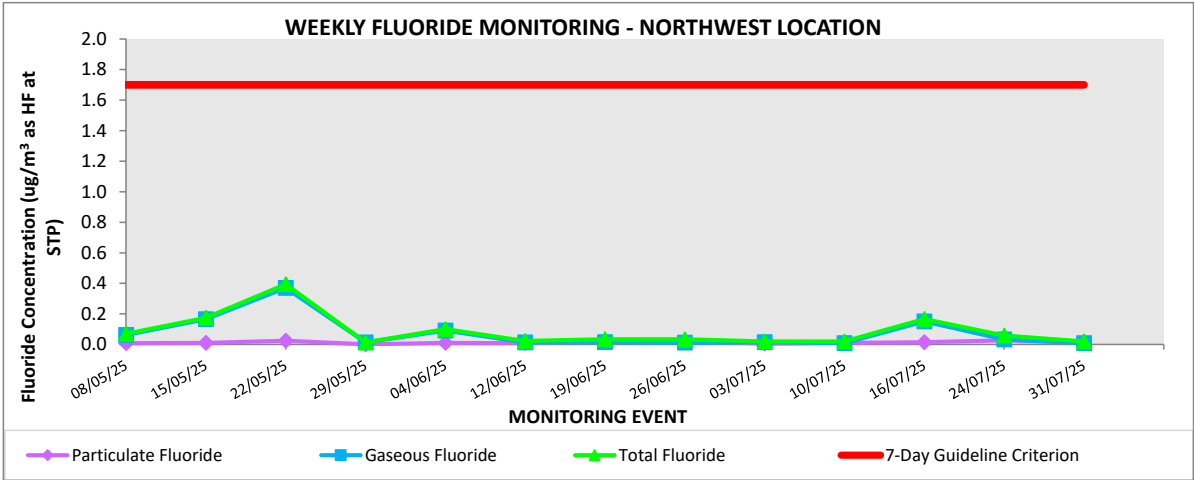
North West Monitoring Location - 24 hour PM10 Monitoring

North West - 24 hour PM10 Monitoring				
May 2025 to July 2025				
Monitoring Event	24-hr PM ₁₀	24-hr PM ₁₀ Criterion	PM ₁₀ Annual Average	PM ₁₀ Annual Average Criterion
	(µg/m ³)	(µg/m ³)	(µg/m ³)	
6-May-25	14.5	50	19.5	30
12-May-25	7.8	50	19.6	30
18-May-25	6.8	50	19.2	30
22-May-25	8.5	50	19.0	30
30-May-25	21.5	50	18.6	30
5-Jun-25	9.2	50	18.5	30
11-Jun-25	10.8	50	18.5	30
17-Jun-25	19.3	50	18.7	30
23-Jun-25	20.3	50	19.0	30
29-Jun-25	12.1	50	18.7	30
5-Jul-25	12.5	50	18.4	30
11-Jul-25	13	50	18.5	30
17-Jul-25	30.4	50	18.6	30
23-Jul-25	9.7	50	18.4	30
29-Jul-25	15.4	50	18.6	30



