

TOMAGO ALUMINIUM CO. PTY. LTD.



ENVIRONMENT REPORT

SECOND QUARTER 2023

CONTENTS

INTRODUCTION:	3
EMISSION MONITORING SUMMARY REPORT	4
AMBIENT AIR REPORT	10
1. FLUORIDE CONCENTRATION IN AMBIENT AIR	11
2. SULFUR DIOXIDE CONCENTRATIONS IN AMBIENT AIR	15
METEOROLOGICAL REPORT	18
VEGETATION MONITORING REPORT	20
WATER MONITORING REPORT	22
INSTRUMENT AVAILABILITY REPORT	28
APPENDICES	30
APPENDIX 1 – SAMPLE SITES	31
APPENDIX 2 – EMISSION MONITORING DATA	32
APPENDIX 3 – FLUORIDE IN AMBIENT AIR DATA	33
APPENDIX 4 – METEOROLOGICAL DATA	34
APPENDIX 5 – VEGETATION MONITORING DATA	35
APPENDIX 6 – WATER MONITORING DATA	36
APPENDIX 7 – SAMPLING PROCEDURES	37
APPENDIX 8 – CUSTOMER FEEDBACK FORM	39

INTRODUCTION:

This document details results from the environmental monitoring program conducted at the Tomago Aluminium Smelter for the second quarter of 2023. The document is prepared to comply with the Environmental reporting conditions set out in the development consents.

The report is forwarded to the following government departments and statutory authorities:

NSW Environment Protection Authority
Office of Environment and Heritage - National Parks and Wildlife Service
Department of Primary Industries (NSW Fisheries)
Port Stephens Council
Hunter Water Corporation
Department of Planning
Hunter Region Botanic Gardens

For procedures used in the sampling and/or analyses contained in this report, please refer to Appendix 7.

Any statements of conformity contained within this report are based solely on the result obtained, without consideration of any associated measurement uncertainties.

All enquiries should be directed to Ms Robyn Parker (robyn.parker@tomago.com.au) in the first instance.

EMISSION MONITORING SUMMARY REPORT

APRIL - JUNE

2023

1. FLUORIDE EMISSION MONITORING

All monitoring as required under the Protection of the Environment Operations Act Licence 6163 and Development Consent was carried out. No exceedances of licence conditions occurred during the reporting period. A map showing the location of site source monitoring points appears in Appendix 1.

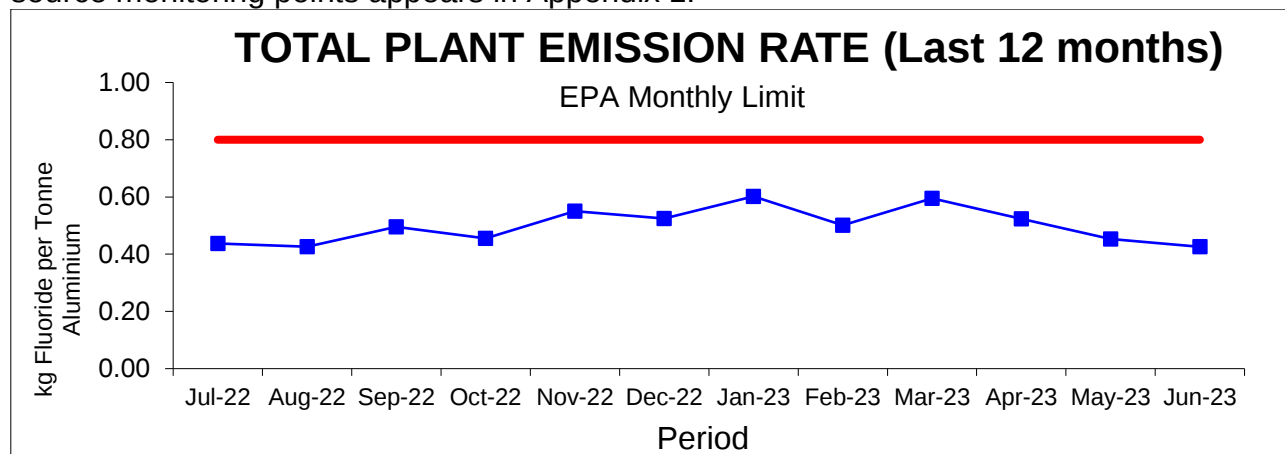


Figure 1: Total Plant Fluoride Emission Rate for last 12 months. This is defined as the sum of the average fluoride emissions for Potline Stacks, Bake Ovens Stacks and Potline Roof Vents.

1.1 STACK COMPLIANCE MONITORING

1.1.1 Potline Stacks

Detailed results of the Potline Stack compliance tests performed during the reporting period are presented in Appendix 2. There are no applicable limits for the potline stack concentrations as they are included in the Total Plant Emission Rate.

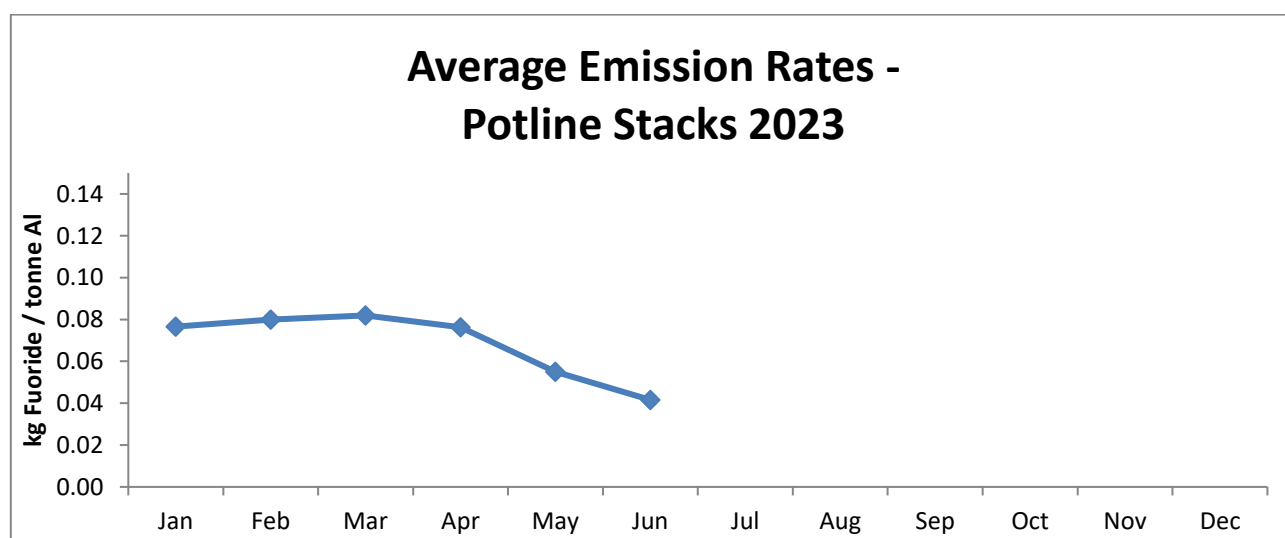


Figure 2: Average Potline Stack Fluoride Emission Rates – 2023

1.1.2 Carbon Bake Oven Stacks

Detailed results of the Bake Oven Stack compliance tests performed during the reporting period are presented in Appendix 2. There are no applicable limits for the Bake Ovens Stack concentrations as they are included in the Total Plant Emission Rate.

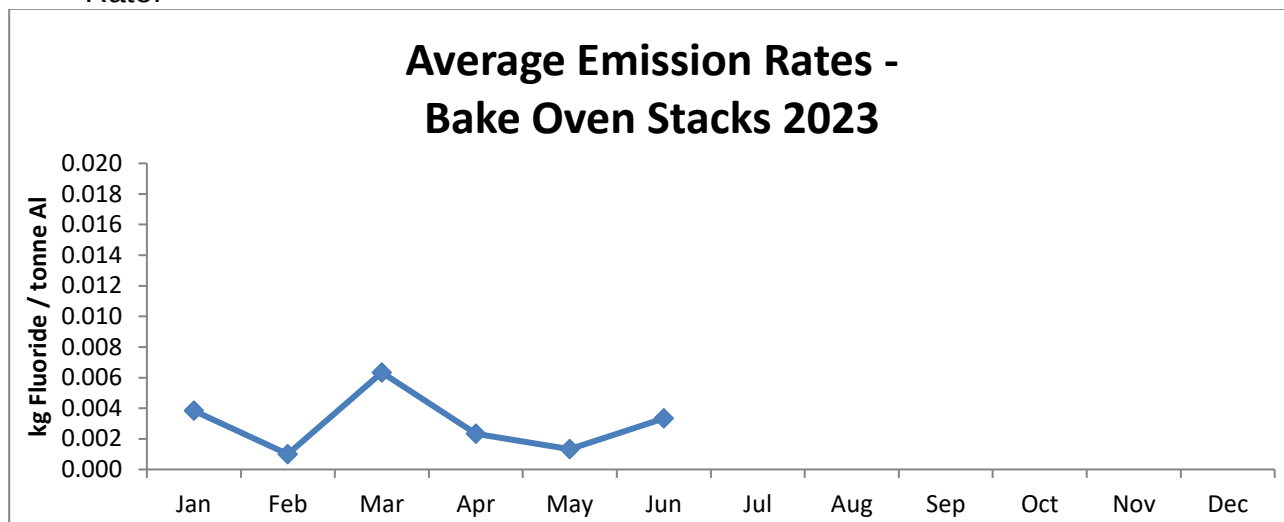


Figure 3: Average Bake Ovens Stack Fluoride Emission Rates – 2023

1.2 STACK CONTINUOUS GASEOUS FLUORIDE MONITORING

Detailed results on the continuous gaseous fluoride monitoring performed during the reporting period are presented in Appendix 2. The continuous monitoring of gaseous fluoride at the stacks is a condition of EPL 6163, however there are no applicable licence limits. The live monitoring data is used by plant operations to optimise emission control equipment.

Table 1: Average monthly stack gaseous fluoride emissions from continuous monitoring – 2023

	mg/m3											
STACK	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
POTLINE 1 West	0.41	0.48	0.49	0.42	0.25	0.25						
POTLINE 1 East	0.30	0.32	0.24	0.35	0.19	0.18						
POTLINE 2 West	0.38	0.46	0.42	0.38	0.27	0.27						
POTLINE 2 East	0.25	0.28	0.34	0.28	0.17	0.17						
POTLINE 1 & 2 EXT	0.34	0.74	0.40	0.37	0.28	0.32						
POTLINE 3 West	0.45	0.50	0.45	0.36	0.25	0.25						
POTLINE 3 East	0.36	0.41	0.93	0.34	0.27	0.28						
CARBON BAKE OVEN No. 1	0.36	0.35	0.45	0.47	0.48	0.37						
CARBON BAKE OVEN No. 2&3	0.76	0.94	1.05	0.58	0.59	0.59						

1.3 POTLINE ROOF VENTS

The detailed results of the Roof Vent compliance tests performed during the reporting period are presented in Appendix 2. There are no applicable limits for the Potline Roof Vent concentrations as they are included in the Total Plant Emission Rate.

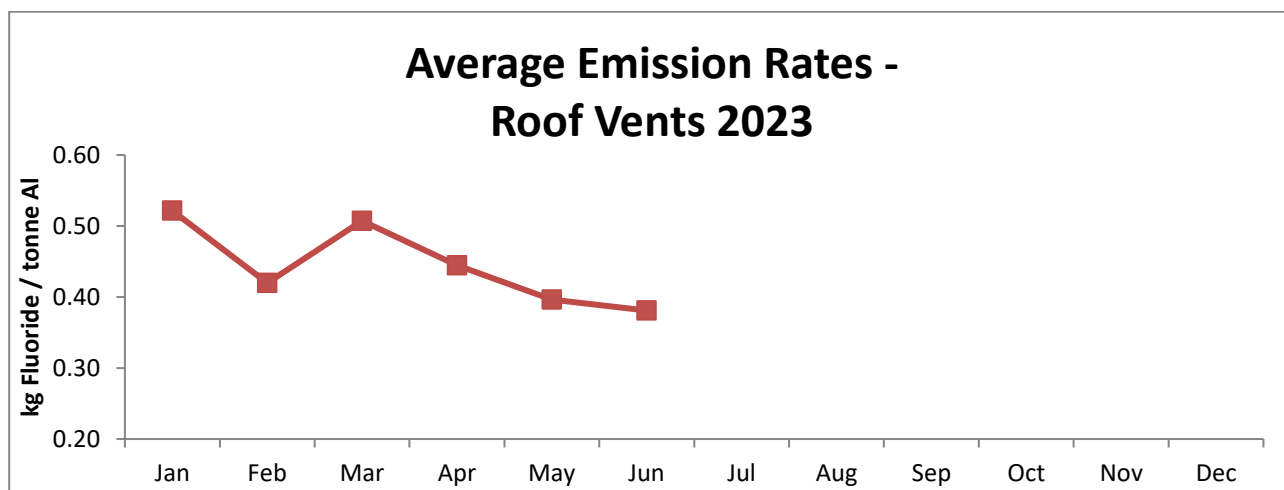


Figure 4: Average Potline Roof Vent Fluoride Emission Rates – 2023

2. SULFUR DIOXIDE EMISSION MONITORING

2.1 RAW MATERIALS

The sulfur content in the coke used for anode manufacture met the Environment Protection Licence limit of 3.5%. There is no applicable Environment Protection Licence limit for sulfur in pitch. Trends in sulfur levels in the coke and pitch are shown below.

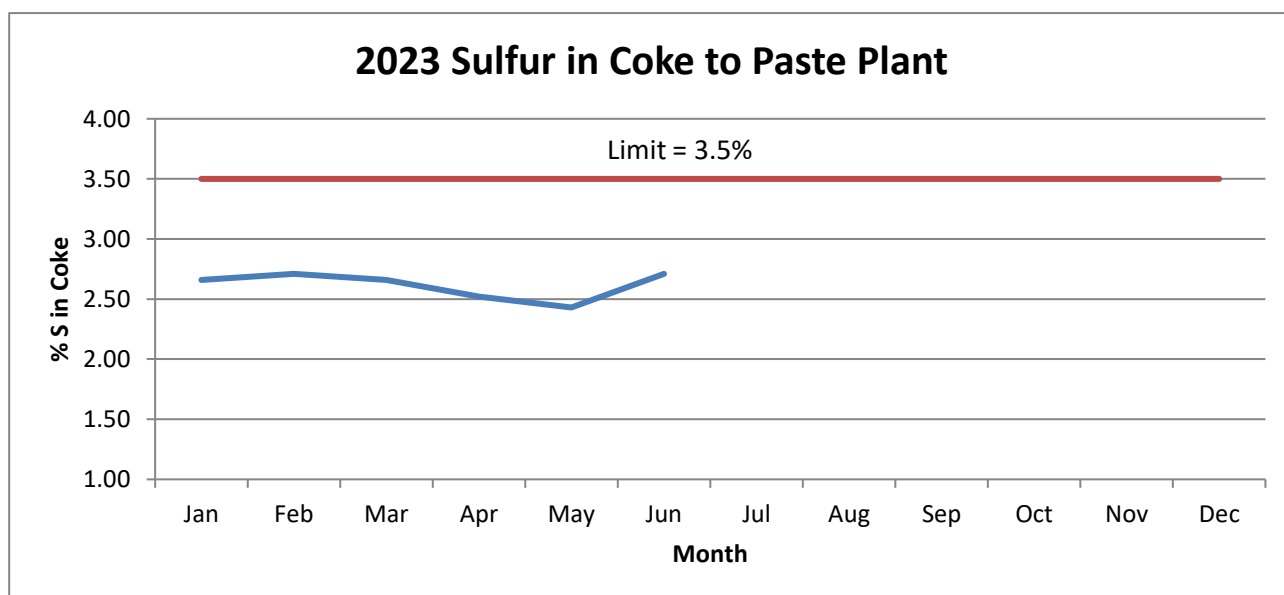


Figure 5: 2023 Sulfur in Coke to paste plant

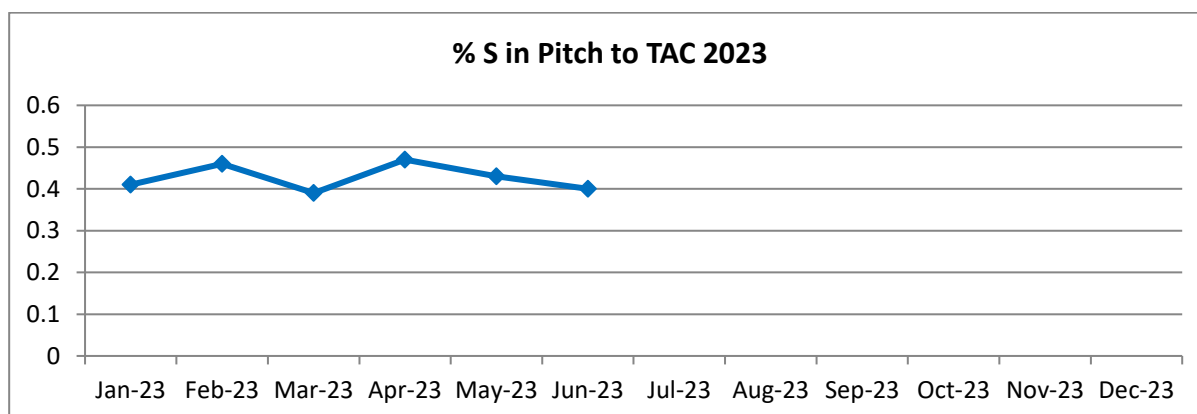


Figure 6: 2023 Sulfur in Pitch received

2.2 SULFUR DIOXIDE MONITORING

Sulfur dioxide emission rates measured for the 2022 - 2023 EPA licence year are on track to meet the annual sulfur dioxide load limit for the site.

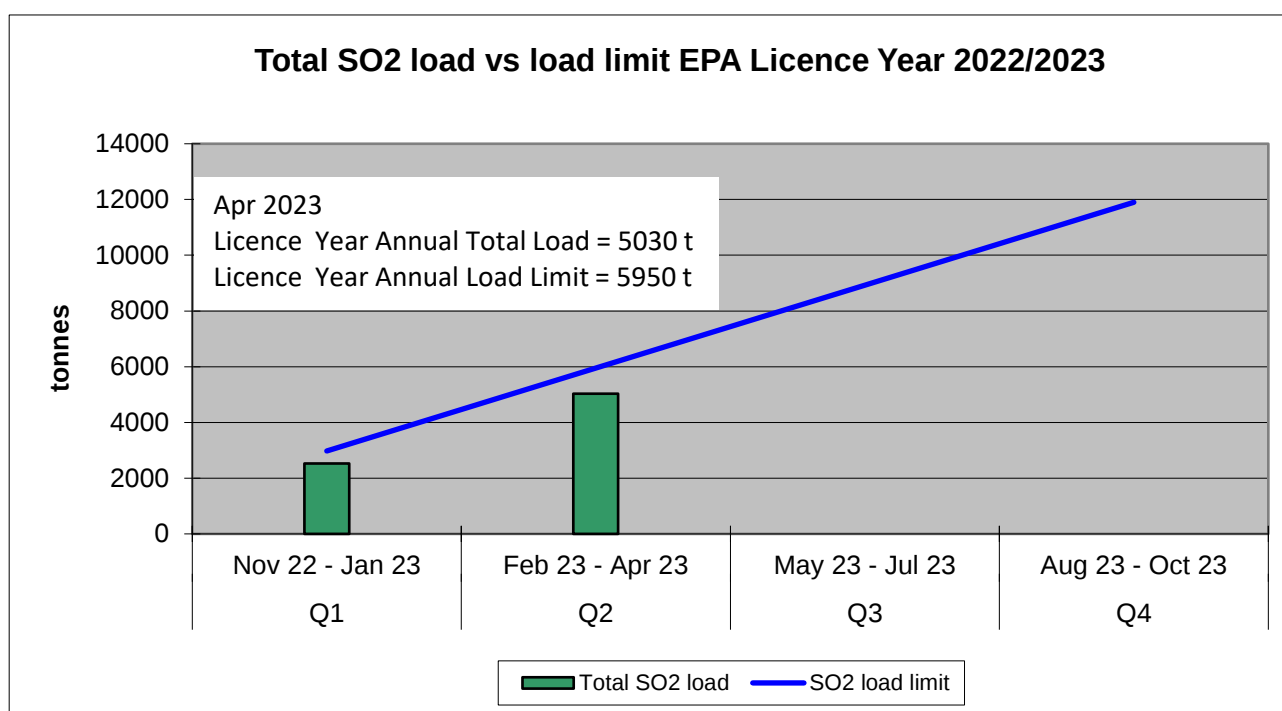


Figure 7: Sulfur Dioxide Load for the 2022 – 2023 EPA Licence Year

This page intentionally left blank

AMBIENT AIR REPORT

APRIL - JUNE

2023

SECTION

- 1 AMBIENT AIR RESULTS (FLUORIDE)**
- 2 AMBIENT AIR RESULTS (SULFUR DIOXIDE)**

AMBIENT AIR QUALITY REPORT

SECOND QUARTER 2023

All monitoring as required under the Protection of the Environment Operations Act Licence 6163 and Development Consent was carried out. The monthly data summaries for ambient air sampled in the vicinity of Tomago Aluminium smelter appear below. The concentrations of fluoride in ambient air were determined in accordance with AS/NZS 3580.13. 2. The concentrations of sulfur dioxide were determined in accordance with AS 3580.4.1.

1. FLUORIDE CONCENTRATION IN AMBIENT AIR

The weekly average gaseous fluoride results are illustrated in this section where they are compared to 7 day National Goals established by the Australian and New Zealand Environment Conservation Council (ANZECC).

The ANZECC guidelines state (in part) that:

“...goals for ambient air fluoride are designed to protect against injury to plants and grazing animals rather than to protect human health. This is because fluoride can injure vegetation at one-thousandth the level of concern to human health.”

“The goals set for General Land Use (including residential) are designed to protect most of the sensitive species in the natural environment.

The goals set for Specialised Land Use apply when commercially valuable plants, which are demonstrated to be very sensitive to fluoride are being considered.”

“The ambient air goals for fluoride are intended for areas of commercial or conservation value and not intended for comparison with airborne or foliar fluoride levels within industrial areas or buffer zones associated with fluoride emitting industries.”

“Air quality objectives will generally be applied at the outer limits of an industrial buffer zone.” (ANZECC 1990).

The concentrations of gaseous fluoride in ambient air are compared to these guidelines, with sites within the designated buffer zone compared to the general land use goals while sites outside the buffer zone are compared to the specialised land use goals. There were several exceedances of the general land use goal at Site 181 (Tomago Farm) from the end of the first quarter. This site is to the South East of the smelter, inside the designated buffer zone, and the results are reflective of the seasonal prevailing winds.

Results in tabular form for each site are displayed in Appendix 3.

A map showing the location of the ambient air monitoring points appears in Appendix 1.

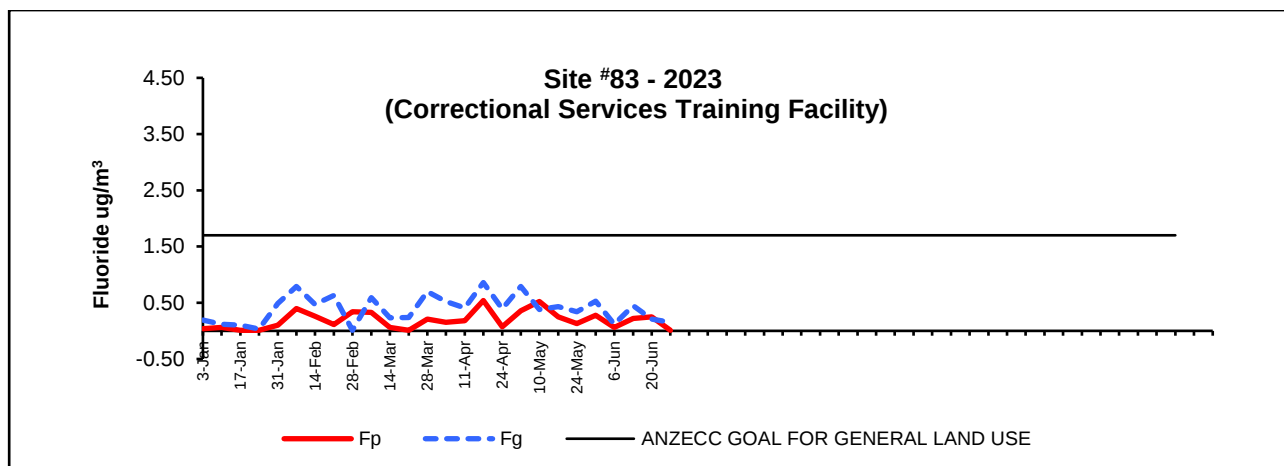
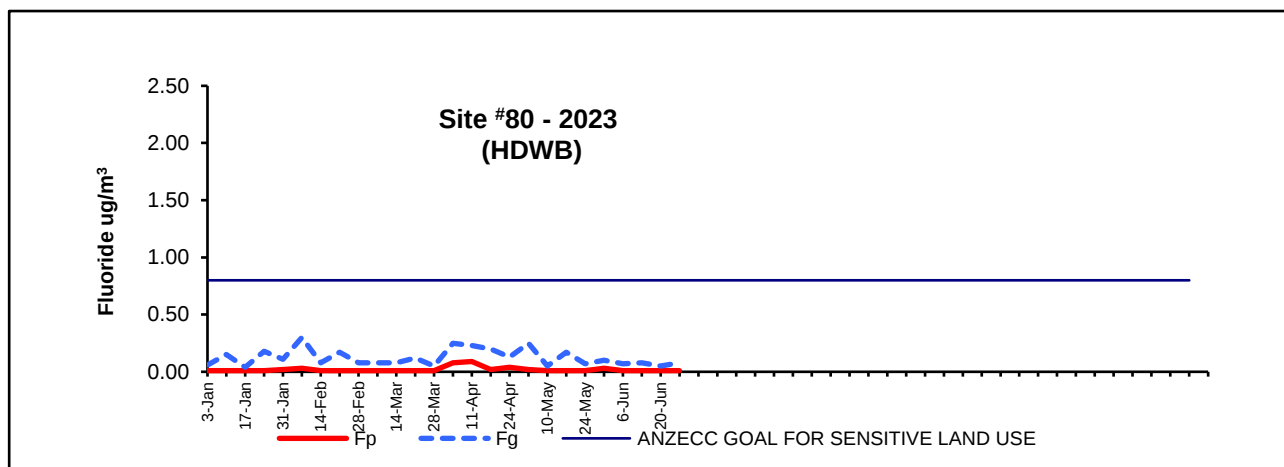


Figure 8: Ambient Fluoride measured concentrations – 2023

Note: Fp = particulate fluoride

Fg = gaseous fluoride

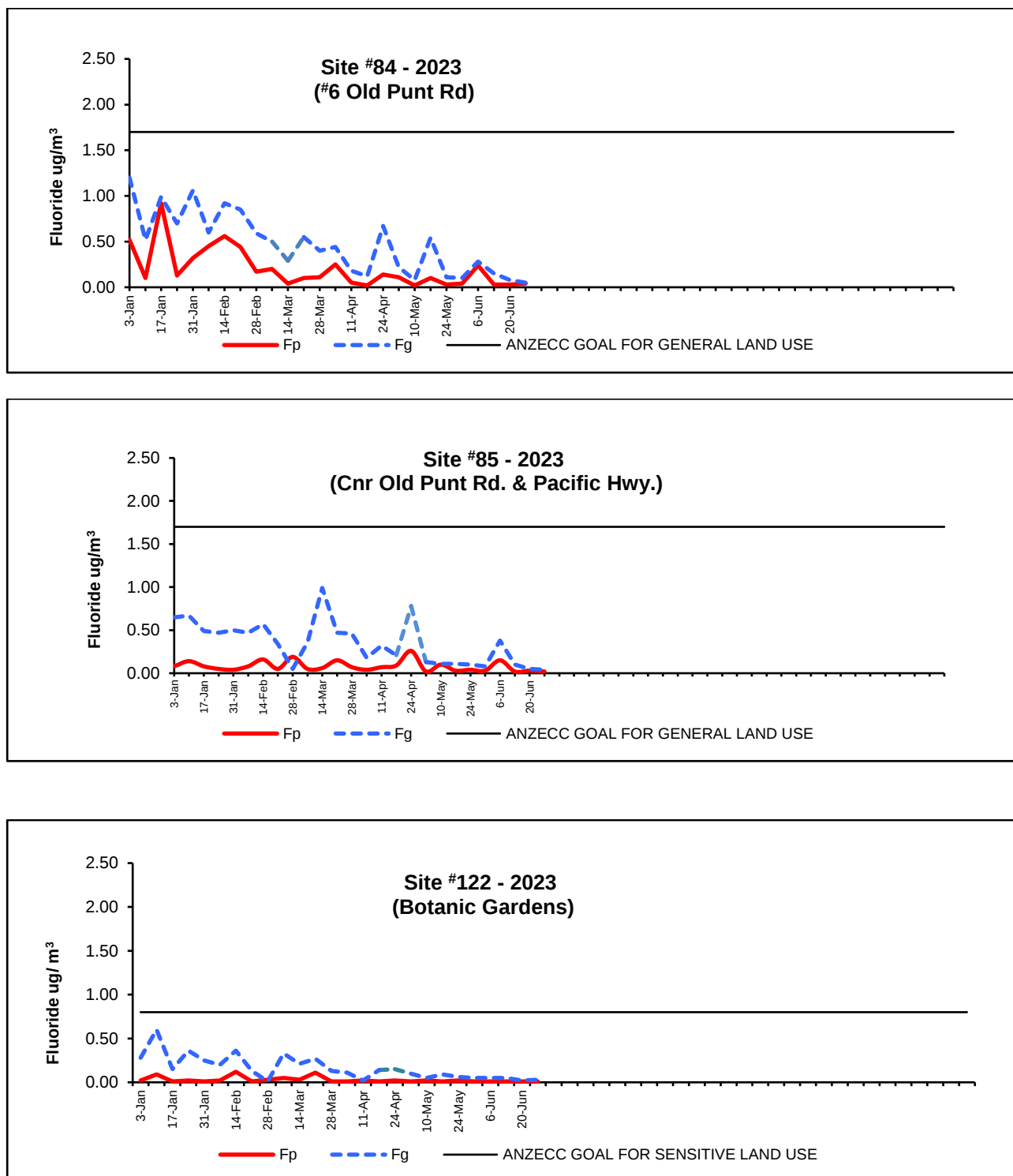


Figure 8: Ambient Fluoride measured concentrations – 2023

Note: Fp = particulate fluoride

Fg = gaseous fluoride

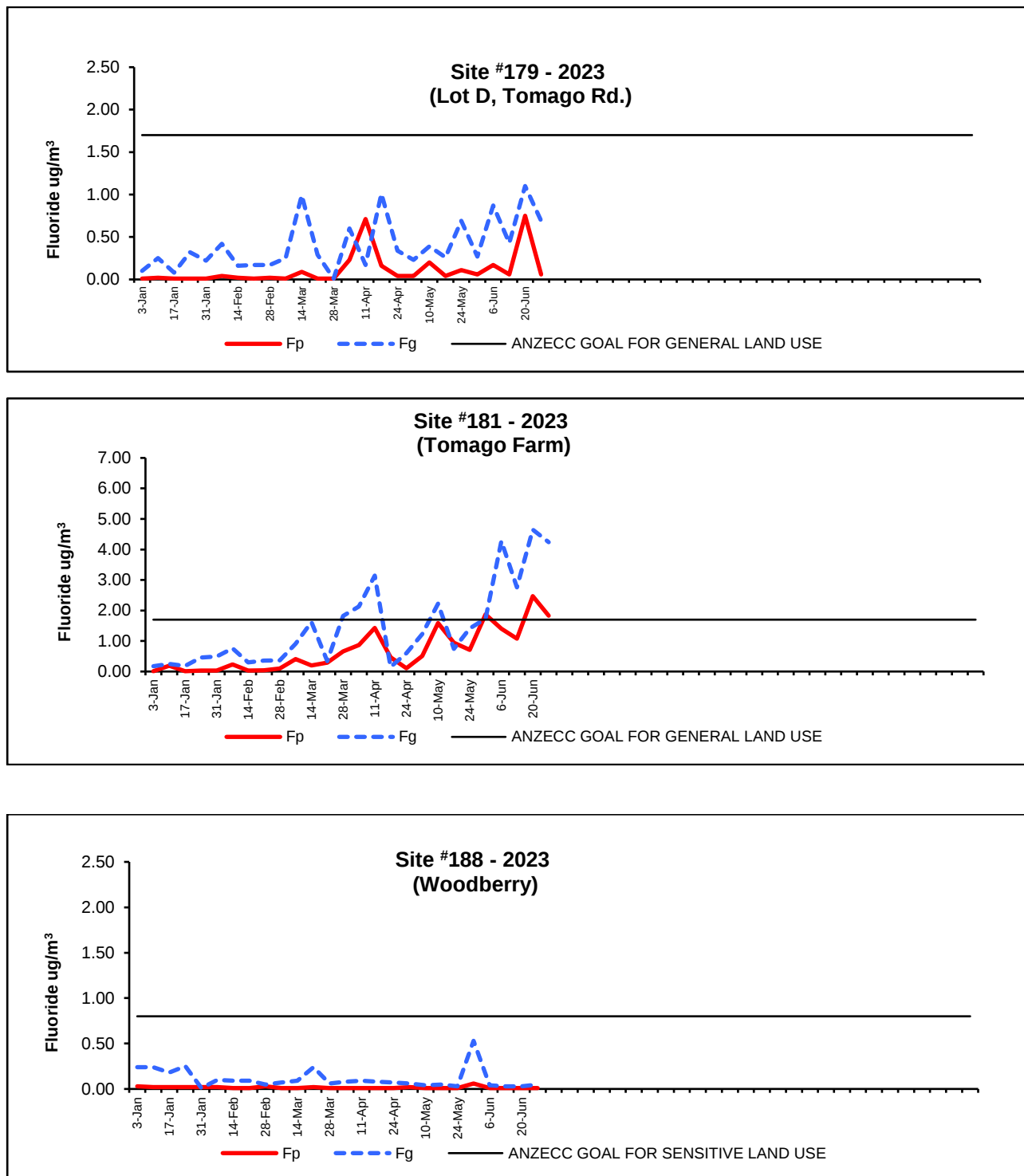


Figure 8: Ambient Fluoride measured concentrations – 2023

Note: Fp = particulate fluoride

Fg = gaseous fluoride

2. SULFUR DIOXIDE CONCENTRATIONS IN AMBIENT AIR

Tomago Aluminium operates five ambient Sulfur Dioxide monitoring stations in accordance with POEO Licence 6163. A map of the sites is located in Appendix 1.

The results for the year to date 2023 are presented in this section.

The NSW EPA's "Approved Methods for the Modelling and Assessment of Air Pollutants in NSW" contains impact assessment criteria for sulfur dioxide. It should be noted that the assessment criteria are designed to be applied at the nearest off-site sensitive receptor, and all five monitoring stations are within the company buffer zone; however, the levels have been used as a point of reference here.

The impact assessment criteria for sulfur dioxide referenced here are:

Averaging Period

1 hour	10	pphm
1 day	2	pphm

Sulfur Dioxide - Parts per Hundred Million (pphm)

Meteorological Station (Grid Reference 812 681)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
% Sampling Time	99	99	91	99	99	97						
Monthly Average	0.3	0.2	0.2	0.6	0.4	0.1						
Maximum 24 Hour Value	2.7	2.3	0.9	2.2	2.6	0.8						
Maximum 1 Hour Value	6.9	6.8	5.1	8.6	10.2	4.7						
90 %ile Value (1 Hr)	0.7	0.3	0.4	1.2	1.0	0.1						
EXCEEDANCE OF ASSESSMENT CRITERIA												
24 Hour	1	1	0	2	2	0						
1 Hour	0	0	0	0	1	0						

Tomago Road Farm (Grid Reference 813 665)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
% Sampling Time	92	99	99	99	98	98						
Monthly Average	0.05	0.2	0.6	0.7	2.0	2.1						
Maximum 24 Hour Value	0.4	1.1	3.0	4.5	8.2	7.0						
Maximum 1 Hour Value	3.1	7.4	15.0	13.3	13.9	13.6						
90 Percentile Value (1 Hr)	0.05	0.3	2.2	2.3	6.5	6.9						
EXCEEDANCE OF ASSESSMENT CRITERIA												
24 Hour	0	0	2	5	14	13						
1 Hour	0	0	2	5	26	23						

Highway (Grid Reference 793 688)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
% Sampling Time	96	99	97	95	98	94						
Monthly Average	0.3	0.3	0.3	0.2	0.2	0.1						
Maximum 24 Hour Value	1.2	2.1	1.1	0.7	0.4	1.1						
Maximum 1 Hour Value	4.8	5.5	6.7	4.5	2.1	3.8						
90 % ile Value (1 Hr)	0.5	0.7	0.6	0.3	0.2	0.2						
EXCEEDANCE OF ASSESSMENT CRITERIA												
24 Hour	0	1	0	0	0	0						
1 Hour	0	0	0	0	0	0						

Laverick Ave (Grid Reference 784 667)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
% Sampling Time	99	99	98	99	97	99						
Monthly Average	0.8	0.9	0.5	0.4	0.3	0.4						
Maximum 24 Hour Value	3.1	2.3	1.7	0.8	0.5	1.6						
Maximum 1 Hour Value	7.5	9.2	8.6	5.4	3.4	4.7						
90 % ile Value (1 Hr)	2.1	2.5	0.8	0.7	0.5	0.6						
EXCEEDANCE OF ASSESSMENT CRITERIA												
24 Hour	2	1	0	0	0	0						
1 Hour	0	0	0	0	0	0						

Site 179 (Grid Reference 817 671)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
% Sampling Time	99	99	99	99	99	99						
Monthly Average	0.05	0.1	0.2	0.3	0.7	0.8						
Maximum 24 Hour Value	0.2	1.3	1.0	2.3	2.8	2.7						
Maximum 1 Hour Value	1.7	6.7	5.3	7.3	11.1	8.0						
90 Percentile Value (1 Hr)	0.1	0.3	0.4	0.8	2.4	2.3						
EXCEEDANCE OF ASSESSMENT CRITERIA												
24 Hour	0	0	0	2	3	4						
1 Hour	0	0	0	0	1	0						

This page intentionally left blank

METEOROLOGICAL REPORT

APRIL - JUNE

2023

METEOROLOGICAL REPORT

SECOND QUARTER 2023

- Detailed statistics can be found in Appendix 4.
- A summary of this data is found in Table 4 below.

		APR	MAY	JUN
Predominant Wind Directions, % (at 30m)	WSW	18.9	WSW 36.7	WSW 42.7
	W	14.5	W 24.4	W 21.1
	NE	6.6	SW 7.6	WNW 6.6
Wind Speed (m/s) (at 30m)	Maximum	8.3	9.0	8.2
	Average	3.0	3.5	3.5
Rainfall (mm)				
	Total Monthly	109.5	51.5	5.5
	Maximum Daily	25	28.0	2.0
Temperature (°C)				
	Average Daily Max	22.2	19.1	17.1
	Average Daily Min	13.1	8.0	8.0

Table 4: Meteorological data summary – Quarter 2, 2023

VEGETATION MONITORING REPORT

APRIL - JUNE

2023

VEGETATION MONITORING REPORT

SECOND QUARTER 2023

An extensive vegetation monitoring program is conducted around the smelter with sites that are situated at varying distances from the smelter sampled on a monthly or quarterly basis. To complement this program an annual visual inspection of the condition of vegetation is conducted. The inspection report for 2023 will appear in The Fourth Quarter report.

Gaseous fluoride concentrations in the air can affect the condition of vegetation. Gaseous fluoride is absorbed by plants via the leaf stomata during normal respiration processes. The gaseous fluoride is preferentially absorbed instead of carbon dioxide and can reduce the capacity of the plant to photosynthesize. The extent to which fluoride accumulates in vegetation depends upon a number of variables including exposure regimes, meteorological conditions and plant species characteristics. Specific plant characteristics are an important variable as plants can vary in their sensitivity to fluoride. Sensitive species often display foliar damage at tissue concentrations of 50 µg/g. Intermediate species may be damaged at 200 µg/g and resistant species can tolerate tissue concentrations above 500 µg/g before exhibiting symptoms. Background concentrations are typically around 20 µg/g. Historical data shows that fluoride concentration and visible damage to vegetation decreases very rapidly with increasing distance from the smelter.

The monthly data from the Tomago Aluminium vegetation monitoring program for year to date 2023 is found in Appendix 5.

Vegetation data collected for April to June of 2023, including overstorey and cultivated vegetation, exhibits similar concentrations and trends to previous years on a monthly basis and from species to species.

The average year to date 2023 overstorey results for sites 111, 112, 113, 114, 115, 116, 117, 118 and 119 have a combined average of 376 ug/g fluoride. These sites are close to the smelter with most sites being within 0.5 km of the potlines.

The average year to date 2023 overstorey results for sites 120, 121, 123, 126, 168, 174, 182 and 194 have a combined average of 62 ug/g fluoride. These sites are within 3 km of the smelter.

Maps of the vegetation monitoring sites can be found in Appendix 1.

WATER MONITORING REPORT

FOR

APRIL - JUNE

2023

WATER MONITORING SUMMARY

- 1 SEWERAGE TREATMENT OPERATIONS REPORT**
- 2 STORMWATER RETENTION ANALYSIS REPORT**
 - i. Controlled Discharge**
 - ii. Monitoring**
 - iii. Heavy Metal and Cyanide results**
- 3 SURFACE AND GROUNDWATER REPORT**



WATER MONITORING SUMMARY

1. SEWAGE TREATMENT

The sewage treatment system operated without down time and all treated effluent was used for site irrigation. The volume of sewage treated and the quantity and quality of effluent used for irrigation are presented in specific reports in Appendix 6.

2. STORMWATER SYSTEM

i. Controlled Discharge (EPA Licence Point 16)

To allow for the collection of 'first flush' stormwater originating from the site, stormwater pond capacity is maintained by discharging water from the stormwater pond to the Hunter River under controlled conditions. Water samples are taken daily during the discharge. Table 5 below shows the monitoring parameters and limits for stormwater discharged under controlled conditions from Licence Point 16 during Quarter 2, 2023.

Date of discharge start	Total Volume Discharged (ML)	PAH (mg/L)	TRH (mg/L)	Maximum daily discharge volume (ML)	Ave pH	Ave Fluoride (mg/L)	Ave conductivity (uS/cm)	Ave Suspended Solids (mg/L)
No controlled discharges								
Applicable Limits	N/A	N/A	N/A	4.32	6.5-8.5	40	N/A	50

Table 5: Controlled stormwater discharge results and comparison to applicable limits.

ii. Continuous monitoring of weir overflow (EPA Licence Point 35)

On-site stormwater is collected in the sedimentation basin. This water then may overflow via a v-notch weir to the Hunter River once the capacity of the stormwater pond has been reached. Daily overflow results for this quarter can be found in Appendix 6, whilst the monthly averages are presented in Table 6 below. There are no applicable EPL limits to stormwater overflow.

Month – Averages during days of overflow			Apr	May	Jun
Weir v-notch	pH		6.3	6.5	No overflow
	Conductivity	uS/cm	220	261	
	Soluble Fluoride*	mg/L	52	52	
	PAH	mg/L	<0.001	<0.001	
	TRH	mg/L	<0.1	<0.1	
Flow to Hunter River		L/sec	45	57	0
		kL/day	3486	4933	0
Rainfall	Total monthly	mm.	109.5	51.5	5.5
Number of days with v-notch flow			19	7	0

NF= No Flow over weir

*Volume weighted average

Table 6: Average Monthly Stormwater Overflow Results for Second Quarter 2023

iii. Other monitoring of weir overflow (EPA Licence Point 35)

Samples from the v-notch sampling point above (EPA Licence Point 35) are taken at least once per discharge and dispatched to external testing facilities for total heavy metals, free cyanide, Polycyclic Aromatic Hydrocarbons (PAH) and Total Recoverable Hydrocarbons (TRH) determination.

The results of these analyses are found below in Table 7.