North West Monitoring Location - 7 Day Fluoride Monitoring

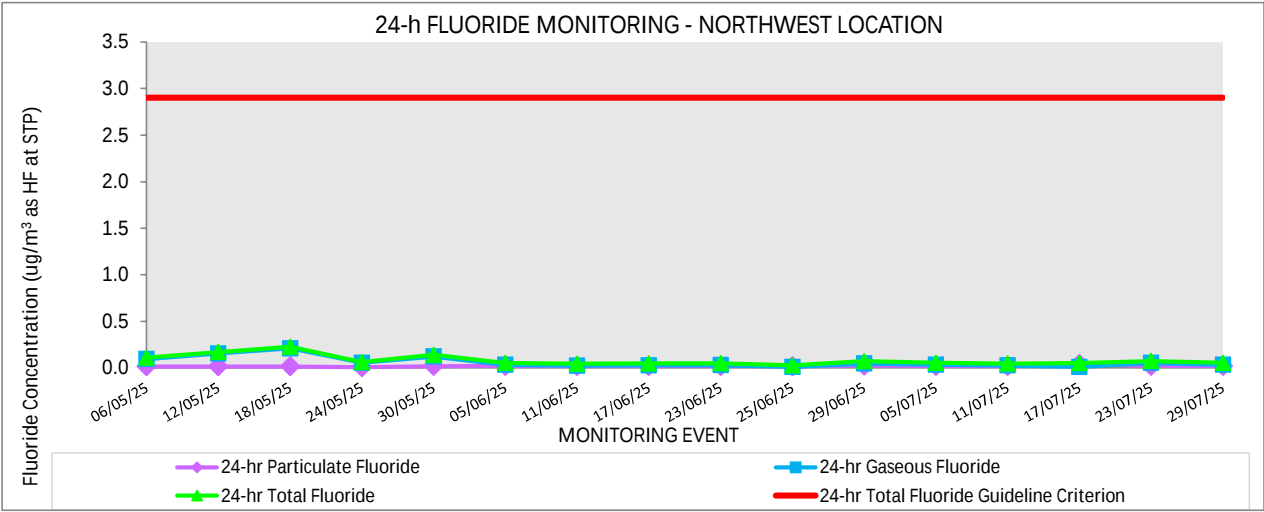
North West - 7 Day Fluoride Monitoring					
May 2025 to July 2025					
Monitoring Event		Particulate Fluoride	Gaseous Fluoride	Total Fluoride	7-Day Guideline Criterion
Start Date	End Date	(µg/m³ as HF at STP)	(µg/m³ as HF at STP)	(µg/m³ as HF at STP)	(µg/m³ as HF at STP)
1-May-25	8-May-25	0.008	0.062	0.070	1.7
8-May-25	15-May-25	0.010	0.165	0.175	1.7
15-May-25	22-May-25	0.024	0.370	0.394	1.7
22-May-25	29-May-25	0.001	0.013	0.014	1.7
29-May-25	4-Jun-25	0.010	0.090	0.100	1.7
4-Jun-25	12-Jun-25	0.009	0.014	0.023	1.7
12-Jun-25	19-Jun-25	0.020	0.015	0.035	1.7
19-Jun-25	26-Jun-25	0.022	0.012	0.034	1.7
26-Jun-25	3-Jul-25	0.005	0.015	0.020	1.7
3-Jul-25	10-Jul-25	0.010	0.009	0.019	1.7
10-Jul-25	16-Jul-25	0.015	0.151	0.166	1.7
16-Jul-25	24-Jul-25	0.027	0.032	0.059	1.7
24-Jul-25	31-Jul-25	0.012	0.008	0.020	1.7