Table 7: *Stormwater Heavy Metals, Cyanide, PAH and TRH – Second Quarter 2023

	mg/L (dissolved)																			
Sample Date	Fe	Ag	Al	As	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	Zn	Hg	Free CN	PAH	TRH
5/04/2023	<0.05	<0.005	15	0.001	0.003	0.0007	<0.001	<0.001	0.002	0.076	0.14	<0.001	<0.005	<0.001	<0.005	1.0	<0.0001	<0.005	<0.001	<0.1
13/04/2023	0.06	<0.005	18	<0.001	0.003	0.0008	<0.001	<0.001	0.004	0.070	0.17	<0.001	<0.005	<0.001	<0.005	1.0	<0.0001	<0.005	<0.001	<0.1
21/04/2023	<0.05	<0.005	15	<0.001	0.002	0.0007	<0.001	<0.001	0.004	0.067	0.12	<0.001	<0.005	<0.001	<0.005	1.0	<0.0001	<0.005	<0.001	<0.1
24/04/2023	<0.05	<0.005	20	<0.001	0.003	0.0010	<0.001	<0.001	0.006	0.082	0.16	<0.001	<0.005	<0.001	<0.005	1.1	<0.0001	<0.005	<0.001	<0.1
1/05/2023	<0.05	<0.005	19	0.001	0.005	0.0008	0.001	<0.001	0.050	0.083	0.20	<0.001	<0.005	<0.001	<0.005	1.2	<0.0001	<0.005	<0.001	<0.1
17/05/2023	0.37	<0.005	17	<0.001	0.004	0.0013	0.001	<0.001	0.003	0.075	0.16	<0.001	<0.005	0.003	<0.005	1.5	<0.0001	0.008	<0.001	<0.1
26/05/2023	0.90	<0.005	15	0.006	0.003	0.0019	0.002	0.002	0.012	0.087	0.26	0.007	<0.005	0.003	<0.005	2.1	<0.0001	0.013	<0.001	<0.1

*Analysis performed by Eurofins I mgt, NATA accreditation No. 1261

3. SURFACE AND GROUNDWATER MONITORING

Surface water and groundwater monitoring in the vicinity of the smelter was carried out during the quarter. The groundwater monitoring includes sites monitored by both the Hunter Water Corporation and Tomago Aluminium. Analysis of the fluoride levels for the quarter revealed no abnormalities to normal trends. A detailed analysis of the groundwater and surface water monitoring is provided in the Annual Report.

The results of surface water and groundwater monitoring in the vicinity of the smelter are presented in Appendix 6.

Sites are displayed in Appendix 1, Maps 5 and 6.

This page intentionally left blank

INSTRUMENT AVAILABILITY REPORT

FOR

APRIL - JUNE

2023

INSTRUMENT AVAILABILITY – SECOND QUARTER 2023

<u>AMBIENT FLUORIDE MONITORING</u>		% DATA RECOVERY		
		Apr	May	Jun
Site	80	100	100	100
	83	100	100	100
	84	100	100	100
	85	100	100	100
	122	100	100	100
	179	100	100	100
	181	100	100	100
	188	100	100	100

<u>STORMWATER MONITORING</u>		% DATA RECOVERY		
		Apr	May	Jun
Stream 3 (at V Notch)	pH	100	100	100
	FLUORIDE	100	100	100
	PAH	100	75	100
	TRH	100	75	100

NF = No Flow

<u>CONTINUOUS STACK GASEOUS FLUORIDE MONITORING</u>		% DATA RECOVERY		
		Apr	May	Jun
Stack 1 West		100	100	100
1 East		100	100	97
2 West		100	100	100
2 East		100	100	100
3 West		100	100	100
3 East		100	100	100
1 & 2 Ext.		100	100	100
Bake Ovens 1		100	100	100
Bake Ovens 2 & 3		100	100	100

APPENDICES

APPENDIX 1 - SAMPLE SITES

APPENDIX 2 - EMISSION MONITORING DATA

APPENDIX 3 - FLUORIDE IN AMBIENT AIR DATA

APPENDIX 4 - METEOROLOGICAL DATA

APPENDIX 5 - VEGETATION MONITORING DATA

APPENDIX 6 - WATER MONITORING DATA

APPENDIX 7 - SAMPLING PROCEDURES

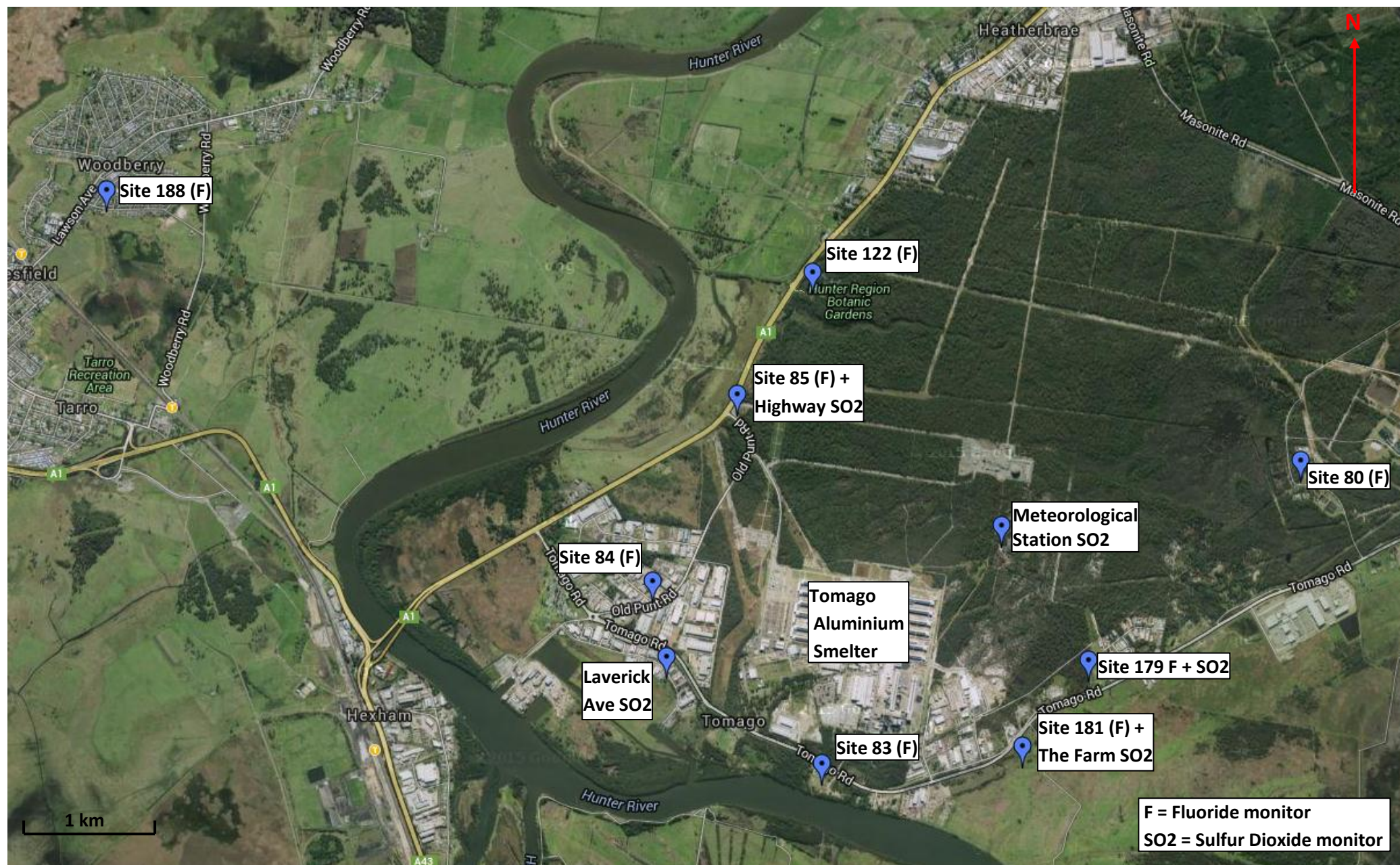
APPENDIX 8 - CUSTOMER FEEDBACK FORM

APPENDIX 1 –

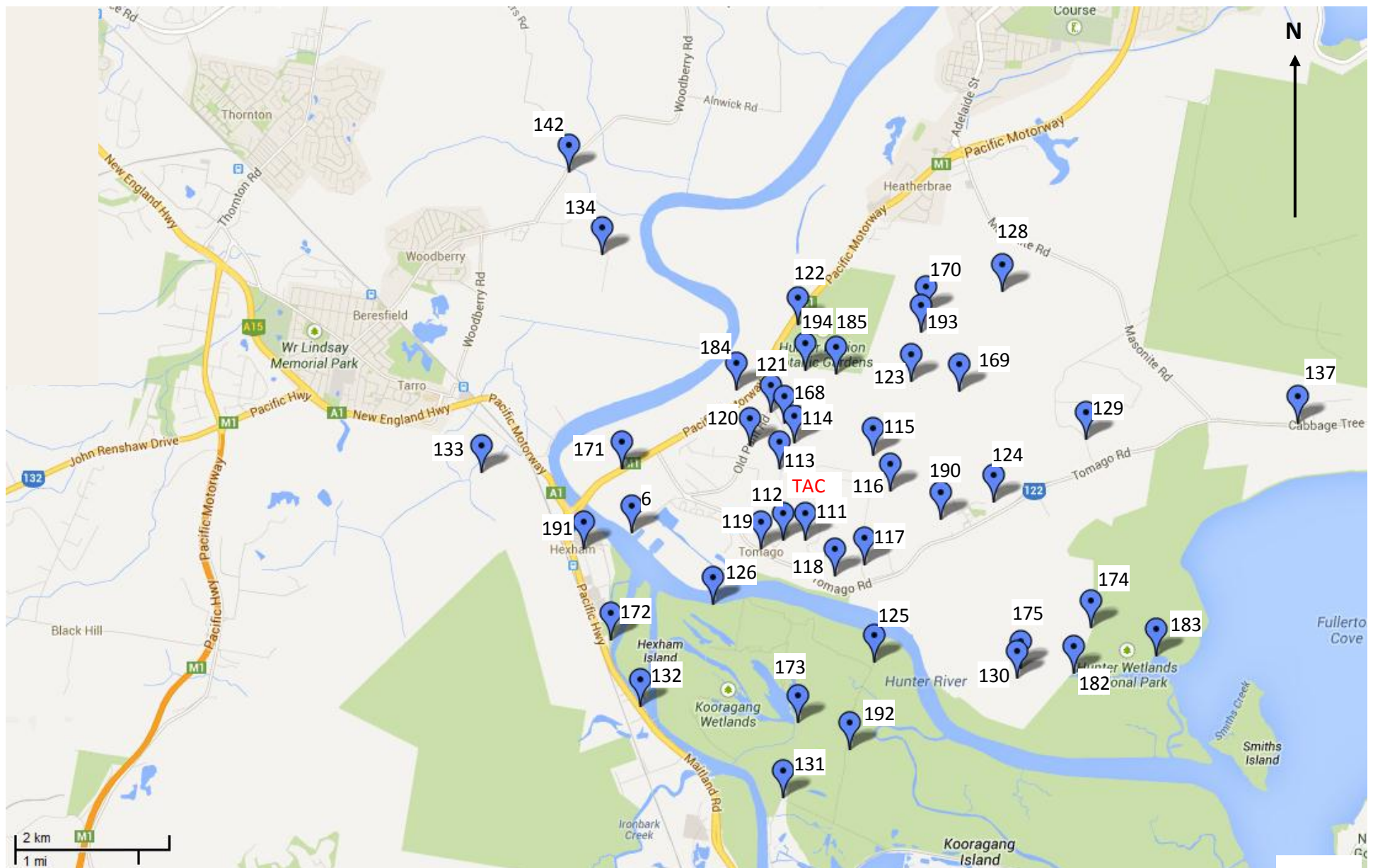
SAMPLE SITES

Map 1	Ambient Air monitoring sites.
Map 2	Overstorey monitoring sites.
Map 3	Forage monitoring sites.
Map 4	Surface Water monitoring sites.
Map 5	Groundwater sites monitored by HWC.
Map 6	Groundwater sites monitored by TAC.
Map 7	TAC Emission Source monitoring sites.

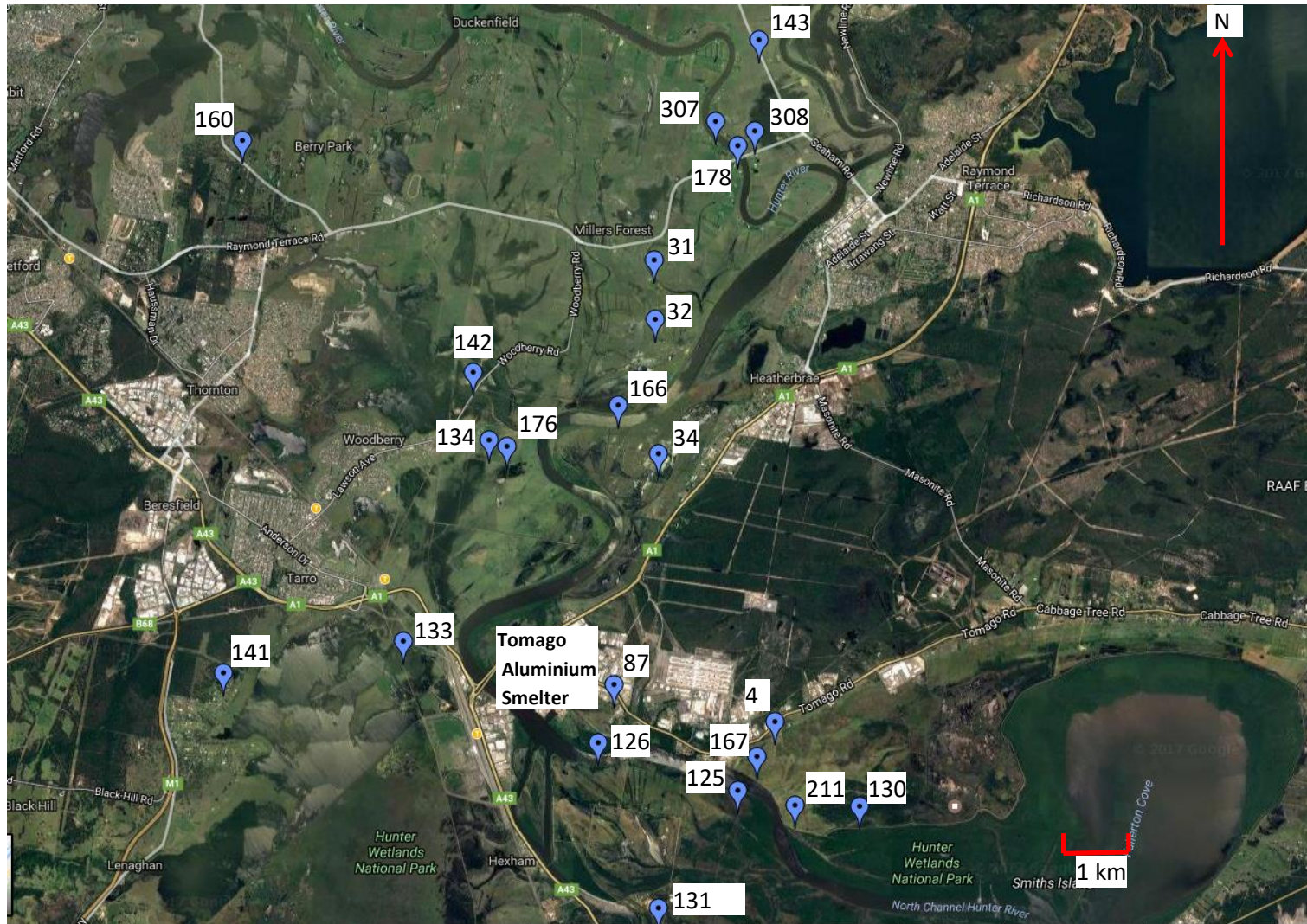
Map 1 Ambient Air Monitoring Sites



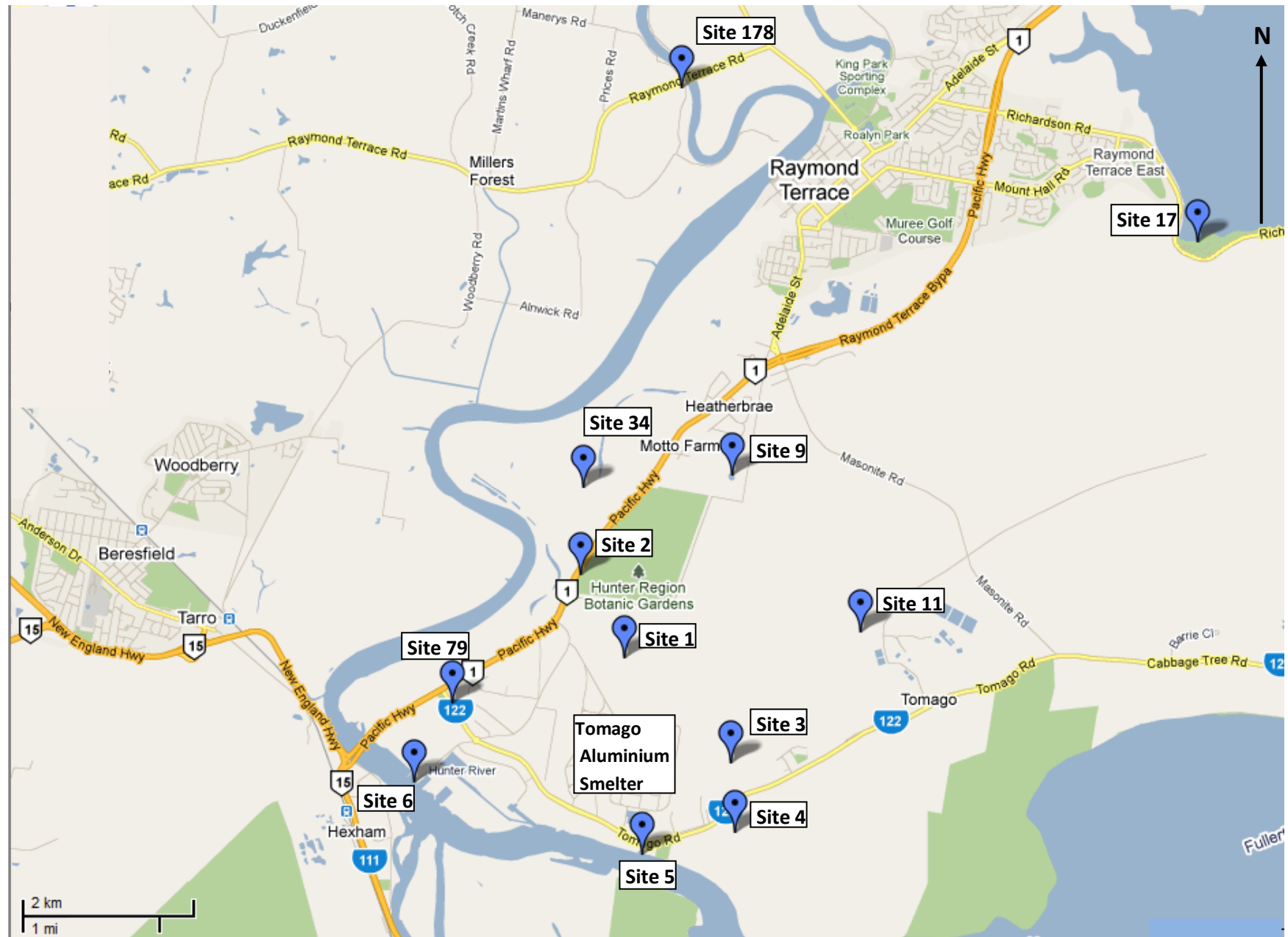
Map 2 Overstorey Sites



Map 3 Forage Sites



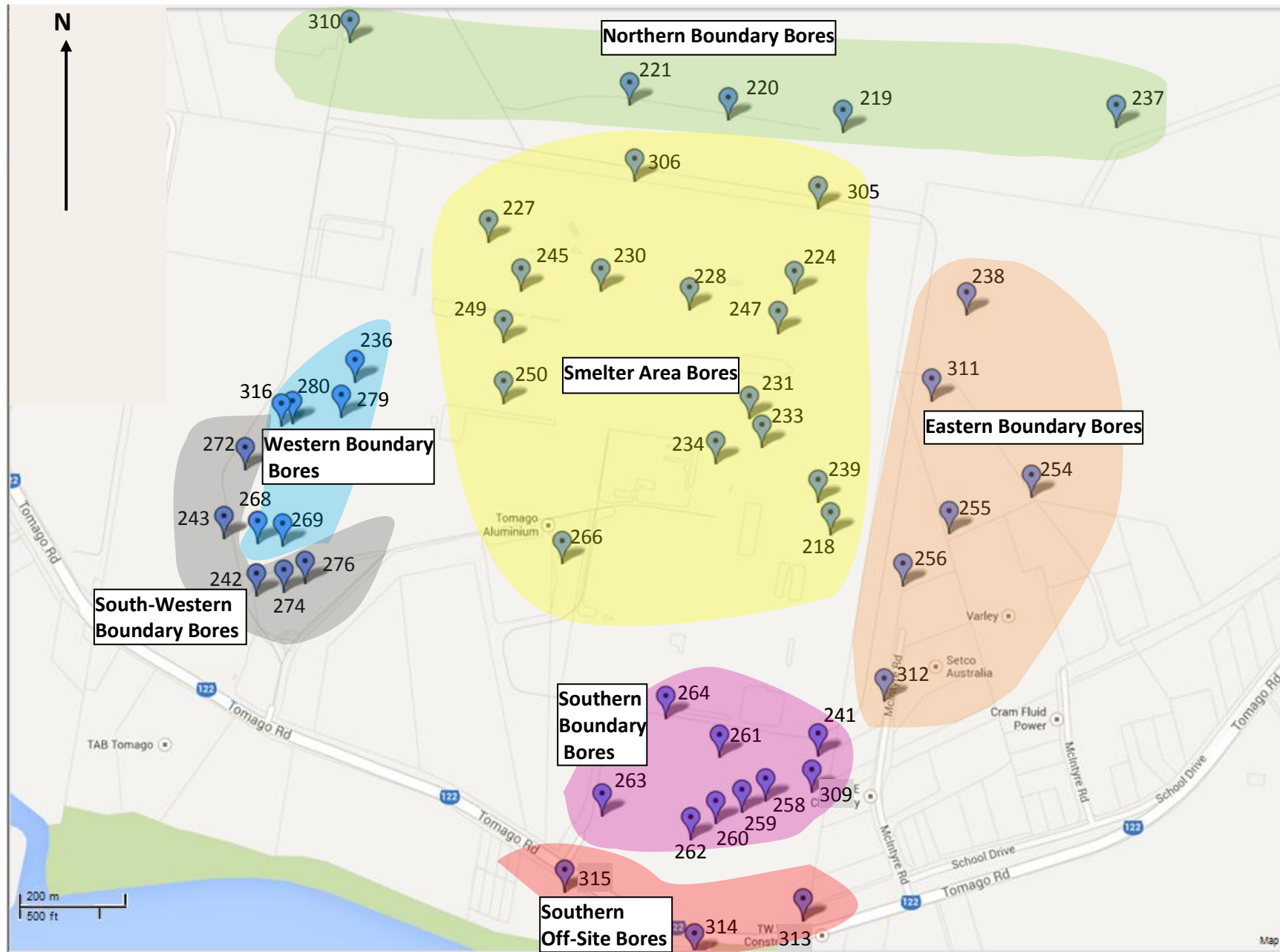
Map 4 Surface Water Sites



Map 5 Groundwater Sites Monitored by Hunter Water

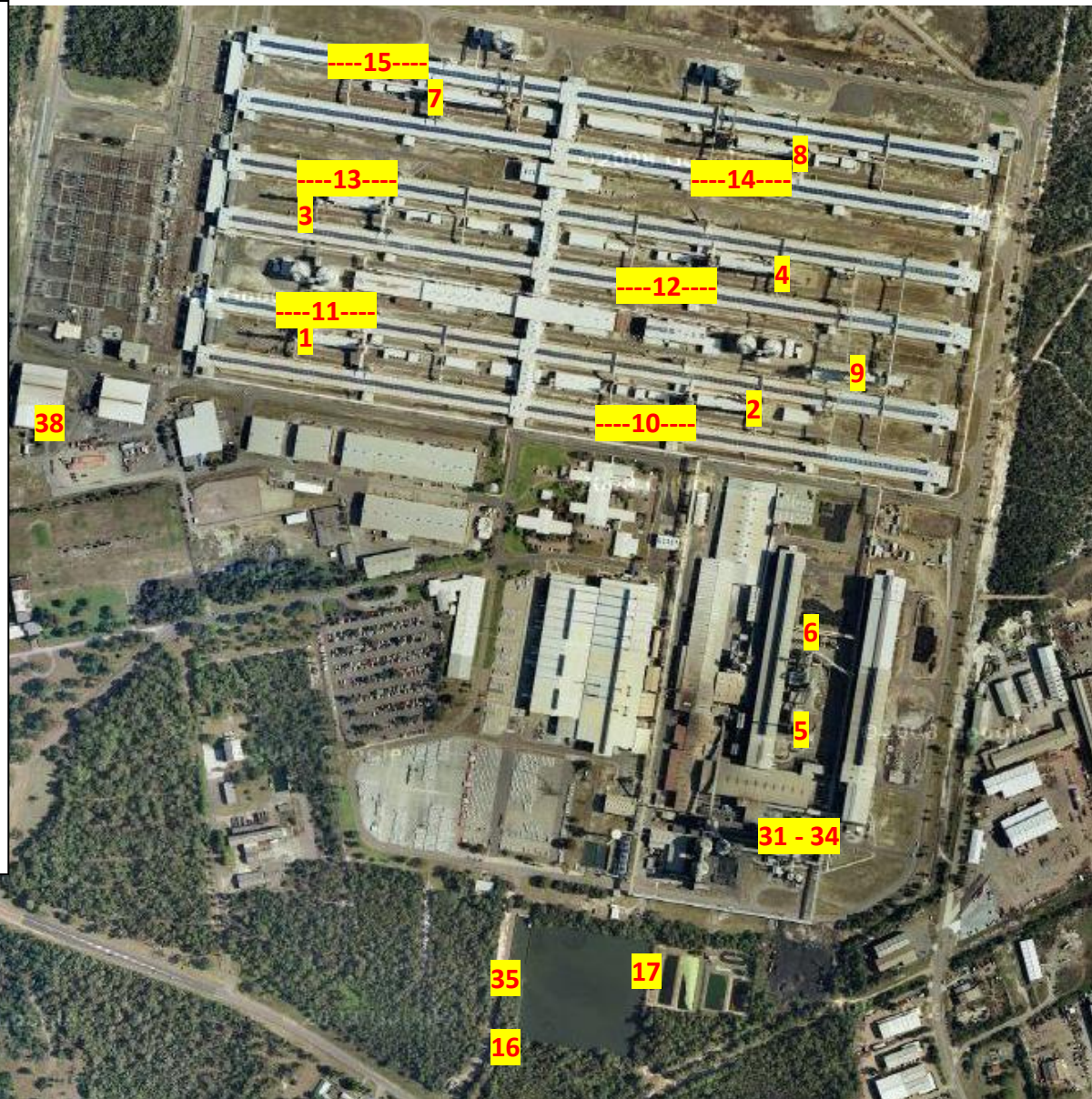


Map 6 Plant Groundwater Sites



Map 7: TAC Source Monitoring Locations

EPA Point	Location
1	Potline Stack 1 West
2	Potline Stack 1 East
3	Potline Stack 2 West
4	Potline Stack 2 East
5	Potline Stack Bake Ovens 1
6	Potline Stack Bake Ovens 2&3
7	Potline Stack Line 3 West
8	Potline Stack Line 3 East
9	Potline Stack Lines 1&2 Extension
10	Potroom A Pots A074-A080
11	Potroom B Pots B018-B024
12	Potroom C Pots C074-C080
13	Potroom D Pots D018-D024
14	Potroom E Pots E074-E080
15	Potroom F Pots F020-F026
16	Stormwater controlled discharge point
17	Effluent to on site irrigation system
31 -34	Paste plants stacks
35	Overflow from 1 st flush stormwater system
38	Deline dedust filter



APPENDIX 2 -

EMISSION MONITORING DATA

Tomago Aluminium Co. Pty Ltd
Fluoride Emissions Summary Report

AVERAGE GASEOUS FLUORIDE - mg/m3 - 2023															
STACK				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
POTLINE 1 West				0.41	0.48	0.49	0.42	0.25	0.25						
POTLINE 1 East				0.30	0.32	0.24	0.35	0.19	0.18						
POTLINE 2 West				0.38	0.46	0.42	0.38	0.27	0.27						
POTLINE 2 East				0.25	0.28	0.34	0.28	0.17	0.17						
POTLINE 1 & 2 EXT				0.34	0.74	0.40	0.37	0.28	0.32						
POTLINE 3 West				0.45	0.50	0.45	0.36	0.25	0.25						
POTLINE 3 East				0.36	0.41	0.93	0.34	0.27	0.28						
CARBON BAKE OVEN No. 1				0.36	0.35	0.45	0.47	0.48	0.37						
CARBON BAKE OVEN No. 2				0.76	0.94	1.05	0.58	0.59	0.59						

EMISSION RATE - Kg FLUORIDE / t ALUMINIUM - 2023															
SOURCE	ALY	Avg last 12 months	AYTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
POTROOM A, Roof Vent	0.45	0.46	0.45	0.60	0.41	0.49	0.48	0.40	0.34						
POTROOM B, Roof Vent	0.44	0.42	0.44	0.57	0.48	0.50	0.41	0.38	0.29						
POTROOM C, Roof Vent	0.49	0.50	0.52	0.55	0.51	0.59	0.50	0.45	0.53						
POTROOM D, Roof Vent	0.50	0.50	0.49	0.50	0.55	0.54	0.47	0.45	0.44						
POTROOM E, Roof Vent	0.40	0.43	0.41	0.51	0.33	0.50	0.43	0.37	0.36						
POTROOM F, Roof Vent	0.35	0.33	0.36	0.41	0.24	0.43	0.39	0.32	0.33						
AVERAGE ROOF VENT	0.44	0.44	0.45	0.52	0.42	0.51	0.44	0.40	0.38						
POTLINE 1, West Stack	0.07	0.06	0.06		0.07	0.07		0.06	0.03						
POTLINE 1, East Stack	0.05	0.06	0.07	0.08		0.08	0.09		0.04						
POTLINE 2, West Stack	0.05	0.06	0.07	0.07	0.07		0.10	0.05							
POTLINE 2, East Stack	0.05	0.07	0.09	0.11		0.13	0.06		0.04						
POTLINE 1 & 2 EXT	0.05	0.06	0.07		0.09	0.06		0.08	0.04						
POTLINE 3, West Stack	0.06	0.05	0.06	0.05	0.09		0.05	0.06							
POTLINE 3, East Stack	0.06	0.05	0.06		0.08	0.07		0.03	0.05						
AVERAGE STACK	0.05	0.06	0.07	0.08	0.08	0.08	0.08	0.06	0.04						
CARBON BAKE OVEN STACK No. 1	0.002	0.002	0.002	0.001	0.001		0.002	0.001							
CARBON BAKE OVEN STACK No. 2	0.003	0.004	0.005	0.006		0.006	0.002		0.003						
AVERAGE BAKE OVENS	0.002	0.003	0.003	0.004	0.001	0.006	0.002	0.001	0.003						
AVERAGE PLANT	0.49	0.50	0.52	0.60	0.50	0.60	0.52	0.45	0.43						



Continuous Gaseous Fluoride (mg/m³)

From 01/04/23 to 30/04/23

Date	1WF	1EF	2WF	2EF	3WF	3EF	12E	BO1	BO2
01/04/23	0.49	0.26	0.29	0.22	0.33	0.40	0.38	0.46	1.25
02/04/23	0.47	0.35	0.32	0.22	0.22	0.36	0.33	0.50	1.12
03/04/23	0.50	0.48	0.36	0.22	0.36	0.25	0.45	0.45	0.87
04/04/23	0.53	0.67	0.35	0.22	0.53	0.35	0.65	0.46	1.08
05/04/23	0.68	0.48	0.38	0.20	0.59	0.37	0.37	0.41	1.69
06/04/23	0.74	0.57	0.45	0.23	0.47	0.50	0.33	0.46	1.22
07/04/23	0.46	0.50	0.64	0.23	0.47	0.43	0.36	0.42	0.92
08/04/23	0.54	0.42	0.49	0.28	0.34	0.32	0.35	0.34	0.88
09/04/23	0.36	0.34	0.33	0.22	0.16	0.18	0.32	0.30	0.72
10/04/23	0.28	0.28	0.22	0.15	0.17	0.21	0.37	0.27	0.47
11/04/23	0.31	0.39	0.20	0.22	0.24	0.18	0.47	0.26	0.36
12/04/23	0.34	0.54	0.25	0.22	0.28	0.20	0.29	0.67	0.31
13/04/23	0.32	0.35	0.32	0.19	0.31	0.39	0.49	0.28	0.29
14/04/23	0.39	0.28	0.36	0.17	0.53	0.46	0.20	0.38	0.19
15/04/23	0.41	0.19	0.34	0.23	0.38	0.36	0.25	0.45	0.23
16/04/23	0.49	0.20	0.37	0.24	0.31	0.26	0.35	1.08	0.28
17/04/23	0.36	0.18	0.37	0.20	0.25	0.33	0.34	0.49	0.31
18/04/23	0.36	0.15	0.38	0.24	0.33	0.43	0.20	0.47	0.30
19/04/23	0.40	0.19	0.47	0.27	0.45	0.42	0.25	1.11	0.44
20/04/23	0.42	0.18	0.42	0.24	0.69	0.46	0.27	0.41	0.38
21/04/23	0.45	0.26	0.35	0.25	0.40	0.46	0.35	0.35	0.43
22/04/23	0.32	0.25	0.35	0.23	0.30	0.33	0.38	0.32	0.31
23/04/23	0.26	0.28	0.37	0.24	0.32	0.25	0.42	0.33	0.40
24/04/23	0.34	0.44	0.47	1.62	0.33	0.29	0.34	0.30	0.38
25/04/23	0.49	0.48	0.38	0.40	0.43	0.39	0.40	0.43	0.41
26/04/23	0.47	0.44	0.42	0.24	0.27	0.26	0.37	0.40	0.51
27/04/23	0.40	0.43	0.42	0.22	0.31	0.29	0.37	1.07	0.49
28/04/23	0.42	0.27	0.37	0.20	0.34	0.36	0.41	0.54	0.51
29/04/23	0.32	0.28	0.43	0.22	0.38	0.40	0.58	0.36	0.31
30/04/23	0.36	0.26	0.46	0.23	0.34	0.22	0.45	0.33	0.28
Average	0.42	0.35	0.38	0.28	0.36	0.34	0.37	0.47	0.58

ENVIRONMENT SYSTEM

PAGE 1

EMISSION MONITORING PROGRAM

STACK EMISSION REPORT FOR APRIL 2023

Stack	----- S A M P L E -----				Sample Vol m3 N.T.P. (Dry)	Gaseous Particulate Total			Exit Temp. deg.C	Exit Velocity m/Sec	Volumetric Flow Rate 1000 m3/hr	Al Prod	Emission Rate kg F/t Al
	--- Start --- Date	Time	---- End ---- Date	Time		Fluoride (as F) mg/m3	Fluoride (as F) mg/m3	Fluoride (as F) mg/m3					
POTLINE 1, EAST	13/04/23	07:40	13/04/23	13:40	5.59	0.27	1.29	1.56	101	19.9	693	58.3	0.11
	14/04/23	07:00	14/04/23	13:00	6.16	0.49	0.73	1.22	98	20.2	706	59.0	0.09
	17/04/23	06:55	17/04/23	12:55	6.38	0.19	0.77	0.96	98	20.4	715	59.0	0.07
Average					6.04	0.32	0.93	1.25	99	20.2	705	58.8	0.09
POTLINE 2, WEST	04/04/23	07:15	04/04/23	13:15	6.60	0.29	0.96	1.25	103	22.0	759	66.5	0.09
	05/04/23	07:15	05/04/23	13:15	6.44	0.28	1.66	1.94	100	22.1	769	66.5	0.13
	06/04/23	06:34	06/04/23	12:34	6.42	0.38	0.97	1.35	101	21.5	748	66.7	0.09
Average					6.49	0.32	1.20	1.51	101	21.9	759	66.6	0.10
POTLINE 2, EAST S	18/04/23	07:10	18/04/23	13:10	5.83	0.35	0.49	0.84	100	19.2	670	59.4	0.06
	19/04/23	07:20	19/04/23	13:20	6.75	0.34	0.53	0.86	99	21.0	734	59.4	0.06
	21/04/23	07:00	21/04/23	13:00	6.29	0.40	0.41	0.81	100	21.2	738	59.4	0.06
Average					6.29	0.36	0.48	0.84	100	20.5	714	59.4	0.06
BAKE OVEN NO.1 S	11/04/23	07:00	11/04/23	13:00	5.58	0.15	0.30	0.45	99	17.0	141	204.1	<0.01
	13/04/23	06:25	13/04/23	12:25	5.08	0.56	0.09	0.66	99	16.5	137	204.1	<0.01
	14/04/23	06:40	14/04/23	12:40	4.99	0.31	0.05	0.36	99	16.9	140	204.1	<0.01
Average					5.22	0.34	0.15	0.49	99	16.8	139	204.1	<0.01
BAKE OVEN NO.2 S	18/04/23	07:55	18/04/23	13:55	7.89	0.38	0.10	0.48	93	21.3	180	261.9	<0.01
	19/04/23	07:33	19/04/23	13:33	8.29	0.51	0.09	0.60	96	21.5	180	261.9	<0.01
	20/04/23	06:30	20/04/23	12:30	8.06	0.46	0.24	0.70	99	21.8	181	261.9	<0.01
Average					8.08	0.45	0.14	0.59	96	21.5	180	261.9	<0.01
POTLINE 3 WEST S	18/04/23	07:40	18/04/23	13:40	6.50	0.40	0.30	0.69	98	19.9	876	68.4	0.05
	19/04/23	07:00	19/04/23	13:00	6.73	0.39	0.26	0.64	99	21.5	944	68.4	0.05
	20/04/23	07:00	20/04/23	13:00	6.34	0.32	0.28	0.60	94	20.9	931	68.5	0.05
Average					6.52	0.37	0.28	0.65	97	20.8	917	68.4	0.05

END OF REPORT

ENVIRONMENT SYSTEM

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR APRIL 2023

POTLINE 1

Manifold Location	----- S A M P L E -----	Sample Vol	Fluoride	Exit Temperatures	Exit Velocity	Volumetric	Al	Emission	Average			
Location	--- Start ---	--- End ---	m3 N.T.P.	mg/m3	degrees Celsius	metres/hour	Flow Rate	Prod Rate	Rate			
	Date	Time	Date	Time	(Dry)	as F	Avg	Avg	1000 m3/hr	kg F/t Al	kgF/tAl	
Cassette Location												
A074	14/04/23	08:00	17/04/23	08:00	9.85	0.57					}	
A076	14/04/23	08:00	17/04/23	08:00	9.85	0.47					}	
A078	14/04/23	08:00	17/04/23	08:00	9.85	0.47					}	
A080	14/04/23	08:00	17/04/23	08:00	9.85	0.47					}	
Total	14/04/23	08:00	17/04/23	08:00	39.40	0.49	35	5026	5793	463.0	0.45	}
A074	21/04/23	12:00	24/04/23	12:00	9.49	0.63					}	
A076	21/04/23	12:00	24/04/23	12:00	9.49	0.45					}	
A078	21/04/23	12:00	24/04/23	12:00	9.49	0.68					}	
A080	21/04/23	12:00	24/04/23	12:00	9.49	0.57					}	
Total	21/04/23	12:00	24/04/23	12:00	37.96	0.58	33	4845	5735	467.9	0.51	}
B018	14/04/23	07:25	17/04/23	07:25	8.34	0.40					}	
B020	14/04/23	07:25	17/04/23	07:25	8.34	0.63					}	
B022	14/04/23	07:25	17/04/23	07:25	8.34	0.46					}	
B024	14/04/23	07:25	17/04/23	07:25	8.34	0.47					}	
Total	14/04/23	07:25	17/04/23	07:25	33.36	0.49	37	4532	3815	348.0	0.39	}
B018	21/04/23	07:33	24/04/23	07:33	8.63	0.47					}	
B020	21/04/23	07:33	24/04/23	07:33	8.63	0.50					}	
B022	21/04/23	07:33	24/04/23	07:33	8.63	0.50					}	
B024	21/04/23	07:33	24/04/23	07:33	8.63	0.59					}	
Total	21/04/23	07:33	24/04/23	07:33	34.50	0.51	33	4696	4063	349.4	0.43	}

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR APRIL 2023

POTLINE 2

Manifold	S A M P L E	Sample Vol	Fluoride	Exit Temperatures	Exit Velocity	Volumetric	Al	Emission	Average
Location	Start Date Time	End Date Time	m3 N.T.P. (Dry)	mg/m3 as F	degrees Celsius Avg	metres/hour Avg	Flow Rate 1000 m3/hr	Prod kg F/t Al	Rate kgF/tAl
Cassette Location									
C074	14/04/23 08:30	17/04/23 08:30	9.12	0.55					}
C076	14/04/23 08:30	17/04/23 08:30	9.12	0.64					}
C078	14/04/23 08:30	17/04/23 08:30	9.12	0.56					}
C080	14/04/23 08:30	17/04/23 08:30	9.12	0.64					}
Total	14/04/23 08:30	17/04/23 08:30	36.49	0.60	35	5268	6006	460.1	0.56 }
C074	21/04/23 08:05	24/04/23 08:05	9.36	0.57					}
C076	21/04/23 08:05	24/04/23 08:05	9.36	0.57					}
C078	21/04/23 08:05	24/04/23 08:05	9.36	0.48					}
C080	21/04/23 08:05	24/04/23 08:05	9.36	0.62					}
Total	21/04/23 08:05	24/04/23 08:05	37.45	0.56	33	4315	5066	468.9	0.44 } 0.50
D018	14/04/23 07:40	17/04/23 07:40	9.14	0.53					}
D020	14/04/23 07:40	17/04/23 07:40	9.14	0.51					}
D022	14/04/23 07:40	17/04/23 07:40	9.14	0.67					}
D024	14/04/23 07:40	17/04/23 07:40	9.14	0.59					}
Total	14/04/23 07:40	17/04/23 07:40	36.55	0.58	37	4724	3980	348.0	0.47 }
D018	21/04/23 07:50	24/04/23 07:50	9.00	0.49					}
D020	21/04/23 07:50	24/04/23 07:50	9.00	0.53					}
D022	21/04/23 07:50	24/04/23 07:50	9.00	0.56					}
D024	21/04/23 07:50	24/04/23 07:50	9.00	0.54					}
Total	21/04/23 07:50	24/04/23 07:50	35.99	0.53	36	4851	4186	350.2	0.46 } 0.47

ENVIRONMENT SYSTEM

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR APRIL 2023

POTLINE 3

----- S A M P L E -----					Sample Vol	Fluoride	Exit Temperatures	Exit Velocity	Volumetric	Al	Emission	Average
Manifold	--- Start ---	---	End ---	---	m3 N.T.P.	mg/m3	degrees Celsius	metres/hour	Flow Rate	Prod	Rate	Rate
Location	Date	Time	Date	Time	(Dry)	as F	Avg	Avg	1000 m3/hr		kg F/t Al	kgF/tAl
Cassette												
Location												
E074	03/04/23	07:35	06/04/23	07:35	8.26	0.45						}
E076	03/04/23	07:35	06/04/23	07:35	8.26	0.54						}
E078	03/04/23	07:35	06/04/23	07:35	8.26	0.56						}
E080	03/04/23	07:35	06/04/23	07:35	8.26	0.60						}
Total	03/04/23	07:35	06/04/23	07:35	33.06	0.54		36	4517	5212	453.3	0.44 }
												}
E074	11/04/23	07:25	14/04/23	07:25	8.91	0.50						}
E076	11/04/23	07:25	14/04/23	07:25	8.91	0.52						}
E078	11/04/23	07:25	14/04/23	07:25	8.91	0.41						}
E080	11/04/23	07:25	14/04/23	07:25	8.91	0.45						}
Total	11/04/23	07:25	14/04/23	07:25	35.64	0.47		34	4833	5604	464.8	0.41 }
												0.43 }
F020	11/04/23	06:54	14/04/23	06:54	7.84	0.45						}
F022	11/04/23	06:54	14/04/23	06:54	7.84	0.49						}
F024	11/04/23	06:54	14/04/23	06:54	7.84	0.52						}
F026	11/04/23	06:54	14/04/23	06:54	7.84	0.43						}
Total	11/04/23	06:54	14/04/23	06:54	31.38	0.47		32	4727	4035	348.6	0.39 }
												}
F020	21/04/23	07:50	24/04/23	07:50	9.20	0.43						}
F022	21/04/23	07:50	24/04/23	07:50	9.20	0.51						}
F024	21/04/23	07:50	24/04/23	07:50	9.20	0.48						}
F026	21/04/23	07:50	24/04/23	07:50	9.20	0.47						}
Total	21/04/23	07:50	24/04/23	07:50	36.82	0.47		34	4732	4084	356.0	0.39 }
												0.39 }

 END OF REPORT



Continuous Gaseous Fluoride (mg/m³)