North West Monitoring Location - 24 hour Fluoride Monitoring

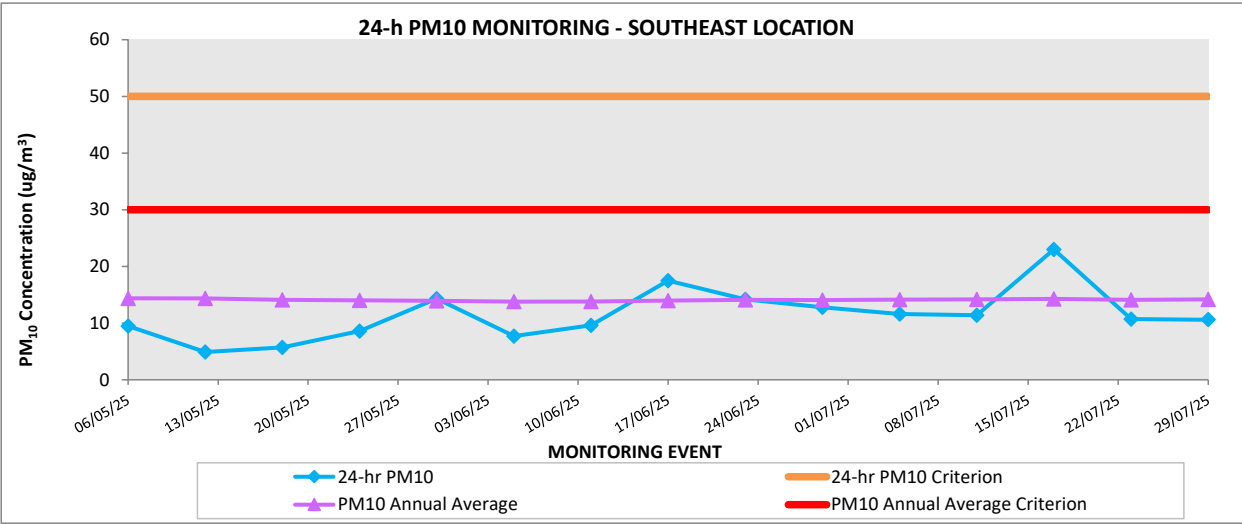
North West - 24 hour Fluoride Monitoring				
May 2025 to July 2025				
Monitoring Event	24-hr Particulate Fluoride	24-hr Gaseous Fluoride	24-hr Total Fluoride	24-hr Total Fluoride Guideline Criterion
	(µg/m³ as HF at STP)	(µg/m³ as HF at STP)	(µg/m³ as HF at STP)	(µg/m³ as HF at STP)
06-May-25	0.015	0.095	0.110	2.9
12-May-25	0.015	0.155	0.170	2.9
18-May-25	0.015	0.210	0.225	2.9
24-May-25	0.007	0.054	0.061	2.9
30-May-25	0.019	0.122	0.141	2.9
05-Jun-25	0.020	0.033	0.053	2.9
11-Jun-25	0.021	0.023	0.044	2.9
17-Jun-25	0.021	0.027	0.048	2.9
23-Jun-25	0.021	0.029	0.050	2.9
25-Jun-25	0.018	0.009	0.027	2.9
29-Jun-25	0.025	0.047	0.072	2.9
05-Jul-25	0.020	0.035	0.055	2.9
11-Jul-25	0.021	0.026	0.047	2.9
17-Jul-25	0.041	0.010	0.051	2.9
23-Jul-25	0.021	0.053	0.074	2.9
29-Jul-25	0.021	0.033	0.054	2.9

17 and 23 July meter readings not obtained. Average volume for the two runs used for both samples.



South East Monitoring Location - 24 hour PM10 Monitoring

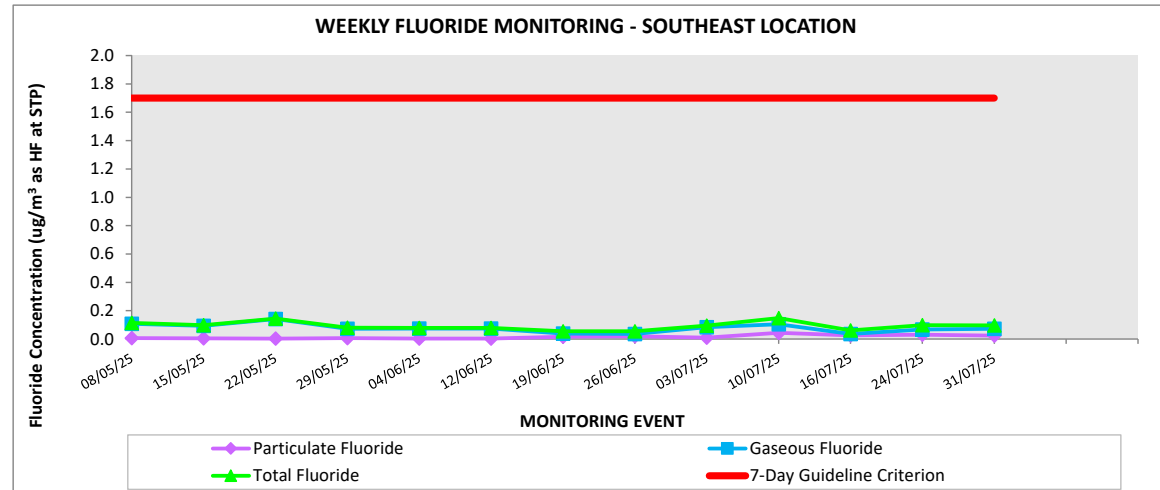
South East - 24 hour PM10 Monitoring				
May 2025 to July 2025				
Monitoring Event	24-hr PM ₁₀	24-hr PM ₁₀ Criterion	PM ₁₀ Annual Average	PM ₁₀ Annual Average Criterion
	(µg/m ³)	(µg/m ³)	(µg/m ³)	
6-May-25	9.5	50	14.4	30
12-May-25	4.9	50	14.4	30
18-May-25	5.7	50	14.1	30
24-May-25	8.6	50	14.0	30
30-May-25	14.3	50	13.9	30
5-Jun-25	7.7	50	13.8	30
11-Jun-25	9.6	50	13.8	30
17-Jun-25	17.5	50	14.0	30
23-Jun-25	14.2	50	14.1	30
29-Jun-25	12.8	50	14.1	30
5-Jul-25	11.6	50	14.2	30
11-Jul-25	11.4	50	14.2	30
17-Jul-25	23	50	14.3	30
23-Jul-25	10.7	50	14.1	30
29-Jul-25	10.6	50	14.2	30



South East Monitoring Location - 7 Day Fluoride Monitoring

South East - 7 Day Fluoride Monitoring					
May 2025 to July 2025					

Monitoring Event		Particulate Fluoride	Gaseous Fluoride	Total Fluoride	7-Day Guideline Criterion
Start Date	End Date	($\mu\text{g}/\text{m}^3$ as HF at STP)	($\mu\text{g}/\text{m}^3$ as HF at STP)	($\mu\text{g}/\text{m}^3$ as HF at STP)	($\mu\text{g}/\text{m}^3$ as HF at STP)
1-May-25	8-May-25	0.007	0.107	0.114	1.7
8-May-25	15-May-25	0.005	0.093	0.098	1.7
15-May-25	22-May-25	0.003	0.141	0.144	1.7
22-May-25	29-May-25	0.007	0.073	0.080	1.7
29-May-25	4-Jun-25	0.004	0.074	0.078	1.7
4-Jun-25	12-Jun-25	0.004	0.074	0.078	1.7
12-Jun-25	19-Jun-25	0.016	0.039	0.055	1.7
19-Jun-25	26-Jun-25	0.019	0.036	0.055	1.7
26-Jun-25	3-Jul-25	0.01	0.084	0.094	1.7
3-Jul-25	10-Jul-25	0.044	0.104	0.148	1.7
10-Jul-25	16-Jul-25	0.025	0.036	0.061	1.7
16-Jul-25	24-Jul-25	0.03	0.068	0.098	1.7
24-Jul-25	31-Jul-25	0.024	0.073	0.097	1.7