From 01/05/23 to 31/05/23

Date	1WF	1EF	2WF	2EF	3WF	3EF	12E	BO1	BO2
01/05/23	0.30	0.47	0.56	0.18	0.18	0.20	0.36	0.39	0.50
02/05/23	0.36	0.37	0.36	0.19	0.23	0.23	0.33	0.47	1.80
03/05/23	0.40	0.27	0.39	0.23	0.30	0.38	0.26	0.45	0.73
04/05/23	0.31	0.20	0.27	0.18	0.24	0.29	0.25	0.40	0.45
05/05/23	0.32	0.19	0.47	0.17	0.29	0.32	0.36	0.31	0.52
06/05/23	0.28	0.16	0.36	0.21	0.20	0.23	0.28	0.39	0.50
07/05/23	0.22	0.15	0.21	0.17	0.16	0.15	0.25	0.37	0.44
08/05/23	0.26	0.12	0.20	0.20	0.17	0.18	0.21	0.46	0.58
09/05/23	0.17	0.14	0.25	0.22	0.18	0.16	0.18	0.21	0.40
10/05/23	0.15	0.16	0.25	0.17	0.22	0.31	0.19	4.48	0.40
11/05/23	0.18	0.23	0.25	0.14	0.20	0.24	0.17	0.35	0.41
12/05/23	0.20	0.23	0.26	0.15	0.23	0.25	0.35	0.29	0.49
13/05/23	0.21	0.21	0.25	0.15	0.28	0.21	0.36	0.28	0.46
14/05/23	0.21	0.17	0.24	0.13	0.25	0.14	0.31	0.32	0.42
15/05/23	0.22	0.22	0.27	0.15	0.31	0.43	0.32	0.37	0.33
16/05/23	0.24	0.26	0.25	0.15	0.41	0.36	0.34	0.24	0.30
17/05/23	0.27	0.20	0.26	0.14	0.41	0.60	0.39	0.21	0.23
18/05/23	0.27	0.17	0.22	0.16	0.27	0.48	0.44	0.27	0.88
19/05/23	0.22	0.13	0.23	0.14	0.24	0.30	0.24	0.22	0.30
20/05/23	0.17	0.13	0.24	0.14	0.19	0.27	0.17	0.24	1.11
21/05/23	0.20	0.14	0.22	0.13	0.16	0.29	0.18	0.18	1.30
22/05/23	0.19	0.14	0.26	0.14	0.45	0.27	0.17	0.22	1.95
23/05/23	0.16	0.14	0.21	0.14	0.17	0.33	0.15	0.22	0.81
24/05/23	0.17	0.13	0.23	0.18	0.23	0.22	0.15	0.30	0.72
25/05/23	0.24	0.16	0.29	0.38	0.28	0.16	0.23	0.32	0.38
26/05/23	0.16	0.14	0.30	0.15	0.25	0.17	0.26	0.26	0.55
27/05/23	0.21	0.14	0.17	0.14	0.18	0.28	0.25	0.28	0.20
28/05/23	0.29	0.11	0.18	0.18	0.14	0.15	0.30	0.41	0.21
29/05/23	0.58	0.14	0.21	0.15	0.33	0.25	0.35	0.89	0.24
30/05/23	0.34	0.15	0.21	0.15	0.23	0.20	0.33	0.66	0.36
31/05/23	0.22	0.16	0.24	0.16	0.36	0.21	0.41	0.47	0.38
Average	0.25	0.19	0.27	0.17	0.25	0.27	0.28	0.48	0.59

ENVIRONMENT SYSTEM

PAGE 1

EMISSION MONITORING PROGRAM

STACK EMISSION REPORT FOR MAY 2023

Stack	S A M P L E				Sample Vol m3 N.T.P. (Dry)	Gaseous			Exit Temp. deg.C	Exit Velocity m/Sec	Volumetric Flow Rate 1000 m3/hr	Al Prod	Emission Rate kg F/t Al
	Start Date	Time	End Date	Time		Fluoride (as F) mg/m3	Fluoride (as F) mg/m3	Total Fluoride (as F) mg/m3					
POTLINE 1 WEST S	02/05/23	07:18	02/05/23	13:18	6.04	0.34	0.36	0.70	96	20.8	732	58.4	0.05
	03/05/23	06:57	03/05/23	12:57	6.18	0.38	0.54	0.92	97	20.9	733	58.4	0.07
	05/05/23	06:45	05/05/23	12:45	6.18	0.31	0.30	0.61	95	20.5	723	58.3	0.05
Average					6.14	0.34	0.40	0.74	96	20.7	729	58.4	0.06
POTLINE 2, WEST	16/05/23	07:10	16/05/23	13:10	6.63	0.22	0.34	0.57	96	21.8	769	58.9	0.04
	17/05/23	07:10	17/05/23	13:10	6.39	0.21	0.40	0.61	93	22.6	800	59.0	0.05
	18/05/23	07:00	18/05/23	13:00	6.70	0.21	0.32	0.54	92	21.8	776	58.9	0.04
Average					6.57	0.21	0.35	0.57	93	22.1	782	58.9	0.05
BAKE OVEN NO.1 S	15/05/23	07:50	15/05/23	13:50	5.33	0.26	0.12	0.38	99	16.4	136	202.8	<0.01
	16/05/23	07:25	16/05/23	13:25	5.19	0.23	0.16	0.39	98	15.7	131	202.8	<0.01
	17/05/23	07:30	17/05/23	13:30	5.25	0.18	0.12	0.30	98	16.1	134	202.8	<0.01
Average					5.26	0.22	0.13	0.36	98	16.1	134	202.8	<0.01
POTLINE 3 WEST S	16/05/23	07:21	16/05/23	13:21	6.21	0.33	0.56	0.89	97	21.7	960	68.2	0.08
	18/05/23	06:59	18/05/23	12:59	6.63	0.22	0.49	0.71	92	21.7	972	68.2	0.06
	19/05/23	07:05	19/05/23	13:05	6.23	0.21	0.38	0.58	94	22.0	977	68.2	0.05
Average					6.36	0.25	0.48	0.73	94	21.8	970	68.2	0.06
POTLINE 3 EAST S	10/05/23	07:50	10/05/23	13:50	5.75	0.36	0.11	0.48	92	19.4	868	68.8	0.04
	11/05/23	07:20	11/05/23	13:20	5.89	0.32	0.12	0.44	92	16.9	756	68.8	0.03
	12/05/23	07:30	12/05/23	13:30	5.83	0.37	0.13	0.50	97	17.2	760	68.8	0.03
Average					5.82	0.35	0.12	0.47	94	17.8	795	68.8	0.03
1+2 EXP STACK	09/05/23	07:35	09/05/23	13:35	5.22	0.14	0.38	0.53	88	16.1	499	38.7	0.04
	11/05/23	07:20	11/05/23	13:20	4.95	0.18	0.99	1.17	90	16.0	491	38.8	0.09
	12/05/23	06:20	12/05/23	12:20	4.85	0.22	1.15	1.37	91	16.3	500	38.3	0.11
Average					5.00	0.18	0.84	1.02	90	16.1	497	38.6	0.08

END OF REPORT

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR MAY 2023

POTLINE 1

Manifold Location	Start Date	Start Time	End Date	End Time	Sample Vol m3 N.T.P. (Dry)	Fluoride mg/m3 as F	Exit Temperatures degrees Celsius Avg	Exit Velocity metres/hour Avg	Volumetric Flow Rate 1000 m3/hr	Al Prod	Emission Rate kg F/t Al	Average Rate kgF/tAl
Cassette Location												
A074	05/05/23	08:15	08/05/23	08:15	9.47	0.39						}
A076	05/05/23	08:15	08/05/23	08:15	9.47	0.47						}
A078	05/05/23	08:15	08/05/23	08:15	9.47	0.48						}
A080	05/05/23	08:15	08/05/23	08:15	9.47	0.47						}
Total	05/05/23	08:15	08/05/23	08:15	37.88	0.45	30	4939	5886	472.8	0.41	}
A074	12/05/23	07:17	15/05/23	07:17	8.87	0.42						}
A076	12/05/23	07:17	15/05/23	07:17	8.87	0.43						}
A078	12/05/23	07:17	15/05/23	07:17	8.87	0.48						}
A080	12/05/23	07:17	15/05/23	07:17	8.87	0.45						}
Total	12/05/23	07:17	15/05/23	07:17	35.48	0.45	30	4808	5783	470.8	0.39	}
B018	12/05/23	06:39	15/05/23	06:39	8.10	0.35						}
B020	12/05/23	06:39	15/05/23	06:39	8.10	0.55						}
B022	12/05/23	06:39	15/05/23	06:39	8.10	0.42						}
B024	12/05/23	06:39	15/05/23	06:39	8.10	0.63						}
Total	12/05/23	06:39	15/05/23	06:39	32.38	0.49	31	4593	4026	347.2	0.41	}
B018	16/05/23	08:20	19/05/23	08:20	8.16	0.38						}
B020	16/05/23	08:20	19/05/23	08:20	8.16	0.51						}
B022	16/05/23	08:20	19/05/23	08:20	8.16	0.38						}
B024	16/05/23	08:20	19/05/23	08:20	8.16	0.42						}
Total	16/05/23	08:20	19/05/23	08:20	32.63	0.42	30	4652	4061	350.2	0.35	}

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR MAY 2023

POTLINE 2

	S	A	M	P	L	E	Sample Vol	Fluoride	Exit Temperatures	Exit Velocity	Volumetric	Al	Emission	Average
Manifold	Start				End		m3 N.T.P.	mg/m3	degrees Celsius	metres/hour	Flow Rate	Prod	Rate	Rate
Location	Date	Time			Date	Time	(Dry)	as F	Avg	Avg	1000 m3/hr		kg F/t Al	kgF/tAl
Cassette Location														
C074	12/05/23	07:40			15/05/23	07:40	8.82	0.53						}
C076	12/05/23	07:40			15/05/23	07:40	8.82	0.53						}
C078	12/05/23	07:40			15/05/23	07:40	8.82	0.53						}
C080	12/05/23	07:40			15/05/23	07:40	8.82	0.57						}
Total	12/05/23	07:40			15/05/23	07:40	35.30	0.54	31	5139	6093	471.0	0.50	}
C074	26/05/23	07:00			29/05/23	07:00	8.85	0.46						}
C076	26/05/23	07:00			29/05/23	07:00	8.85	0.45						}
C078	26/05/23	07:00			29/05/23	07:00	8.85	0.41						}
C080	26/05/23	07:00			29/05/23	07:00	8.85	0.36						}
Total	26/05/23	07:00			29/05/23	07:00	35.42	0.42	26	5200	6241	473.0	0.40	}
D018	05/05/23	08:50			08/05/23	08:50	8.38	0.53						}
D020	05/05/23	08:50			08/05/23	08:50	8.38	0.48						}
D022	05/05/23	08:50			08/05/23	08:50	8.38	0.70						}
D024	05/05/23	08:50			08/05/23	08:50	8.38	0.60						}
Total	05/05/23	08:50			08/05/23	08:50	33.51	0.58	31	4776	4157	351.8	0.49	}
D018	12/05/23	07:15			15/05/23	07:15	8.59	0.47						}
D020	12/05/23	07:15			15/05/23	07:15	8.59	0.48						}
D022	12/05/23	07:15			15/05/23	07:15	8.59	0.46						}
D024	12/05/23	07:15			15/05/23	07:15	8.59	0.53						}
Total	12/05/23	07:15			15/05/23	07:15	34.37	0.49	32	4686	4087	353.2	0.41	}

ENVIRONMENT SYSTEM

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR MAY 2023

POTLINE 3

----- S A M P L E -----					Sample Vol	Fluoride	Exit Temperatures	Exit Velocity	Volumetric	Al	Emission	Average
Manifold	Start	Time	End	Time	m3 N.T.P.	mg/m3	degrees Celsius	metres/hour	Flow Rate	Prod	Rate	Rate
Location	Date		Date		(Dry)	as F	Avg	Avg	1000 m3/hr		kg F/t Al	kgF/tAl
Cassette												
Location												
E074	05/05/23	08:05	08/05/23	08:05	8.40	0.44						}
E076	05/05/23	08:05	08/05/23	08:05	8.40	0.48						}
E078	05/05/23	08:05	08/05/23	08:05	8.40	0.54						}
E080	05/05/23	08:05	08/05/23	08:05	8.40	0.57						}
Total	05/05/23	08:05	08/05/23	08:05	33.61	0.51	33	4559	5376	472.8	0.42	}
												}
E074	19/05/23	06:55	22/05/23	06:55	8.75	0.44						}
E076	19/05/23	06:55	22/05/23	06:55	8.75	0.37						}
E078	19/05/23	06:55	22/05/23	06:55	8.75	0.37						}
E080	19/05/23	06:55	22/05/23	06:55	8.75	0.39						}
Total	19/05/23	06:55	22/05/23	06:55	35.00	0.39	32	4639	5513	471.0	0.33	}
												0.37
F020	01/05/23	07:10	04/05/23	07:10	7.75	0.29						}
F022	01/05/23	07:10	04/05/23	07:10	7.75	0.34						}
F024	01/05/23	07:10	04/05/23	07:10	7.75	0.39						}
F026	01/05/23	07:10	04/05/23	07:10	7.75	0.36						}
Total	01/05/23	07:10	04/05/23	07:10	30.98	0.35	32	4695	4041	355.6	0.28	}
												}
F020	05/05/23	07:45	08/05/23	07:45	8.27	0.41						}
F022	05/05/23	07:45	08/05/23	07:45	8.27	0.44						}
F024	05/05/23	07:45	08/05/23	07:45	8.27	0.47						}
F026	05/05/23	07:45	08/05/23	07:45	8.27	0.51						}
Total	05/05/23	07:45	08/05/23	07:45	33.09	0.46	29	4543	3963	354.6	0.37	}
												0.32

 END OF REPORT

Continuous Gaseous Fluoride (mg/m³)
From 01/06/23 to 30/06/23

Date	1WF	1EF	2WF	2EF	3WF	3EF	12E	BO1	BO2
01/06/23	0.23	0.20	0.30	0.17	0.47	0.25	0.48	0.37	0.50
02/06/23	0.24	0.20	0.33	0.21	0.21	0.30	0.48	0.49	0.83
03/06/23	0.39	0.33	0.28	0.22	0.28	0.29	0.26	0.32	0.90
04/06/23	0.32	0.31	0.32	0.19	0.23	0.25	0.41	0.42	0.58
05/06/23	0.28	0.12	0.30	0.14	0.30	0.42	0.31	0.40	0.45
06/06/23	0.28	0.14	0.37	0.14	0.36	0.36	0.46	0.29	0.37
07/06/23	0.21	0.19	0.38	0.15	0.30	0.26	0.30	0.31	0.41
08/06/23	0.21	0.16	0.42	0.15	0.24	0.25	0.26	0.29	0.49
09/06/23	0.21	0.15	0.45	0.27	0.23	0.22	0.28	0.36	0.52
10/06/23	0.18	0.14	0.40	0.15	0.21	0.20	0.29	0.36	0.53
11/06/23	0.19	0.14	0.34	0.14	0.16	0.17	0.27	0.32	0.75
12/06/23	0.26	0.16	0.27	0.14	0.19	0.18	0.31	0.41	0.58
13/06/23	0.30	0.21	0.28	0.39	0.22	0.32	0.32	0.29	0.50
14/06/23	0.23	0.19	0.21	0.23	0.32	0.28	0.33	0.27	0.54
15/06/23	0.20	0.22	0.21	0.14	0.36	0.38	0.30	0.32	0.46
16/06/23	0.17	0.17	0.17	0.14	0.31	0.30	0.30	0.33	0.62
17/06/23	0.16	0.16	0.15	0.14	0.23	0.24	0.27	0.34	0.54
18/06/23	0.17	0.15	0.15	0.20	0.12	0.14	0.23	0.24	0.54
19/06/23	0.17	0.13	0.14	0.11	0.14	0.14	0.22	0.26	0.67
20/06/23	0.16	0.16	0.28	0.13	0.14	0.29	0.22	0.22	0.47
21/06/23	0.15	0.22	0.16	0.12	0.18	0.27	0.21	0.29	0.34
22/06/23	0.20	0.19	0.25	0.16	0.32	0.36	0.25	0.46	0.35
23/06/23	0.24	0.22	0.30	0.15	0.39	0.37	0.26	0.38	0.38
24/06/23	0.24	0.21	0.28	0.14	0.24	0.23	0.26	0.37	0.70
25/06/23	0.24	0.21	0.27	0.15	0.14	0.17	0.37	0.52	0.80
26/06/23	0.23	0.20	0.27	0.13	0.17	0.19	0.34	0.52	0.86
27/06/23	0.54	0.22	0.29	0.13	0.29	0.46	0.25	0.56	1.33
28/06/23	0.27	0.14	0.26	0.15	0.25	0.37	0.23	0.42	0.62
29/06/23	0.52	0.19	0.24	0.14	0.17	0.37	0.28	0.44	0.48
30/06/23	0.23	nra	0.14	0.14	0.21	0.27	0.80	0.57	0.57
Average	0.25	0.19	0.27	0.17	0.25	0.28	0.32	0.37	0.59

ENVIRONMENT SYSTEM

PAGE 1

EMISSION MONITORING PROGRAM

STACK EMISSION REPORT FOR JUNE 2023

Stack	S A M P L E				Sample Vol m3 N.T.P. (Dry)	Gaseous Particulate Total			Exit Temp. deg.C	Exit Velocity m/Sec	Volumetric Flow Rate 1000 m3/hr	Al Prod	Emission Rate kg F/t Al
	Start Date	Time	End Date	Time		Fluoride (as F) mg/m3	Fluoride (as F) mg/m3	Fluoride (as F) mg/m3					
POTLINE 1 WEST S	14/06/23	08:00	14/06/23	14:00	6.22	0.22	0.18	0.40	92	19.3	686	59.3	0.03
	15/06/23	07:30	15/06/23	13:30	6.37	0.21	0.18	0.39	92	20.2	721	59.3	0.03
	16/06/23	07:40	16/06/23	13:40	6.22	0.18	0.21	0.39	92	19.8	704	59.4	0.03
Average					6.27	0.20	0.19	0.39	92	19.8	704	59.3	0.03
POTLINE 1, EAST	21/06/23	07:30	21/06/23	13:30	6.07	0.38	0.28	0.66	88	19.7	711	59.3	0.05
	22/06/23	07:00	22/06/23	13:00	5.96	0.24	0.31	0.55	92	19.9	710	59.3	0.04
Average					6.02	0.31	0.29	0.60	90	19.8	710	59.3	0.04
POTLINE 2,EAST S	06/06/23	07:25	06/06/23	13:25	7.11	0.21	0.35	0.56	99	22.5	785	58.7	0.05
	07/06/23	06:57	07/06/23	12:57	7.02	0.18	0.37	0.55	97	22.1	776	58.8	0.04
	09/06/23	06:29	09/06/23	12:29	7.08	0.34	0.08	0.43	94	22.2	785	58.8	0.03
Average					7.07	0.24	0.27	0.51	97	22.3	782	58.8	0.04
BAKE OVEN NO.2 S	21/06/23	07:25	21/06/23	13:25	6.80	0.34	0.32	0.66	88	20.6	176	262.9	<0.01
	22/06/23	07:25	22/06/23	13:25	6.75	0.35	0.40	0.75	91	20.5	174	262.9	<0.01
	23/06/23	06:49	23/06/23	12:49	6.69	0.52	0.42	0.93	91	20.5	174	262.9	<0.01
Average					6.75	0.40	0.38	0.78	90	20.5	174	262.9	<0.01
POTLINE 3 EAST S	13/06/23	07:40	13/06/23	13:40	6.56	0.34	0.32	0.66	94	21.2	945	69.3	0.05
	15/06/23	06:30	15/06/23	12:30	6.54	0.47	0.25	0.72	92	21.0	943	69.2	0.06
	16/06/23	07:05	16/06/23	13:05	6.66	0.35	0.26	0.61	90	21.1	949	69.2	0.05
Average					6.59	0.39	0.28	0.66	92	21.1	945	69.2	0.05
1+2 EXP STACK	06/06/23	07:50	06/06/23	13:50	5.01	0.48	0.25	0.73	92	16.3	498	39.5	0.06
	07/06/23	07:40	07/06/23	13:40	5.24	0.29	0.17	0.46	91	16.1	493	39.5	0.03
	08/06/23	07:40	08/06/23	13:40	4.82	0.25	0.17	0.42	91	16.1	493	39.5	0.03
Average					5.02	0.34	0.19	0.53	91	16.2	495	39.5	0.04

END OF REPORT

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR JUNE 2023

POTLINE 1

Manifold Location	Start Date	Start Time	End Date	End Time	Sample Vol m3 N.T.P. (Dry)	Fluoride mg/m3 as F	Exit Temperatures degrees Celsius Avg	Exit Velocity metres/hour Avg	Volumetric Flow Rate 1000 m3/hr	Al Prod	Emission Rate kg F/t Al	Average Rate kgF/tAl
Cassette Location												
A074	16/06/23	07:50	19/06/23	07:50	8.79	0.40						}
A076	16/06/23	07:50	19/06/23	07:50	8.79	0.36						}
A078	16/06/23	07:50	19/06/23	07:50	8.79	0.42						}
A080	16/06/23	07:50	19/06/23	07:50	8.79	0.45						}
Total	16/06/23	07:50	19/06/23	07:50	35.17	0.41	28	4811	5787	468.6	0.36	}
A074	23/06/23	07:40	26/06/23	07:40	8.99	0.34						}
A076	23/06/23	07:40	26/06/23	07:40	8.99	0.34						}
A078	23/06/23	07:40	26/06/23	07:40	8.99	0.45						}
A080	23/06/23	07:40	26/06/23	07:40	8.99	0.37						}
Total	23/06/23	07:40	26/06/23	07:40	35.97	0.37	29	4712	5614	474.2	0.32	}
B018	16/06/23	09:45	19/06/23	09:45	8.66	0.26						}
B020	16/06/23	09:45	19/06/23	09:45	8.66	0.42						}
B022	16/06/23	09:45	19/06/23	09:45	8.66	0.26						}
B024	16/06/23	09:45	19/06/23	09:45	8.66	0.39						}
Total	16/06/23	09:45	19/06/23	09:45	34.64	0.34	28	4550	4011	355.9	0.27	}
B018	23/06/23	08:00	26/06/23	08:00	7.81	0.33						}
B020	23/06/23	08:00	26/06/23	08:00	7.81	0.42						}
B022	23/06/23	08:00	26/06/23	08:00	7.81	0.40						}
B024	23/06/23	08:00	26/06/23	08:00	7.81	0.45						}
Total	23/06/23	08:00	26/06/23	08:00	31.23	0.40	29	4423	3861	355.6	0.31	}

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR JUNE 2023

POTLINE 2

[illegible]

ENVIRONMENT SYSTEM

PAGE 3

EMISSION MONITORING PROGRAM

ROOF VENT MONITORING REPORT FOR JUNE 2023

POTLINE 3

----- S A M P L E -----					Sample Vol	Fluoride	Exit Temperatures	Exit Velocity	Volumetric	Al	Emission	Average
Manifold	Start	---	End	---	m3 N.T.P.	mg/m3	degrees Celsius	metres/hour	Flow Rate	Prod	Rate	Rate
Location	Date	Time	Date	Time	(Dry)	as F	Avg	Avg	1000 m3/hr		kg F/t Al	kgF/tAl
Cassette												
Location												
E074	02/06/23	07:35	05/06/23	07:35	8.68	0.37						}
E076	02/06/23	07:35	05/06/23	07:35	8.68	0.51						}
E078	02/06/23	07:35	05/06/23	07:35	8.68	0.50						}
E080	02/06/23	07:35	05/06/23	07:35	8.68	0.51						}
Total	02/06/23	07:35	05/06/23	07:35	34.71	0.47	35	4528	5339	472.5	0.38	}
												}
E074	16/06/23	07:10	19/06/23	07:10	8.76	0.38						}
E076	16/06/23	07:10	19/06/23	07:10	8.76	0.38						}
E078	16/06/23	07:10	19/06/23	07:10	8.76	0.41						}
E080	16/06/23	07:10	19/06/23	07:10	8.76	0.40						}
Total	16/06/23	07:10	19/06/23	07:10	35.03	0.40	31	4504	5375	468.8	0.33	}
												0.36
F020	06/06/23	08:35	09/06/23	08:35	6.82	0.34						}
F022	06/06/23	08:35	09/06/23	08:35	6.82	0.53						}
F024	06/06/23	08:35	09/06/23	08:35	6.82	0.43						}
F026	06/06/23	08:35	09/06/23	08:35	6.82	0.38						}
Total	06/06/23	08:35	09/06/23	08:35	27.28	0.42	30	4135	3620	355.5	0.31	}
												}
F020	13/06/23	08:13	16/06/23	08:13	6.81	0.51						}
F022	13/06/23	08:13	16/06/23	08:13	6.81	0.59						}
F024	13/06/23	08:13	16/06/23	08:13	6.81	0.46						}
F026	13/06/23	08:13	16/06/23	08:13	6.81	0.44						}
Total	13/06/23	08:13	16/06/23	08:13	27.22	0.50	27	4021	3544	355.7	0.36	}
												0.33

END OF REPORT

APPENDIX 3 -

FLUORIDE IN AMBIENT AIR DATA

ENVIRONMENT SYSTEM
FLUORIDE IN AMBIENT AIR REPORT FOR APRIL 2023

WEEKLY RESULTS :

SITE	WEEK ENDING	CORRECTED		FLUORIDE CONCENT. (ug/m3)	
		AIR VOLUME	Fp	Fg	Ft
----	-----	----m3	-----	-----	-----
080	04/04	388.9	0.08	0.25	0.33
	11/04	389.0	0.09	0.23	0.32
	18/04	300.1	0.02	0.20	0.22
	24/04	276.4	0.04	0.13	0.17
	MONTH AVG.	338.6	0.06	0.20	0.26
083	04/04	343.3	0.15	0.52	0.67
	11/04	335.5	0.18	0.41	0.59
	18/04	354.8	0.54	0.86	1.40
	24/04	314.5	0.07	0.39	0.46
	MONTH AVG.	337.0	0.24	0.55	0.78
084	04/04	348.7	0.25	0.44	0.69
	11/04	339.8	0.05	0.18	0.23
	18/04	340.4	0.02	0.12	0.14
	24/04	309.1	0.14	0.67	0.81
	MONTH AVG.	334.5	0.12	0.35	0.47
085	04/04	322.4	0.04	0.18	0.22
	11/04	322.0	0.07	0.32	0.39
	18/04	313.9	0.09	0.21	0.30
	24/04	279.4	0.26	0.78	1.04
	MONTH AVG.	309.4	0.12	0.37	0.49
122	04/04	391.5	0.01	0.11	0.12
	11/04	362.3	0.02	0.02	0.04
	18/04	346.0	0.01	0.14	0.15
	24/04	272.7	0.02	0.15	0.17
	MONTH AVG.	343.1	0.02	0.11	0.12

179	04/04	393.0	0.23	0.60	0.83
	11/04	337.2	0.71	0.17	0.88
	18/04	385.9	0.16	1.01	1.17
	24/04	294.2	0.04	0.34	0.38
	MONTH AVG.	352.6	0.29	0.53	0.82
181	04/04	390.9	0.87	2.13	3.00
	11/04	378.5	1.43	3.14	4.57
	18/04	430.0	0.47	0.15	0.62
	24/04	343.7	0.11	0.60	0.71
	MONTH AVG.	385.8	0.72	1.51	2.23
188	04/04	341.5	0.01	0.08	0.09
	11/04	349.9	0.01	0.09	0.10
	18/04	349.6	<0.01	0.08	0.09
	24/04	302.4	0.01	0.07	0.08
	MONTH AVG.	335.9	0.01	0.08	0.09

Site	Grid	Ref.
080	834	687
083	799	664
084	788	676
085	794	689
122	798	697
179	818	671
181	813	665
188	748	703

nra = No Result Available

Fp = Fluoride Particulate

Fg = Fluoride Gas

Ft = Fluoride Total

Samples collected to A.S. 3580.13.2

Report Comments

END OF REPORT

ENVIRONMENT SYSTEM

PAGE: 1

FLUORIDE IN AMBIENT AIR REPORT FOR MAY 2023

WEEKLY RESULTS :

SITE	WEEK ENDING	CORRECTED		FLUORIDE CONCENT. (ug/m3)		
		AIR VOLUME	Fp	Fg	Ft	
----	-----	----m3	-----	-----	-----	
080	02/05	437.9	0.02	0.16	0.18	
	09/05	384.3	0.04	0.14	0.18	
	16/05	367.1	0.03	0.28	0.31	
	23/05	362.6	0.06	0.26	0.32	
	30/05	367.4	0.02	0.13	0.15	
	MONTH AVG.	383.8	0.03	0.19	0.23	
083	02/05	379.7	0.41	0.55	0.96	
	09/05	345.8	0.18	0.24	0.42	
	16/05	345.0	0.12	0.35	0.47	
	23/05	335.1	0.19	0.11	0.30	
	30/05	351.6	0.17	0.41	0.58	
	MONTH AVG.	351.5	0.21	0.33	0.55	
084	02/05	373.3	0.08	0.24	0.32	
	09/05	330.5	0.08	0.16	0.24	
	16/05	327.9	0.05	0.20	0.25	
	23/05	320.6	0.07	0.09	0.16	
	30/05	325.5	0.05	0.09	0.14	
	MONTH AVG.	335.6	0.07	0.16	0.22	
085	02/05	370.7	0.04	0.18	0.22	
	09/05	325.9	0.03	0.10	0.13	
	16/05	326.1	0.05	0.18	0.23	
	23/05	334.8	0.05	0.10	0.15	
	30/05	334.9	0.03	0.10	0.13	
	MONTH AVG.	338.5	0.04	0.13	0.17	
122	02/05	369.3	0.01	0.09	0.10	
	09/05	318.0	0.02	0.03	0.05	
	16/05	332.3	0.01	0.09	0.10	
	23/05	323.5	0.03	0.09	0.12	
	30/05	335.7	0.01	0.05	0.06	
	MONTH AVG.	335.8	0.02	0.07	0.09	

179	02/05	447.1	0.08	0.55	0.63
	09/05	340.9	1.10	1.70	2.80
	16/05	393.5	0.02	0.54	0.56
	23/05	343.8	0.52	1.10	1.62
	30/05	400.3	0.08	0.34	0.42
	MONTH AVG.	385.1	0.36	0.85	1.21
181	02/05	453.4	1.08	1.62	2.70
	09/05	368.7	2.32	3.88	6.20
	16/05	389.6	1.23	2.52	3.75
	23/05	379.0	1.54	3.00	4.54
	30/05	371.6	2.20	0.52	2.72
	MONTH AVG.	392.4	1.67	2.31	3.98
188	02/05	362.5	0.01	0.11	0.12
	09/05	369.2	<0.01	0.03	0.04
	16/05	309.1	0.01	0.16	0.17
	23/05	352.0	<0.01	0.04	0.05
	30/05	331.6	0.01	0.03	0.04
	MONTH AVG.	344.9	0.01	0.07	0.08

Site	Grid	Ref.
080	834	687
083	799	664
084	788	676
085	794	689
122	798	697
179	818	671
181	813	665
188	748	703

nra = No Result Available

Fp = Fluoride Particulate

Fg = Fluoride Gas

Ft = Fluoride Total

Samples collected to A.S. 3580.13.2

Report Comments

END OF REPORT

ENVIRONMENT SYSTEM
FLUORIDE IN AMBIENT AIR REPORT FOR JUNE 2023

WEEKLY RESULTS :

SITE	WEEK ENDING	CORRECTED AIR VOLUME		FLUORIDE CONCENT. (ug/m3)		
		----	-----m3	Fp	Fg	Ft
080	06/06		374.2	<0.01	0.07	0.08
	13/06		389.2	<0.01	0.08	0.09
	20/06		407.4	0.01	0.05	0.06
	27/06		373.7	0.01	0.08	0.09
	MONTH AVG.		386.1	0.01	0.07	0.08
083	06/06		349.8	0.06	0.12	0.18
	13/06		345.2	0.22	0.45	0.67
	20/06		340.1	0.25	0.21	0.46
	27/06		413.1	0.01	0.15	0.16
	MONTH AVG.		362.0	0.14	0.23	0.37
084	06/06		322.4	0.24	0.28	0.52
	13/06		325.5	0.03	0.15	0.18
	20/06		344.1	0.03	0.08	0.11
	27/06		324.0	0.04	0.05	0.09
	MONTH AVG.		329.0	0.09	0.14	0.23
085	06/06		335.3	0.15	0.38	0.53
	13/06		348.7	0.02	0.10	0.12
	20/06		333.4	0.03	0.05	0.08
	27/06		341.4	0.02	0.04	0.06
	MONTH AVG.		339.7	0.06	0.14	0.20
122	06/06		319.2	<0.01	0.05	0.06
	13/06		363.6	<0.01	0.05	0.06
	20/06		339.8	0.01	0.02	0.03
	27/06		346.0	0.01	0.03	0.04
	MONTH AVG.		342.1	0.01	0.04	0.05
179	06/06		342.8	0.17	0.87	1.04
	13/06		403.8	0.06	0.43	0.49
	20/06		333.2	0.75	1.10	1.85
	27/06		405.4	0.06	0.69	0.75
	MONTH AVG.		371.3	0.26	0.77	1.03

181	06/06	388.3	1.40	4.27	5.67
	13/06	413.3	1.08	2.76	3.84
	20/06	369.0	2.47	4.65	7.12
	27/06	401.7	1.83	4.24	6.07
	MONTH AVG.	393.1	1.70	3.98	5.68
188	06/06	341.5	<0.01	0.04	0.05
	13/06	343.5	0.01	0.03	0.04
	20/06	386.4	0.01	0.03	0.04
	27/06	356.4	<0.01	0.05	0.06
	MONTH AVG.	357.0	0.01	0.04	0.05

Site	Grid	Ref.
080	834	687
083	799	664
084	788	676
085	794	689
122	798	697
179	818	671
181	813	665
188	748	703

nra = No Result Available

Fp = Fluoride Particulate

Fg = Fluoride Gas

Ft = Fluoride Total

Samples collected to A.S. 3580.13.2

Report Comments

END OF REPORT

APPENDIX 4 -

METEOROLOGICAL DATA

Wind Speed and Direction at 30 meters - Percent of Total Readings

Direction From	To	0.5 2.0	2.1 3.5	3.6 5.0	5.1 6.5	6.6 8.0	8.1 9.5	9.6 11.0	11.1 12.5	12.6 14.0	14.1 15.5	15.6 17.0	17.1 18.5	18.6 50.0	Total	Total Readings
N	S	1.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	15
NNE	SSW	1.1	2.7	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	42
NE	SW	2.0	4.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	47
ENE	WSW	1.8	3.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	46
E	W	0.4	3.1	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	42
ESE	WNW	1.3	1.5	2.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	43
SE	NW	0.7	1.5	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	33
SSE	NNW	0.7	2.8	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	42
S	N	1.1	2.8	1.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	39
SSW	NNE	1.5	0.6	1.1	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	28
SW	NE	2.1	1.4	1.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	42
WSW	ENE	3.4	6.0	5.6	2.4	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.9	135
W	E	5.0	9.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	104
WNW	ESE	1.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	33
NW	SE	0.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	13
NNW	SSE	0.7	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	11
Total		25.9	44.2	22.4	5.2	2.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	715.0

Calm Readings (<0.5 mps):	5	WIND SPEED (m/sec)		TEMPERATURE (°C)		RAINFALL (mm)	
Calm Readings %:	0.7	Average:	3.0	Ave Daily Max:	22.2	Total Month:	109.50
Tot. Readings Expected (ALL):	2880	Maximum:	8.3	Ave Daily Min:	13.1	Max. Daily:	25.00
Tot. Readings Accepted (ALL):	2875	Not Validated:	0	Not Validated:	0	Not Validated:	0
Percent Accepted (ALL):	99.8	Accepted:	720	Accepted:	720	Accepted:	720
Wind Direction Accepted:	715	% Accepted:	100.0	% Accepted:	100.0	% Accepted:	100.0
Wind Direction % Accepted:	99.3						

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Day
1 AVE	1.36	3.34	240.57	200.69	15.78	-0.88	0.00
1 MIN	0.40	1.20	136.30	124.20	10.20	-3.60	0.00
1 MAX	3.90	7.20	335.80	277.70	21.70	0.80	3.50
2 AVE	1.00	2.54	155.89	155.00	16.72	-0.29	0.00
2 MIN	0.40	0.80	12.60	20.00	11.70	-2.80	0.00
2 MAX	2.70	4.40	324.60	286.50	21.90	1.40	0.00
3 AVE	1.07	2.27	188.76	140.86	17.01	-0.70	0.00
3 MIN	0.40	0.80	55.30	46.70	12.80	-3.10	0.00
3 MAX	2.60	4.20	353.30	302.10	21.50	1.70	3.00
4 AVE	1.07	2.51	169.26	137.18	17.15	-0.80	0.00
4 MIN	0.40	0.60	5.50	12.40	13.80	-2.70	0.00
4 MAX	2.80	4.90	343.40	288.10	22.60	0.60	16.00
5 AVE	1.10	2.63	216.81	204.99	17.50	-0.06	0.00
5 MIN	0.40	1.30	7.60	77.70	13.50	-2.20	0.00
5 MAX	2.90	5.40	352.70	340.60	22.80	2.70	7.50
6 AVE	0.83	2.29	200.54	163.02	16.71	-0.90	0.00
6 MIN	0.40	1.30	11.10	33.10	11.80	-4.30	0.00
6 MAX	2.30	3.50	348.10	314.20	23.20	0.40	0.00
7 AVE	0.68	2.28	169.78	137.95	16.57	-1.03	0.00
7 MIN	0.40	0.90	7.40	0.20	11.40	-3.50	0.00
7 MAX	1.60	3.40	359.80	330.20	23.10	0.80	8.00
8 AVE	1.92	5.45	300.41	244.13	17.66	-0.66	0.00
8 MIN	0.40	2.30	255.60	219.10	13.30	-2.20	0.00
8 MAX	3.70	8.30	345.30	266.40	23.10	0.50	0.00
9 AVE	2.24	5.73	279.55	229.31	16.87	-0.35	0.00
9 MIN	0.50	3.10	225.20	196.00	10.90	-2.80	0.00
9 MAX	3.20	7.60	328.10	248.70	22.60	1.20	0.00

ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR APRIL 2023

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Degrees	MM. /Day
10 AVE	1.54	4.04	288.71	229.99	13.93	-1.00	0.00
10 MIN	0.50	3.10	225.30	193.80	8.90	-3.80	0.00
10 MAX	2.40	5.20	342.00	255.90	20.50	1.30	0.00
11 AVE	1.30	3.33	257.42	220.80	14.02	-0.94	0.00
11 MIN	0.40	0.60	67.20	130.10	6.40	-3.90	0.00
11 MAX	2.40	4.90	335.00	280.90	20.60	0.90	0.00
12 AVE	1.17	3.45	254.78	214.58	14.79	-0.64	0.00
12 MIN	0.40	1.60	16.70	7.20	8.80	-3.20	0.00
12 MAX	3.00	6.80	326.30	280.50	21.00	1.00	6.00
13 AVE	1.43	3.28	221.29	192.71	16.64	0.57	0.00
13 MIN	0.50	1.10	42.40	21.10	13.00	-0.10	0.00
13 MAX	3.20	5.70	345.30	275.40	21.50	1.90	17.00
14 AVE	1.40	3.13	204.70	176.26	16.88	0.15	0.00
14 MIN	0.50	1.50	16.20	140.00	13.70	-1.50	0.00
14 MAX	2.90	5.70	344.10	243.10	21.10	1.90	11.00
15 AVE	1.10	3.03	188.60	181.34	17.43	-0.13	0.00
15 MIN	0.40	1.90	9.30	10.30	10.90	-1.50	0.00
15 MAX	2.20	4.20	345.60	315.70	24.40	1.00	0.00
16 AVE	1.16	3.12	198.61	192.85	20.18	-0.28	0.00
16 MIN	0.50	1.40	1.30	1.70	15.50	-1.70	0.00
16 MAX	2.10	5.50	359.50	356.20	25.80	0.40	0.00
17 AVE	1.14	3.18	230.24	184.94	14.82	-1.79	0.00
17 MIN	0.40	1.20	3.00	66.30	9.00	-5.90	0.00
17 MAX	2.90	5.00	359.20	338.90	21.30	0.80	0.00
18 AVE	1.11	2.57	214.74	172.50	14.69	-1.56	0.00
18 MIN	0.40	0.50	31.50	21.70	9.40	-5.70	0.00
18 MAX	2.80	4.60	346.80	320.30	21.80	0.40	0.00

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Degrees	MM. /Day
19 AVE	1.00	2.07	192.98	160.22	15.37	-1.78	0.00
19 MIN	0.40	0.40	15.70	19.00	7.70	-5.40	0.00
19 MAX	2.60	4.30	346.40	328.90	23.60	0.70	0.00
20 AVE	1.59	3.65	192.07	149.93	15.87	-0.48	0.00
20 MIN	0.40	0.40	33.40	60.40	10.90	-4.80	0.00
20 MAX	3.10	6.40	351.00	279.30	18.90	1.00	25.00
21 AVE	1.45	3.18	188.79	150.85	17.61	-0.36	0.00
21 MIN	0.40	1.00	135.80	114.70	14.20	-2.60	0.00
21 MAX	2.60	5.00	317.80	212.40	21.00	0.70	0.50
22 AVE	0.57	1.60	226.25	212.39	15.40	-0.79	0.00
22 MIN	0.40	0.40	4.00	72.60	11.50	-3.50	0.00
22 MAX	1.70	3.30	333.80	359.00	20.50	1.80	2.50
23 AVE	0.96	2.56	202.10	167.91	16.34	-0.73	0.00
23 MIN	0.40	1.10	13.60	52.80	11.40	-2.70	0.00
23 MAX	2.70	5.10	325.60	283.70	21.50	0.40	1.50
24 AVE	1.32	2.78	143.16	92.71	18.32	-0.73	0.00
24 MIN	0.40	0.50	0.80	11.10	14.40	-2.90	0.00
24 MAX	2.70	4.50	348.60	267.40	22.80	0.70	0.00
25 AVE	0.97	1.86	142.98	151.98	15.85	-1.81	0.00
25 MIN	0.40	0.40	8.90	7.40	9.70	-4.70	0.00
25 MAX	2.30	3.40	341.60	355.20	22.00	0.50	0.50
26 AVE	1.06	2.31	209.53	140.25	14.25	-1.83	0.00
26 MIN	0.40	0.50	44.50	16.60	8.10	-5.20	0.00
26 MAX	2.80	4.20	347.60	295.50	22.30	0.70	0.00
27 AVE	1.08	2.58	143.31	121.13	16.05	-1.79	0.00
27 MIN	0.40	1.10	6.40	4.10	8.50	-5.60	0.00
27 MAX	2.70	4.50	354.10	316.10	23.30	1.30	0.00

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Day
28 AVE	0.90	2.47	180.09	179.39	16.77	-1.42	0.00
28 MIN	0.40	1.10	4.00	1.50	9.40	-4.20	0.00
28 MAX	1.90	4.40	350.40	330.40	24.60	0.70	0.00
29 AVE	0.91	2.61	252.12	226.40	16.85	-0.73	0.00
29 MIN	0.40	1.90	13.60	105.50	11.90	-3.00	0.00
29 MAX	1.70	3.60	359.20	323.10	23.20	0.80	7.00
30 AVE	1.42	4.19	302.47	250.70	15.20	-0.39	0.00
30 MIN	0.50	2.90	280.40	236.80	12.30	-3.20	0.00
30 MAX	2.70	6.20	321.60	268.90	20.00	1.20	0.50

Readings Not Validated: 0

END OF DATA LOGGER DAILY AVERAGES
REPORT

Wind Speed and Direction at 30 meters - Percent of Total Readings

Direction From	To	0.5 2.0	2.1 3.5	3.6 5.0	5.1 6.5	6.6 8.0	8.1 9.5	9.6 11.0	11.1 12.5	12.6 14.0	14.1 15.5	15.6 17.0	17.1 18.5	18.6 50.0	Total	Total Readings
N	S	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	5
NNE	SSW	0.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	18
NE	SW	0.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	12
ENE	WSW	0.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	12
E	W	0.7	1.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	21
ESE	WNW	0.3	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	8
SE	NW	0.0	1.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	18
SSE	NNW	0.1	1.8	2.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	36
S	N	0.4	1.6	2.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	36
SSW	NNE	0.3	1.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	19
SW	NE	0.7	1.9	3.5	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	56
WSW	ENE	1.6	11.5	16.6	4.9	1.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	272
W	E	2.3	17.3	4.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.4	181
WNW	ESE	0.9	3.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	35
NW	SE	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	8
NNW	SSE	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4
Total		10.5	48.0	30.9	7.7	1.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	741.0