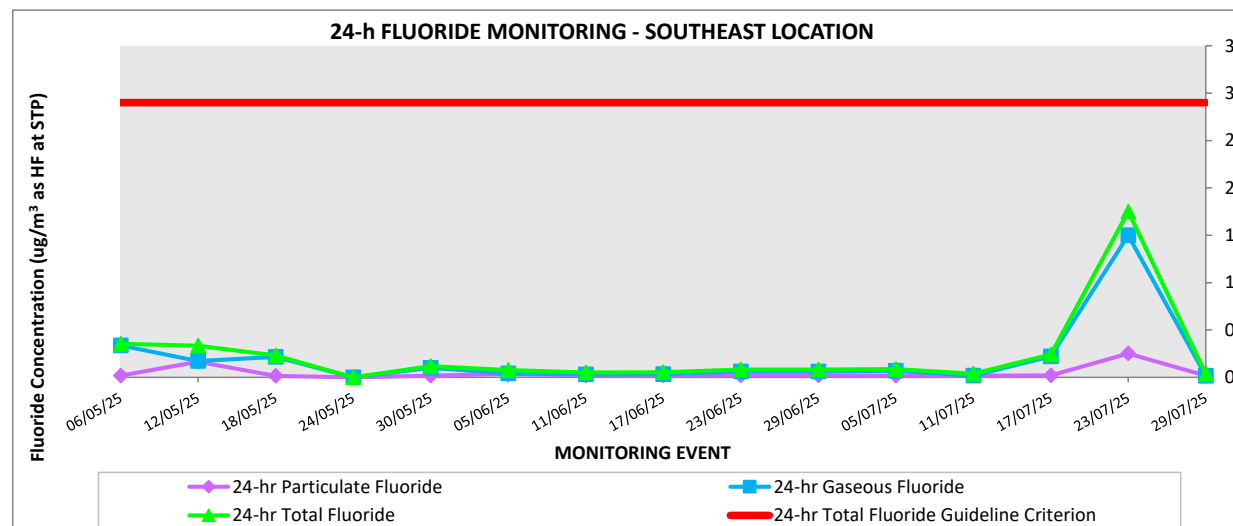


South East Monitoring Location - 24 hour Fluoride Monitoring

South East - 24 hour Fluoride Monitoring
May 2025 to July 2025

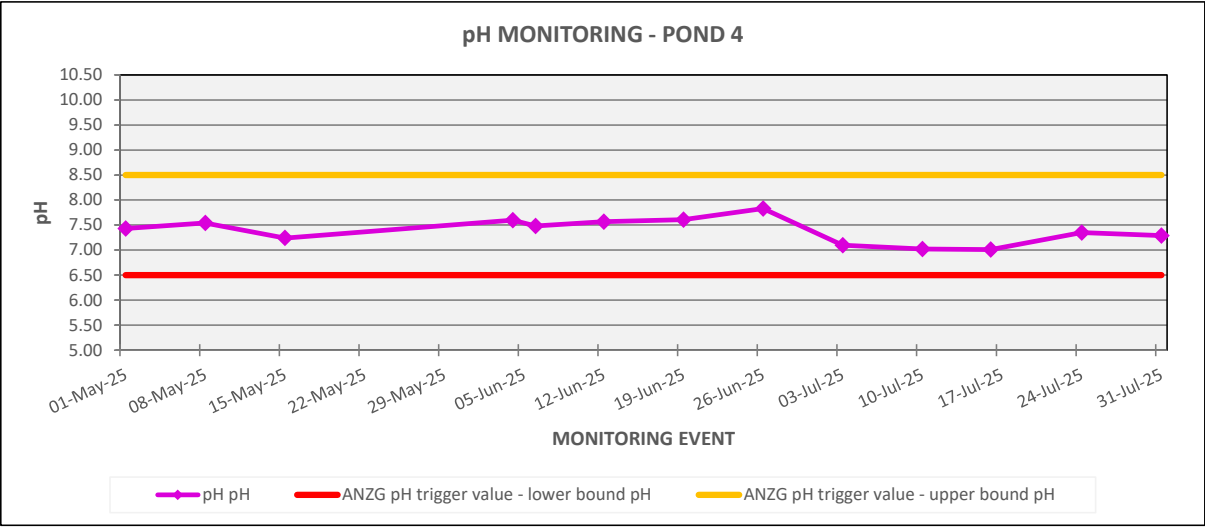
Monitoring Event	24-hr Particulate Fluoride	24-hr Gaseous Fluoride	24-hr Total Fluoride	24-hr Total Fluoride Guideline Criterion
	($\mu\text{g}/\text{m}^3$ as HF at STP)	($\mu\text{g}/\text{m}^3$ as HF at STP)	($\mu\text{g}/\text{m}^3$ as HF at STP)	($\mu\text{g}/\text{m}^3$ as HF at STP)
6-May-25	0.019	0.336	0.355	2.9
12-May-25	0.164	0.171	0.335	2.9
18-May-25	0.016	0.216	0.232	2.9
24-May-25	--	--	--	2.9
30-May-25	0.018	0.1	0.118	2.9
5-Jun-25	0.037	0.041	0.078	2.9
11-Jun-25	0.02	0.032	0.052	2.9
17-Jun-25	0.02	0.033	0.053	2.9
23-Jun-25	0.02	0.061	0.081	2.9
29-Jun-25	0.02	0.062	0.082	2.9
5-Jul-25	0.019	0.069	0.088	2.9
11-Jul-25	0.019	0.019	0.038	2.9
17-Jul-25	0.02	0.221	0.241	2.9
23-Jul-25	0.251	1.499	1.750	2.9
29-Jul-25	0.019	0.016	0.035	2.9