Calm Readings (<0.5 mps):	2	WIND SPEED (m/sec)		TEMPERATURE (°C)		RAINFALL (mm)	
Calm Readings %:	0.3	Average:	3.5	Ave Daily Max:	19.1	Total Month:	51.50
Tot. Readings Expected (ALL):	2976	Maximum:	9.0	Ave Daily Min:	8.0	Max. Daily:	28.00
Tot. Readings Accepted (ALL):	2970	Not Validated:	0	Not Validated:	0	Not Validated:	0
Percent Accepted (ALL):	99.8	Accepted:	743	Accepted:	743	Accepted:	743
Wind Direction Accepted:	741	% Accepted:	99.9	% Accepted:	99.9	% Accepted:	99.9
Wind Direction % Accepted:	99.6						

ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR MAY 2023

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Degrees	MM. /Day
1 AVE	1.49	4.21	304.53	246.75	13.20	-0.73	0.00
1 MIN	0.40	2.50	282.60	240.70	9.10	-2.20	0.00
1 MAX	2.90	6.50	319.60	252.70	18.70	0.70	0.00
2 AVE	1.48	4.31	304.52	244.35	14.81	-0.75	0.00
2 MIN	0.40	2.90	285.10	235.50	10.00	-3.30	0.00
2 MAX	2.30	5.60	332.10	253.70	21.30	1.00	0.00
3 AVE	1.73	5.09	299.23	246.17	16.84	-0.97	0.00
3 MIN	0.50	3.10	250.30	202.50	8.80	-4.70	0.00
3 MAX	3.90	9.00	316.80	267.80	23.10	0.90	0.00
4 AVE	1.06	3.17	251.76	214.25	13.13	-1.49	0.00
4 MIN	0.40	1.90	3.10	131.30	7.30	-6.10	0.00
4 MAX	2.00	5.10	335.40	291.50	19.30	1.00	0.00
5 AVE	0.99	2.58	195.59	170.97	13.00	-0.70	0.00
5 MIN	0.40	0.60	5.30	13.00	7.20	-4.10	0.00
5 MAX	2.30	3.70	350.70	318.40	20.90	0.90	0.00
6 AVE	0.86	2.70	281.67	228.60	12.05	-1.46	0.00
6 MIN	0.40	1.40	6.70	22.50	7.20	-4.60	0.00
6 MAX	1.90	4.00	358.90	307.40	20.80	1.20	0.00
7 AVE	1.44	3.79	298.75	249.68	9.87	-0.58	0.00
7 MIN	0.40	1.00	266.10	224.80	6.30	-2.80	0.00
7 MAX	2.40	6.00	350.70	276.10	15.90	0.90	1.50
8 AVE	2.26	5.70	270.78	225.41	11.59	0.26	0.00
8 MIN	1.10	4.20	209.40	185.00	6.50	-0.80	0.00
8 MAX	3.00	7.20	306.80	250.90	17.40	1.20	2.00
9 AVE	1.80	4.24	256.53	212.98	12.28	-0.04	0.00
9 MIN	0.50	1.90	186.40	160.40	6.70	-2.50	0.00
9 MAX	3.50	5.90	329.50	266.60	19.00	1.10	0.00

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Degrees	MM. /Day
10 AVE	1.02	3.10	247.36	210.87	11.68	-1.11	0.00
10 MIN	0.40	1.50	148.50	125.70	6.70	-4.90	0.00
10 MAX	2.40	4.10	344.00	273.90	19.70	1.00	0.00
11 AVE	0.90	2.56	211.03	178.64	12.16	-1.20	0.00
11 MIN	0.40	0.70	12.40	9.90	7.10	-4.30	0.00
11 MAX	2.20	3.80	356.50	335.40	19.90	1.00	0.00
12 AVE	0.75	2.08	207.80	176.91	12.38	-1.70	0.00
12 MIN	0.40	0.40	2.80	18.60	6.00	-4.50	0.00
12 MAX	1.80	3.00	358.40	328.10	21.60	1.60	0.00
13 AVE	0.79	2.22	247.25	207.12	12.50	-1.16	0.00
13 MIN	0.40	0.60	48.30	97.50	6.60	-4.40	0.00
13 MAX	2.50	4.50	349.90	344.20	19.60	0.90	4.00
14 AVE	0.81	2.23	201.90	189.10	12.63	-0.81	0.00
14 MIN	0.40	0.40	12.00	60.50	7.50	-3.40	0.00
14 MAX	2.30	3.40	342.20	350.80	20.00	0.80	0.50
15 AVE	0.69	2.03	234.98	187.91	12.84	-1.16	0.00
15 MIN	0.40	0.80	15.90	10.50	8.10	-3.50	0.00
15 MAX	1.60	3.00	347.10	334.00	20.50	1.10	0.00
16 AVE	0.83	2.64	254.62	218.86	13.21	-0.96	0.00
16 MIN	0.40	1.20	26.50	134.50	9.60	-5.10	0.00
16 MAX	2.10	3.90	347.30	287.60	20.50	1.10	0.00
17 AVE	2.10	4.45	196.10	173.03	12.55	0.43	0.00
17 MIN	0.50	2.30	174.40	153.90	9.00	-3.00	0.00
17 MAX	2.90	5.70	322.70	239.80	14.80	1.40	13.50
18 AVE	1.24	3.20	221.30	202.94	12.27	0.15	0.00
18 MIN	0.50	1.40	45.60	135.40	8.30	-1.20	0.00
18 MAX	2.70	4.90	323.80	282.40	17.10	1.00	1.50

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Day
19 AVE	0.81	3.06	257.75	259.25	10.57	-0.87	0.00
19 MIN	0.40	1.70	5.30	226.00	5.80	-3.70	0.00
19 MAX	1.70	3.80	353.30	286.00	17.60	1.10	0.00
20 AVE	1.36	4.16	304.65	246.58	10.21	-0.87	0.00
20 MIN	0.50	2.90	277.00	219.50	4.70	-3.00	0.00
20 MAX	2.20	5.10	331.60	274.10	16.60	1.20	0.00
21 AVE	1.96	5.45	293.31	235.47	13.06	-0.42	0.00
21 MIN	0.60	3.40	261.10	220.70	7.90	-2.90	0.00
21 MAX	3.40	8.10	329.30	248.60	18.80	1.00	0.00
22 AVE	0.80	2.86	249.68	242.02	9.45	-2.26	0.00
22 MIN	0.40	0.50	6.80	28.90	4.20	-6.10	0.00
22 MAX	2.00	4.60	358.50	304.00	18.20	1.00	0.00
23 AVE	0.75	2.60	267.10	224.23	9.12	-1.98	0.00
23 MIN	0.40	0.90	18.00	27.20	2.60	-5.40	0.00
23 MAX	2.00	3.40	355.10	296.60	19.20	1.10	0.00
24 AVE	0.73	2.86	254.78	236.80	9.47	-1.40	0.00
24 MIN	0.40	1.10	6.60	25.40	3.40	-4.30	0.00
24 MAX	1.70	3.90	330.20	320.10	20.60	1.20	0.00
25 AVE	0.86	3.23	252.21	237.05	11.30	-1.63	0.00
25 MIN	0.40	1.10	11.60	4.20	3.90	-5.30	0.00
25 MAX	2.20	5.50	359.30	325.70	21.30	1.20	0.00
26 AVE	1.26	3.36	210.80	208.56	10.69	-1.32	0.00
26 MIN	0.40	1.70	17.10	3.10	4.20	-5.40	0.00
26 MAX	3.60	6.80	359.70	301.70	20.20	1.10	28.00
27 AVE	0.90	3.29	273.58	252.75	8.36	-1.87	0.00
27 MIN	0.40	1.80	3.10	200.30	3.94	-6.30	0.00
27 MAX	2.00	4.50	351.30	269.90	16.20	1.00	0.00

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME
(EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Day
28 AVE	1.18	3.97	308.72	254.64	8.37	-1.07	0.00
28 MIN	0.50	3.00	287.10	240.40	2.50	-3.50	0.00
28 MAX	2.10	4.80	326.90	265.10	15.10	1.00	0.50
29 AVE	1.44	4.40	292.71	248.05	12.13	-1.25	0.00
29 MIN	0.40	2.80	5.90	221.20	7.40	-4.10	0.00
29 MAX	2.40	5.90	328.10	266.50	19.40	0.90	0.00
30 AVE	1.07	3.83	312.40	251.89	11.72	-1.88	0.00
30 MIN	0.40	2.80	289.50	240.70	7.20	-4.60	0.00
30 MAX	2.40	5.90	343.90	268.70	19.20	0.90	0.00
31 AVE	1.41	4.20	296.52	258.43	14.23	-0.78	0.00
31 MIN	0.50	2.50	0.60	241.00	8.40	-2.90	0.00
31 MAX	2.80	6.40	351.20	273.00	20.50	0.90	0.00

Readings Not Validated: 0

END OF DATA LOGGER DAILY AVERAGES
REPORT

Wind Speed and Direction at 30 meters - Percent of Total Readings

Direction From	To	0.5 2.0	2.1 3.5	3.6 5.0	5.1 6.5	6.6 8.0	8.1 9.5	9.6 11.0	11.1 12.5	12.6 14.0	14.1 15.5	15.6 17.0	17.1 18.5	18.6 50.0	Total	Total Readings
N	S	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6
NNE	SSW	1.2	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	14
NE	SW	1.4	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	21
ENE	WSW	1.4	3.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	34
E	W	0.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	15
ESE	WNW	0.3	1.2	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	23
SE	NW	0.2	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6
SSE	NNW	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4
S	N	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4
SSW	NNE	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5
SW	NE	0.3	2.2	2.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	30
WSW	ENE	1.9	8.5	18.2	9.7	4.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	251
W	E	4.3	13.8	2.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	124
WNW	ESE	2.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	39
NW	SE	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	8
NNW	SSE	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4
Total		15.3	42.7	27.2	10.2	4.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	588.0

Calm Readings (<0.5 mps): 6

Calm Readings %: 1.0

Tot. Readings Expected (ALL): 2880

Tot. Readings Accepted (ALL): 2574

Percent Accepted (ALL): 89.4

Wind Direction Accepted: 588

Wind Direction % Accepted: 81.7

WIND SPEED (m/sec)

Average: 3.5

Maximum: 8.2

Not Validated: 51

Accepted: 594

% Accepted: 82.5

TEMPERATURE (°C)

Ave Daily Max: 17.1

Ave Daily Min: 8.0

Not Validated: 51

Accepted: 594

% Accepted: 82.5

RAINFALL (mm)

Total Month: 5.50

Max. Daily: 2.00

Not Validated: 51

Accepted: 594

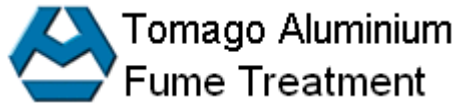
% Accepted: 82.5

TOMAGO ALUMINIUM COMPANY PTY. LTD. (A.C.N. 001 862 228)
ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR JUNE 2023

27/07/2

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME
(EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Degrees	MM. /Dav
1 AVE	1.15	3.59	293.56	256.96	15.36	-1.47	0.00
1 MIN	0.40	2.00	5.60	227.20	9.90	-5.50	0.00
1 MAX	2.40	5.70	358.00	297.60	20.80	0.50	0.00
2 AVE	0.87	2.42	202.80	161.47	13.36	-1.60	0.00
2 MIN	0.40	0.50	44.40	20.70	6.70	-5.40	0.00
2 MAX	2.00	3.50	344.30	289.90	20.00	0.50	0.00
3 AVE	0.61	1.98	218.46	209.31	15.08	-0.89	0.00
3 MIN	0.40	0.40	6.60	65.20	9.10	-4.10	0.00
3 MAX	1.20	3.20	342.90	298.80	22.00	1.30	0.00
4 AVE	1.77	3.86	122.23	104.91	16.67	-0.05	0.00
4 MIN	0.70	2.60	78.50	66.70	14.60	-1.10	0.00
4 MAX	2.70	5.20	143.80	126.30	18.50	0.50	0.00
5 AVE	1.65	3.18	93.86	87.70	14.34	-0.94	0.00
5 MIN	0.40	1.70	19.10	32.40	9.70	-3.70	0.00
5 MAX	3.10	4.60	309.70	356.30	18.30	0.50	0.00
6 AVE	0.96	2.08	117.92	88.09	12.46	-1.84	0.00
6 MIN	0.40	0.40	19.30	15.00	7.00	-4.60	0.00
6 MAX	2.20	4.00	337.30	353.50	19.10	0.80	0.00
7 AVE	0.78	2.02	185.45	163.62	11.30	-1.86	0.00
7 MIN	0.40	0.40	0.60	25.40	5.90	-5.10	0.00
7 MAX	1.80	3.30	358.70	335.80	19.30	0.80	0.00
8 AVE	0.58	2.67	286.15	258.21	11.25	-1.27	0.00
8 MIN	0.40	1.40	37.90	19.20	5.50	-6.30	0.00
8 MAX	1.30	5.20	336.70	351.50	16.00	0.60	0.50
9 AVE	1.15	4.10	302.34	248.82	12.20	-0.95	0.00
9 MIN	0.50	3.00	276.40	235.30	8.20	-3.30	0.00
9 MAX	2.50	5.80	340.10	265.70	18.10	1.00	0.50



TOMAGO ALUMINIUM COMPANY PTY. LTD. (A.C.N. 001 862 228)
ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR JUNE 2023

27/07/2

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

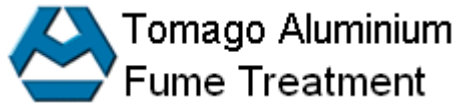
Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Dav

TOMAGO ALUMINIUM COMPANY PTY. LTD. (A.C.N. 001 862 228)
ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR JUNE 2023

27/07/2

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME
(EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Degrees	MM. /Dav
10 AVE	0.73	2.62	256.46	236.44	9.05	-2.45	0.00
10 MIN	0.40	0.50	4.40	103.10	3.80	-6.00	0.00
10 MAX	1.70	3.80	352.80	284.20	17.40	1.00	0.00
11 AVE	NRA	NRA	NRA	NRA	NRA	NRA	0.00
11 MIN	NRA	NRA	NRA	NRA	NRA	NRA	0.00
11 MAX	NRA	NRA	NRA	NRA	NRA	NRA	NRA
12 AVE	NRA	NRA	NRA	NRA	NRA	NRA	0.00
12 MIN	NRA	NRA	NRA	NRA	NRA	NRA	0.00
12 MAX	NRA	NRA	NRA	NRA	NRA	NRA	NRA
13 AVE	0.58	2.80	298.87	260.67	12.20	-1.12	0.00
13 MIN	0.40	1.20	39.20	8.40	8.70	-3.00	0.00
13 MAX	0.90	3.90	357.60	330.70	16.70	0.80	0.00
14 AVE	1.72	5.06	297.55	246.08	11.33	-0.53	0.00
14 MIN	0.50	3.30	274.90	229.70	6.80	-4.00	0.00
14 MAX	3.00	7.60	322.70	260.70	16.70	1.00	0.50
15 AVE	1.18	3.85	308.98	253.27	9.41	-1.14	0.00
15 MIN	0.50	2.90	293.30	242.10	5.80	-3.50	0.00
15 MAX	2.40	5.60	328.70	271.10	16.00	1.10	0.00
16 AVE	0.86	3.04	302.00	247.71	8.39	-1.83	0.00
16 MIN	0.40	1.40	37.90	24.40	3.50	-5.70	0.00
16 MAX	1.90	4.20	351.40	292.40	17.20	1.10	0.00
17 AVE	0.44	3.10	323.48	276.50	3.40	-1.90	0.00
17 MIN	0.40	2.90	312.70	272.20	3.00	-3.00	0.00
17 MAX	0.50	3.30	329.30	279.00	3.80	-1.40	0.00
18 AVE	NRA	NRA	NRA	NRA	NRA	NRA	0.00
18 MIN	NRA	NRA	NRA	NRA	NRA	NRA	0.00
18 MAX	NRA	NRA	NRA	NRA	NRA	NRA	NRA



TOMAGO ALUMINIUM COMPANY PTY. LTD. (A.C.N. 001 862 228)
ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR JUNE 2023

27/07/2

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

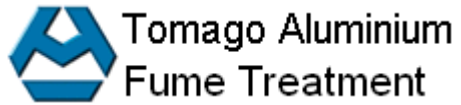
Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Dav

TOMAGO ALUMINIUM COMPANY PTY. LTD. (A.C.N. 001 862 228)
ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR JUNE 2023

27/07/2

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME
(EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Degrees	MM. /Dav
19 AVE	1.83	4.81	288.78	255.74	11.13	-0.19	0.00
19 MIN	0.70	2.50	4.00	238.80	5.40	-2.10	0.00
19 MAX	2.60	6.40	345.60	294.40	15.80	1.20	0.00
20 AVE	1.28	3.74	259.79	220.15	8.26	-1.10	0.00
20 MIN	0.40	2.10	117.30	142.10	1.80	-5.50	0.00
20 MAX	2.30	5.30	326.70	280.70	14.80	1.10	0.00
21 AVE	0.88	2.62	250.70	228.75	6.47	-1.33	0.00
21 MIN	0.40	0.60	7.20	79.80	0.70	-5.70	0.00
21 MAX	2.00	3.80	358.50	283.60	15.60	1.30	0.00
22 AVE	0.53	1.85	254.61	249.44	8.90	-0.36	0.00
22 MIN	0.40	1.00	1.40	27.70	1.60	-3.90	0.00
22 MAX	1.00	2.70	338.00	317.70	15.00	1.10	0.50
23 AVE	1.57	4.39	299.30	257.42	12.29	0.15	0.00
23 MIN	0.40	1.60	247.10	228.20	7.80	-0.50	0.00
23 MAX	3.30	8.20	350.50	296.90	17.60	2.00	2.00
24 AVE	1.10	3.90	316.89	257.11	10.33	-3.18	0.00
24 MIN	0.40	2.40	301.80	226.70	2.90	-7.90	0.00
24 MAX	2.50	6.10	342.80	286.60	17.70	0.20	0.00
25 AVE	1.12	3.73	310.55	274.29	9.93	-2.10	0.00
25 MIN	0.40	1.40	94.10	243.30	0.00	-6.50	0.00
25 MAX	3.10	7.50	348.70	354.20	20.20	1.40	0.00
26 AVE	1.87	5.48	298.06	245.38	12.97	-0.29	0.00
26 MIN	0.70	3.40	284.10	222.90	9.30	-2.50	0.00
26 MAX	3.10	8.00	320.00	257.20	18.70	1.10	0.00
27 AVE	0.95	3.16	284.45	249.34	11.50	-0.92	0.00
27 MIN	0.40	0.70	0.90	237.50	7.00	-3.50	0.00
27 MAX	1.80	4.40	357.00	274.60	16.40	1.00	0.00



TOMAGO ALUMINIUM COMPANY PTY. LTD. (A.C.N. 001 862 228)
ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR JUNE 2023

27/07/2

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

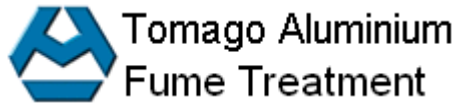
Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Dav

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height: Units:	10 Meters	30 Meters	10 Meters	30 Meters	5 Meters	5 - 30M Dearees	MM. /Dav
28 AVE	0.82	3.07	288.29	250.30	10.06	-0.28	0.00
28 MIN	0.40	1.30	37.30	226.80	5.90	-3.90	0.00
28 MAX	1.40	4.30	351.50	277.40	13.20	0.90	1.50
29 AVE	1.27	3.76	295.82	246.00	9.76	-0.25	0.00
29 MIN	0.40	1.70	242.90	211.40	4.70	-2.50	0.00
29 MAX	2.30	5.90	333.20	263.80	15.10	1.60	0.00
30 AVE	2.42	6.11	298.99	249.68	10.77	0.35	0.00
30 MIN	1.70	4.60	287.20	242.50	7.20	-0.60	0.00
30 MAX	3.20	7.50	309.10	257.60	16.10	1.10	0.00

Readings Not Validated: 1530

END OF DATA LOGGER DAILY AVERAGES
REPORT



TOMAGO ALUMINIUM COMPANY PTY. LTD. (A.C.N. 001 862 228)
ENVIRONMENT SYSTEM
METEOROLOGICAL MONITORING FOR JUNE 2023

27/07/2

AVERAGE DAILY READINGS FROM DATA LOGGER (RAINFALL IS ACTUAL) - all times are EASTERN STANDARD TIME (EST)

Parameter:	Wind Speed	Wind Speed	Wind Direct'n	Wind Direct'n	Dry B Temp.	Delta T	Rainfall
Height:	10	30	10	30	5	5 - 30M	
Units:	Meters	Meters	Meters	Meters	Meters	Degrees	MM. /Dav