24 May sample failed to run



Pond 4 - Weekly pH Monitoring
May 2025 to July 2025

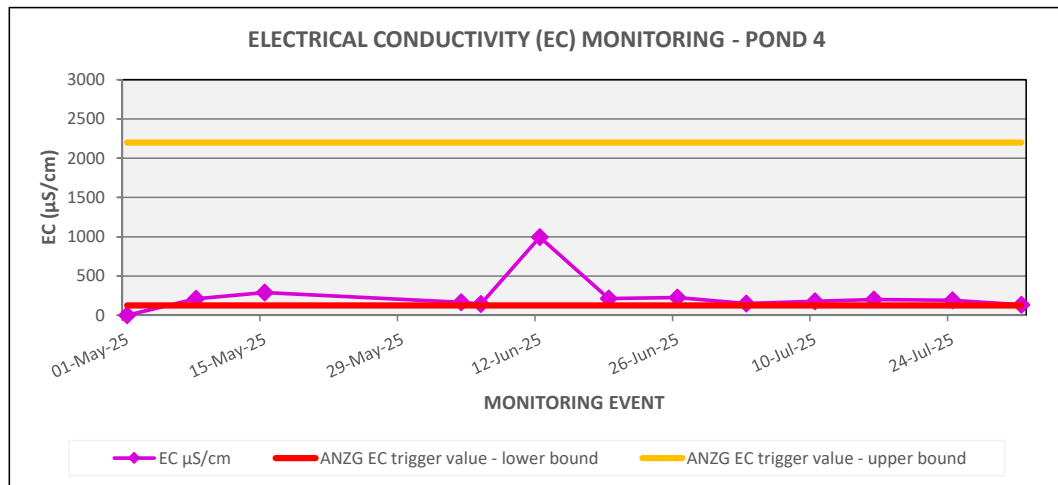
Monitoring Event	pH	ANZG pH trigger value - lower bound	ANZG pH trigger value - upper bound	Unable to sample
	pH	pH	pH	
01-May-25	7.43	6.5	8.5	
08-May-25	7.54	6.5	8.5	
15-May-25	7.24	6.5	8.5	
04-Jun-25	7.60	6.5	8.5	
06-Jun-25	7.48	6.5	8.5	
12-Jun-25	7.57	6.5	8.5	
19-Jun-25	7.61	6.5	8.5	
26-Jun-25	7.83	6.5	8.5	
03-Jul-25	7.10	6.5	8.5	
10-Jul-25	7.02	6.5	8.5	
16-Jul-25	7.01	6.5	8.5	
24-Jul-25	7.35	6.5	8.5	
31-Jul-25	7.29	6.5	8.5	



Pond 4 - Weekly EC Monitoring				
May 2025 to July 2025				

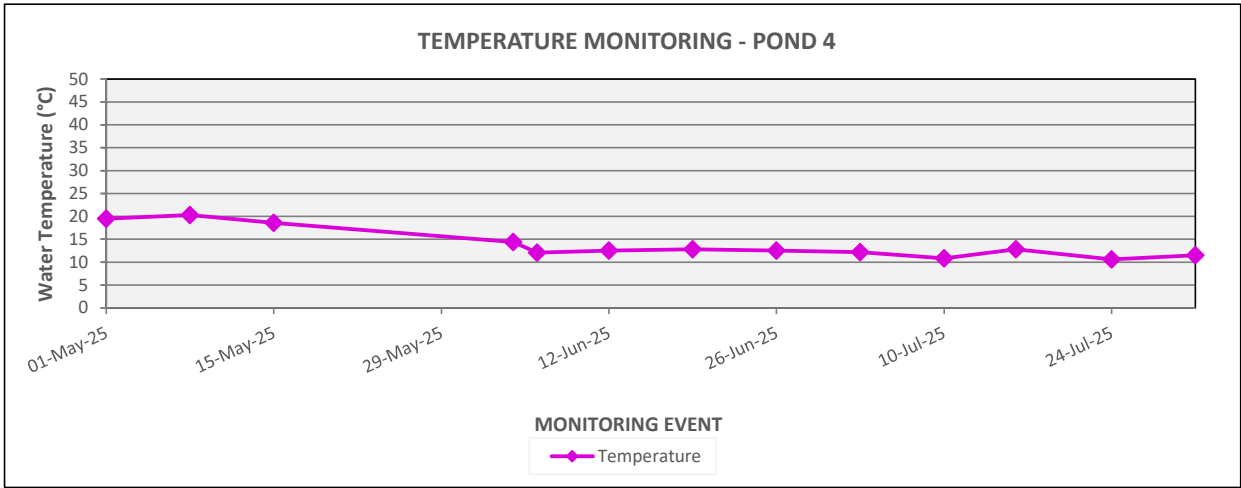
Monitoring Event	EC	ANZG EC trigger value - lower bound	ANZG EC trigger value - upper bound	Unable to sample
	µS/cm	µS/cm	µS/cm	
01-May-25	-	125	2200	
08-May-25	211	125	2200	
15-May-25	288	125	2200	
04-Jun-25	166	125	2200	
06-Jun-25	142	125	2200	
12-Jun-25	995	125	2200	
19-Jun-25	213	125	2200	
26-Jun-25	225	125	2200	
03-Jul-25	149	125	2200	
10-Jul-25	178	125	2200	
16-Jul-25	200	125	2200	
24-Jul-25	190	125	2200	
31-Jul-25	134	125	2200	

No EC recorded for 1 May



Pond 4 - Weekly Temperature Monitoring		
May 2025 to July 2025		

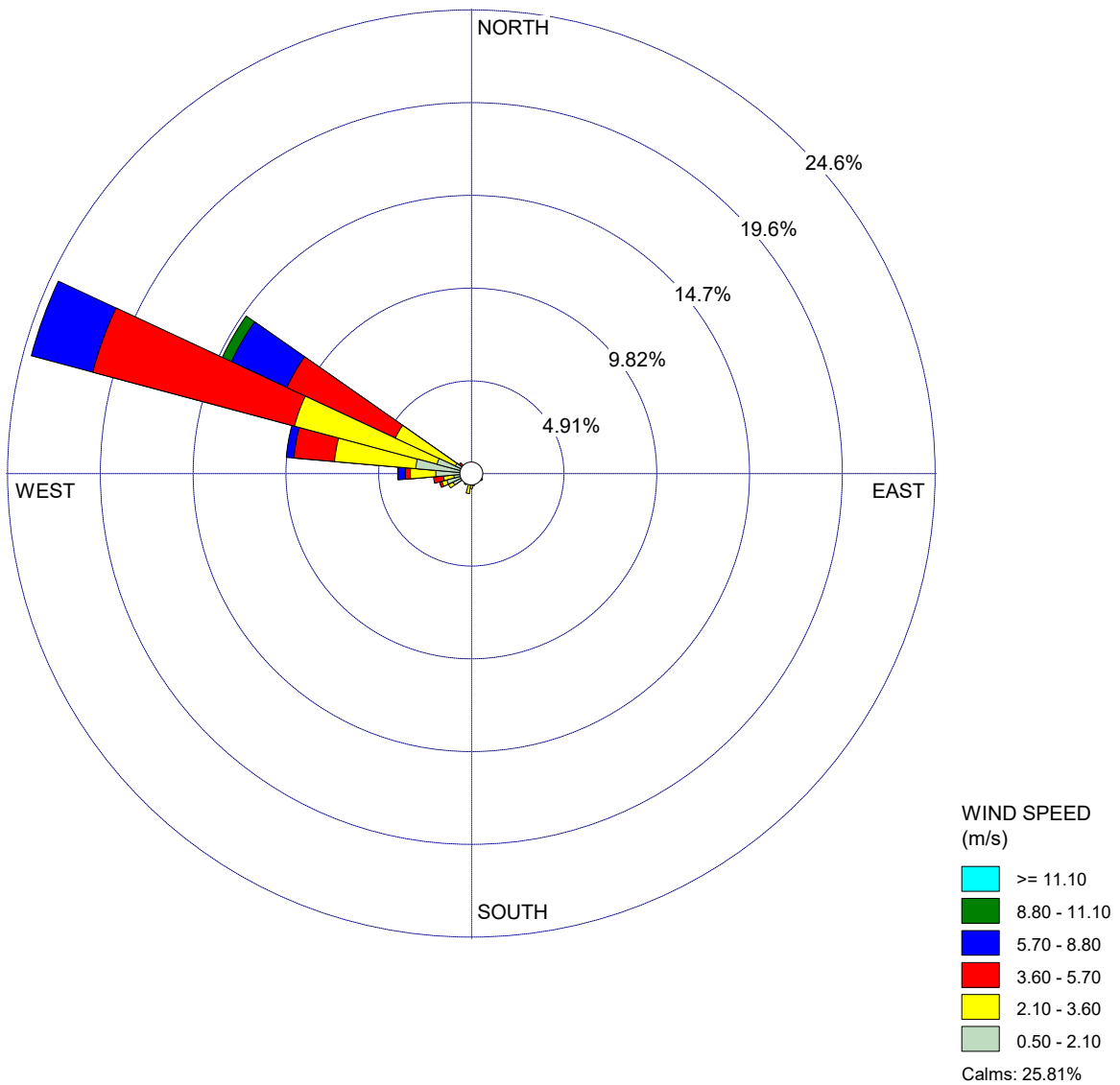
Monitoring Event	Temperature	Unable to sample
	°C	
01-May-25	19.5	
08-May-25	20.3	
15-May-25	18.6	
04-Jun-25	14.4	
06-Jun-25	12.1	
12-Jun-25	12.5	
19-Jun-25	12.8	
26-Jun-25	12.5	
03-Jul-25	12.2	
10-Jul-25	10.8	
16-Jul-25	12.8	
24-Jul-25	10.6	
31-Jul-25	11.5	



WIND ROSE PLOT:

**NCIA Meteorological Data
July 2025**

DISPLAY:

**Wind Speed
Direction (blowing from)**

COMMENTS:

DATA PERIOD:

**Start Date: 6/07/2025 - 00:00
End Date: 7/07/2025 - 23:00**

COMPANY NAME:

MODELER:

CALM WINDS:

25.81%

TOTAL COUNT:

684 hrs.

AVG. WIND SPEED:

2.48 m/s

DATE:

22/08/2025

PROJECT NO.:

60613063



Legend

0 250 500 Meters



Ambient Air Monitoring Station

NCIA Site Boundary

Watercourse

AECOM

Source: Imagery © Nearmap 2021