APPENDIX 5 -

VEGETATION MONITORING DATA

ENVIRONMENT SYSTEM
WATER AND VEGETATION MONITORING FOR JUNE 2023

PAGE: 1

RESULTS BY SAMPLING GROUP

100 - OVERSTOREY

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	006	AVICENNIA MARINA	FLUORIDE (ug/g)	22	16	25	20	10	10	15	15						
2	111	ANGOPHORA COSTATA	FLUORIDE (ug/g)	1412	1302	1725	1455	560	720	1585	1765						
3	112	ANGOPHORA COSTATA	FLUORIDE (ug/g)	707	429	660	580	180	200	240	715						
4	113	EUCALYPTUS MACULATA	FLUORIDE (ug/g)	178	205	nra	130	280	nra	nra	nra						
5	114	MELALEUCA QUINQUENERVIA	FLUORIDE (ug/g)	777	271	215	280	155	285	355	335						
6	115	EUCALYPTUS PARRAMATENSI	FLUORIDE (ug/g)	176	164	160	280	30	180	165	170						
7	116	ANGOPHORA COSTATA	FLUORIDE (ug/g)	84	101	295	65	60	40	50	95						
8	117	ANGOPHORA COSTATA	FLUORIDE (ug/g)	267	245	30	265	30	45	25	1075						
9	118	MELALEUCA QUINQUENERVIA	FLUORIDE (ug/g)	364	522	140	325	210	145	225	2085						
10	119	ANGOPHORA FLORIBUNDA	FLUORIDE (ug/g)	178	150	95	195	75	120	100	315						
11	120	EUCALYPTUS MACULATA	FLUORIDE (ug/g)	75	83	80	105	20	75	60	160						
12	121	EUCALYPTUS PILULARIS	FLUORIDE (ug/g)	47	41	30	55	15	40	40	65						
13	122	ANGOPHORA FLORIBUNDA	FLUORIDE (ug/g)	26	40	35	nra	30	35	60	40						
14	123	EUCALYPTUS HAEMASTOMA	FLUORIDE (ug/g)	30	18	15	25	10	10	10	40						
15	124	ANGOPHORA COSTATA	FLUORIDE (ug/g)	27	27	35	10	20	20	20	55						
16	126	CASUARINA GLAUCA	FLUORIDE (ug/g)	60	21	20	20	40	10	5	30						
17	128	EUCALYPTUS ROBUSTA	FLUORIDE (ug/g)	34	18	30	15	5	10	10	40						
18	129	ANGOPHORA COSTATA	FLUORIDE (ug/g)	19	18	15	10	5	10	15	55						
19	130	AVICENNIA MARINA	FLUORIDE (ug/g)	31	29	10	15	10	40	35	65						
20	131	AVICENNIA MARINA	FLUORIDE (ug/g)	7	6	5	10	5	5	5	nra						
21	132	AVICENNIA MARINA	FLUORIDE (ug/g)	7	8	10	10	10	5	5	10						
22	133	CASUARINA GLAUCA	FLUORIDE (ug/g)	20	14	15	20	10	15	10	15						
23	134	CASUARINA GLAUCA	FLUORIDE (ug/g)	20	14	10	15	15	15	15	15						
24	136	EUCALYPTUS HAEMASTOMA	FLUORIDE (ug/g)	8	10	q	15	q	q	5	q						
25	137	ANGOPHORA COSTATA	FLUORIDE (ug/g)	17	11	10	10	5	10	10	20						
26	138	AVICENNIA MARINA	FLUORIDE (ug/g)	8	5	q	5	q	q	5	q						
27	139	EUCALYPTUS MACULATA	FLUORIDE (ug/g)	11	5	q	5	q	q	5	q						
28	141	EUCALYPTUS MACULATA	FLUORIDE (ug/g)	31	5	q	5	q	q	5	q						
29	142	CASUARINA GLAUCA	FLUORIDE (ug/g)	10	8	q	10	q	q	5	q						
30	144	EUCALYPTUS HAEMASTOMA	FLUORIDE (ug/g)	15	13	q	15	q	q	10	q						
31	147	AVICENNIA MARINA	FLUORIDE (ug/g)	6	5	q	5	q	q	5	q						
32	149	EUCALYPTUS MACULATA	FLUORIDE (ug/g)	5	5	q	5	q	q	5	q						
33	151	EUCALYPTUS PILULARIS	FLUORIDE (ug/g)	9	15	q	10	q	q	20	q						
34	168	EUCALYPTUS ROBUSTA	FLUORIDE (ug/g)	166	207	260	315	105	45	145	370						
35	169	EUCALYPTUS GLOBOIDEA	FLUORIDE (ug/g)	23	17	15	25	10	10	10	30						
36	170	EUCALYPTUS PILULARIS	FLUORIDE (ug/g)	11	8	10	10	5	5	5	10						
37	171	CASUARINA GLAUCA	FLUORIDE (ug/g)	13	9	5	5	20	10	5	nra						
38	172	CASUARINA GLAUCA	FLUORIDE (ug/g)	11	11	5	5	20	10	5	20						
39	173	CASUARINA GLAUCA	FLUORIDE (ug/g)	9	7	10	5	5	10	5	nra						
40	174	CASUARINA GLAUCA	FLUORIDE (ug/g)	40	45	85	20	15	35	15	100						
41	175	CASUARINA GLAUCA	FLUORIDE (ug/g)	38	34	55	40	20	25	15	50						
42	190	ANGOPHORA COSTATA	FLUORIDE (ug/g)	22	23	10	10	15	15	40	50						
43	191	CASUARINA GLAUCA	FLUORIDE (ug/g)	14	21	10	10	50	15	10	30						

WATER AND VEGETATION MONITORING FOR JUNE 2023

RESULTS BY SAMPLING GROUP

130 - POTLINE 3 VEGETATION

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	182	CASUARINA GLAUCA	FLUORIDE (ug/g)	40	46	75	30	40	25	25	80						
2	183	CASUARINA GLAUCA	FLUORIDE (ug/g)	38	31	30	20	30	35	15	55						
3	184	CASUARINA GLAUCA	FLUORIDE (ug/g)	60	33	40	20	30	10	25	75						
4	185	ANGOPHORA COSTATA	FLUORIDE (ug/g)	30	30	10	40	50	20	15	45						
5	193	ANGOPHORA COSTATA	FLUORIDE (ug/g)	14	12	10	15	10	10	5	20						
6	194	ROUGH BARK APPLE	FLUORIDE (ug/g)	43	39	40	35	55	35	25	45						

WATER AND VEGETATION MONITORING FOR JUNE 2023

RESULTS BY SAMPLING GROUP

350 - FORAGE

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	004	FORAGE	FLUORIDE (ug/g)	152	197	60	35	80	160	365	480						
2	031	FORAGE	FLUORIDE (ug/g)	10	5	q	5	q	q	5	q						
3	032	FORAGE	FLUORIDE (ug/g)	10	8	20	5	5	5	5	5						
4	034	FORAGE	FLUORIDE (ug/g)	19	7	nra	15	5	5	5	5						
		FODDER FEED MIX	FLUORIDE (ug/g)	24	6	nra	10	5	nra	5	5						
5	087	FORAGE	FLUORIDE (ug/g)	62	79	195	135	25	5	30	85						
6	126	FORAGE	FLUORIDE (ug/g)	18	10	q	15	q	q	5	q						
7	130	FORAGE	FLUORIDE (ug/g)	37	35	30	10	50	25	20	75						
8	131	FORAGE	FLUORIDE (ug/g)	16	5	q	5	q	q	5	q						
9	133	FORAGE	FLUORIDE (ug/g)	36	5	q	5	q	q	5	q						
10	134	FORAGE	FLUORIDE (ug/g)	21	8	10	5	10	5	5	10						
11	141	FORAGE	FLUORIDE (ug/g)	9	5	q	5	q	q	5	q						
12	142	FORAGE	FLUORIDE (ug/g)	18	7	10	5	10	5	5	5						
13	143	FORAGE	FLUORIDE (ug/g)	15	5	q	5	q	q	5	q						
14	160	FORAGE	FLUORIDE (ug/g)	23	8	q	5	q	q	10	q						
15	166	FORAGE	FLUORIDE (ug/g)	14	7	nra	5	15	5	5	5						
16	167	FORAGE	FLUORIDE (ug/g)	27	17	25	10	20	10	5	30						
17	176	FORAGE	FLUORIDE (ug/g)	17	8	10	5	5	15	5	5						
18	178	FORAGE	FLUORIDE (ug/g)	10	13	15	5	35	5	5	10						
19	211	FORAGE	FLUORIDE (ug/g)	20	17	15	20	10	5	15	35						
20	307	FORAGE	FLUORIDE (ug/g)	9	10	10	5	20	10	5	10						
21	308	FORAGE	FLUORIDE (ug/g)	10	9	25	5	5	5	10	5						

nra = No Result Available

tba = To Be Analysed

c = Result Being Checked

q = Samples collected quarterly

ALY = Average Last Year

AYTD = Average Year To Date

 *** END OF WATER AND VEGETATION BY GROUP REPORT ***

APPENDIX 6 –

WATER MONITORING DATA

- 1. Sewer Treatment Works and Irrigation System Report**
- 2. Stormwater Drain Monitor Report**
- 3. Surface Water and Groundwater Reports**

TOMAGO ALUMINIUM COMPANY PTY. LIMITED (A.C.N. 001 862 228)
 ENVIRONMENT SYSTEM 08:31:51 04-05-23 Page 1
 SEWAGE TREATMENT WORKS MONITORING RESULTS
 FOR JANUARY 2023

Day	S.P Hours	Settleable Solids ml		Pasveer pH	Effl. pH	MLSS Wkly. mg/l	Ammonia Wkly. mg/l	Nitrate Wkly. mg/l	Volat SS mg/l	D.O Effl. mg/l	BOD Effl. mg/l	Colour	Condition
		.5hr	1hr										
1													
2													
3	0.50	200	150	6.5	6.6	1930	0.53	25	1250	4.1		BROWN	CLEAR
4	0.13	200	160	6.6	6.6					3.9		BROWN	CLEAR
5													
6	0.23	180	140	6.4	6.6					4.2		BROWN	CLEAR
7													
8													
9	0.36	200	160	6.6	6.7	1810	0.56	25		5.2		BROWN	CLEAR
10													
11	0.21	180	140	6.5	6.6					5.0		BROWN	CLEAR
12													
13	0.22	160	140	6.4	6.5					3.8		BROWN	CLEAR
14													
15													
16	0.35	220	180	6.5	6.6	2325	0.74	50		4.8		BROWN	CLEAR
17													
18	0.22	200	160	6.4	6.5					4.2		BROWN	CLEAR
19													
20	0.20	180	140	6.5	6.6					4.5		BROWN	CLEAR
21													
22													
23	0.35	160	130	6.4	6.4	2560	0.30	50		5.0		BROWN	CLEAR
24													
25	0.24	180	140	6.5	6.6					4.9		BROWN	CLEAR
26													
27	0.20	180	140	6.4	6.6					4.2		BROWN	CLEAR
28													
29													
30	0.36	200	160	6.5	6.5	1520	0.45	50		3.6		BROWN	CLEAR
31													

Comments

End of report

EVR860

TOMAGO ALUMINIUM COMPANY PTY. LIMITED (A.C.N. 001 862 228)
 ENVIRONMENT SYSTEM
 MATURATION POND AND IRRIGATION SYSTEM REPORT
 FOR JANUARY 2023

08:29:02 04-05-23 Page 1

EPA point 17

	Maturation Pond						Irrigation System		
	pH	Cond uS/cm	Fluoride mg/L	BOD Effl. mg/L	Suspend. Solids mg/L	E-Coli Count/ 100mL	Avg kL/day to sewer	Total kL Irrigated	mm/week Irrigated
1								0	
2								0	
3	6.7	730	4.6			435		1321	
4							10	682	26
5								0	
6								1288	
7								0	
8								0	
9	7.2	820	4.5			340		426	
10								0	
11							8	1193	20
12								0	
13								1230	
14								0	
15								0	
16	7.0	770	4.6			385		951	
17								0	
18							8	797	20
19								0	
20								1410	
21								0	
22								0	
23	7.1	920	5.0			290		1340	
24								0	
25							8	748	24
26								0	
27								1430	
28								0	
29								0	
30	7.2	830	5.1			543		1618	
31								0	
Total								14434.00	

BOD = Biological Oxygen Demand
 nra = No result available

End of report

TOMAGO ALUMINIUM COMPANY PTY. LIMITED (A.C.N. 001 862 228)
 ENVIRONMENT SYSTEM 07:26:42 05-05-23 Page 1
 SEWAGE TREATMENT WORKS MONITORING RESULTS
 FOR FEBRUARY 2023

Day	S.P	Settleable		Pasveer	Effl.	MLSS	Ammonia	Nitrate	Volat	D.O	BOD	Colour	Condition
	Hours	Solids ml		pH	pH	Wkly.	Wkly.	Wkly.	SS	Effl.	Effl.		
		.5hr	1hr			mg/l	mg/l	mg/l	mg/l		mg/l		
1	0.25	200	180	6.3	7.4					4.0		BROWN	CLEAR
2													
3	0.22	180	170	6.8	7.0					5.9		BROWN	CLEAR
4													
5													
6	0.00												
7	0.38	180	160	7.1	7.3	3030	0.45	50	2015	5.5		BROWN	CLEAR
8	0.08	150	100	6.3	6.3					7.4		BROWN	CLEAR
9													
10	0.27	100	90	6.5	6.7					2.8		BROWN	CLEAR
11													
12													
13	0.32	100	80	6.8	6.7	440	0.45	25		5.1		BROWN	CLEAR
14													
15	0.19	110	90	6.4	6.4					3.7		BROWN	CLEAR
16													
17	0.23	100	90	6.6	6.6					1.5	12	BROWN	CLEAR
18													
19													
20	0.28	11	100	6.6	6.7	1690	0.36	25		2.7		BROWN	CLEAR
21													
22	0.19	80	70	6.7	6.6					3.7		BROWN	CLEAR
23													
24	0.21	150	130	6.8	6.8					3.0		BROWN	CLEAR
25													
26													
27	0.00	150	140	6.6	6.7	1010	0.43	25		2.3		BROWN	CLEAR
28													

Comments

End of report

EVR860

TOMAGO ALUMINIUM COMPANY PTY. LIMITED (A.C.N. 001 862 228)
 ENVIRONMENT SYSTEM
 MATURATION POND AND IRRIGATION SYSTEM REPORT
 FOR FEBRUARY 2023

08:29:33 04-05-23 Page 1

EPA point 17

	Maturation Pond						Irrigation System		
	pH	Cond uS/cm	Fluoride mg/L	BOD Effl. mg/L	Suspend. Solids mg/L	E-Coli Count/ 100mL	Avg kL/day to sewer	Total kL Irrigated	mm/week Irrigated
1							8	1076	28
2								0	
3								744	
4								0	
5								0	
6						550		0	
7	7.6	870	4.8					1523	
8							418	852	21
9								0	
10								683	
11								0	
12								0	
13	7.6	820	4.6			1075		1540	
14								0	
15								395	18
16								0	
17				4	35			1397	
18								0	
19								0	
20	7.5	870	4.8			505		496	
21								0	
22							7	1263	21
23								0	
24								1236	
25								0	
26								0	
27	7.1	800	4.5			0		503	
28								0	
Total								11708.00	

BOD = Biological Oxygen Demand
 nra = No result available

End of report

TOMAGO ALUMINIUM COMPANY PTY. LIMITED (A.C.N. 001 862 228)
 ENVIRONMENT SYSTEM 08:32:11 04-05-23 Page 1
 SEWAGE TREATMENT WORKS MONITORING RESULTS
 FOR MARCH 2023

Day	S.P Hours	Settleable Solids ml		Pasveer pH	Effl. pH	MLSS Wkly. mg/l	Ammonia Wkly. mg/l	Nitrate Wkly. mg/l	Volat SS mg/l	D.O Effl. mg/l	BOD Effl. mg/l	Colour	Condition
		.5hr	1hr										
1	0.52	180	140	6.5	6.6					3.2		BROWN	CLEAR
2													
3	0.23	180	150	6.4	6.5					3.6		BROWN	CLEAR
4													
5													
6	0.28	180	140	6.6	6.7	1800	0.22	50	1505	4.2		BROWN	CLEAR
7													
8	0.21	170	140	6.6	6.8					3.8		BROWN	CLEAR
9													
10	0.21	180	150	6.5	6.7					3.1		BROWN	CLEAR
11													
12													
13	0.34	200	160	6.3	6.6	2180	2.54	25		2.0		BROWN	CLEAR
14													
15	0.23	200	150	6.5	6.6					2.8		BROWN	CLEAR
16	0.11	180	140	6.4	6.5					3.9		BROWN	CLEAR
17													
18													
19													
20	0.47	220	160	6.5	6.7	2090	0.74	25		4.1		BROWN	CLEAR
21													
22	0.24	200	150	6.4	6.5					4.8		BROWN	CLEAR
23													
24	0.28	180	150	6.6	6.6					3.6		BROWN	CLEAR
25													
26													
27	0.34	180	140	6.7	6.8	1625	0.32	25		2.7		BROWN	CLEAR
28													
29	0.28	180	150	6.6	6.8					3.4		BROWN	CLEAR
30													
31	0.29	200	160	6.5	6.7					3.6		BROWN	CLEAR

Comments

End of report

EVR860

TOMAGO ALUMINIUM COMPANY PTY. LIMITED (A.C.N. 001 862 228)
 ENVIRONMENT SYSTEM
 MATURATION POND AND IRRIGATION SYSTEM REPORT
 FOR MARCH 2023

08:29:34 04-05-23 Page 1

EPA point 17

	Maturation Pond						Irrigation System		
	pH	Cond uS/cm	Fluoride mg/L	BOD Effl. mg/L	Suspend. Solids mg/L	E-Coli Count/ 100mL	Avg kL/day to sewer	Total kL Irrigated	mm/week Irrigated
1							8	1161	20
2								0	
3								1310	
4								0	
5								0	
6	7.1	860	4.8			140		1099	
7								0	
8							7	989	23
9								0	
10								894	
11								0	
12								0	
13	7.0	890	5.0			340		1172	
14								0	
15							8	1347	23
16								544	
17								0	
18								0	
19								0	
20	7.0	860	4.8			570		764	
21								0	
22							8	1554	19
23								0	
24								1014	
25								0	
26								0	
27	6.8	800	4.3			20		1956	
28								0	
29							9	291	22
30								0	
31								1750	
Total								15845.00	

BOD = Biological Oxygen Demand
 nra = No result available

End of report

TOMAGO ALUMINIUM COMPANY PTY. LTD.
DRAIN TO HUNTER RIVER
MONITORING REPORT
Apr 2023 (Point 35)

DATE	pH Ave	Cond uS/cm Av.	SoL F mg/L Av.	PAH mg/L	TRH mg/L	FLOW (to Hunter River)		Rainfall mm
						L/sec Av.	kL/day Av.	
1-Apr	NF	NF	NF	NF	NF	0	0	3.5
2-Apr	NF	NF	NF	NF	NF	0	0	3.0
3-Apr	NF	NF	NF	NF	NF	0	0	16.0
4-Apr	6.1	230	48	NR	NR	77	6622	7.5
5-Apr	6.1	230	54	0.0005	0.05	19	1666	0.0
6-Apr	6.2	230	56	NR	NR	18	1590	0.0
7-Apr	6.3	230	60	NR	NR	0	35	8.0
8-Apr	6.2	230	63	NR	NR	1	61	0.0
9-Apr	NF	NF	NF	NF	NF	0	0	0.0
10-Apr	NF	NF	NF	NF	NF	0	0	0.0
11-Apr	NF	NF	NF	NF	NF	0	0	0.0
12-Apr	6.4	190	60	NR	NR	8	689	6.0
13-Apr	6.0	190	53	0.0005	0.05	237	20471	17.0
14-Apr	6.2	190	51	NR	NR	177	15297	11.0
15-Apr	6.3	190	46	NR	NR	23	1990	0.0
16-Apr	6.3	190	48	NR	NR	11	936	0.0
17-Apr	6.4	190	49	NR	NR	7	573	0.0
18-Apr	6.5	190	50	NR	NR	6	523	0.0
19-Apr	6.6	240	52	NR	NR	6	480	0.0
20-Apr	6.3	240	49	NR	NR	127	10932	25.0
21-Apr	6.3	240	51	0.0005	0.05	18	1522	0.5
22-Apr	NF	NF	NF	NF	NF	0	0	2.5
23-Apr	6.3	240	55	NR	NR	2	140	1.5
24-Apr	6.3	240	57	0.0005	0.05	0	41	0.0
25-Apr	NF	NF	NF	NF	NF	0	0	0.5
26-Apr	NF	NF	NF	NF	NF	0	0	0.0
27-Apr	NF	NF	NF	NF	NF	0	0	0.0
28-Apr	NF	NF	NF	NF	NF	0	0	0.0
29-Apr	6.4	250	62	NR	NR	16	1383	7.0
30-Apr	6.2	250	69	NR	NR	15	1285	0.5
Monthly Av.	6.3	220	52	<0.001	<0.1	45	3486	109.5 (total)

NF = No Flow Over Weir
 NRA = No Result Available
 NR = Not Required

Indicates 1/2 LOR used
 Volume weighted average

Days of overflow 19

TOMAGO ALUMINIUM COMPANY PTY. LTD.
DRAIN TO HUNTER RIVER
MONITORING REPORT
May 2023 (Point 35)

DATE	pH Ave	Cond uS/cm Av.	SoL F mg/L Av.	PAH mg/L	TRH mg/L	FLOW (to Hunter River)		Rainfall mm
						L/sec Av.	kL/day Av.	
1-May	6.4	250	62	0.0005	0.05	7	610	0.0
2-May	NF	NF	NF	NF	NF	0	0	0.0
3-May	NF	NF	NF	NF	NF	0	0	0.0
4-May	NF	NF	NF	NF	NF	0	0	0.0
5-May	NF	NF	NF	NF	NF	0	0	0.0
6-May	NF	NF	NF	NF	NF	0	0	0.0
7-May	NF	NF	NF	NF	NF	0	0	1.5
8-May	NF	NF	NF	NF	NF	0	0	2.0
9-May	NF	NF	NF	NF	NF	0	0	0.0
10-May	NF	NF	NF	NF	NF	0	0	0.0
11-May	NF	NF	NF	NF	NF	0	0	0.0
12-May	NF	NF	NF	NF	NF	0	0	0.0
13-May	6.6	270	45	NRA	NRA	39	3344	4.0
14-May	6.6	270	46	NR	NR	2	177	0.5
15-May	NF	NF	NF	NF	NF	0	0	0.0
16-May	NF	NF	NF	NF	NF	0	0	0.0
17-May	6.4	300	56	0.0005	0.05	83	7211	13.5
18-May	6.6	300	59	NR	NR	15	1267	1.5
19-May	NF	NF	NF	NF	NF	0	0	0.0
20-May	NF	NF	NF	NF	NF	0	0	0.0
21-May	NF	NF	NF	NF	NF	0	0	0.0
22-May	NF	NF	NF	NF	NF	0	0	0.0
23-May	NF	NF	NF	NF	NF	0	0	0.0
24-May	NF	NF	NF	NF	NF	0	0	0.0
25-May	NF	NF	NF	NF	NF	0	0	0.0
26-May	6.5	220	52	0.0005	0.05	250	21621	28.0
27-May	6.5	220	49	NR	NR	3	298	0.0
28-May	NF	NF	NF	NF	NF	0	0	0.5
29-May	NF	NF	NF	NF	NF	0	0	0.0
30-May	NF	NF	NF	NF	NF	0	0	0.0
31-May	NF	NF	NF	NF	NF	0	0	0.0
Monthly Av.	6.5	261	52	<0.001	<0.1	57	4933	51.5 (total)

NF = No Flow Over Weir
 NRA = No Result Available
 NR = Not Required

Indicates 1/2 LOR used
 Volume weighted average

Days of overflow 7

TOMAGO ALUMINIUM COMPANY PTY. LTD.
DRAIN TO HUNTER RIVER
MONITORING REPORT
Jun 2023 (Point 35)

DATE	pH Ave	Cond uS/cm Av.	SoL F mg/L Av.	PAH mg/L	TRH mg/L	FLOW (to Hunter River)		Rainfall mm
						L/sec Av.	kL/day Av.	
1-Jun	NF	NF	NF	NF	NF	0	0	0.0
2-Jun	NF	NF	NF	NF	NF	0	0	0.0
3-Jun	NF	NF	NF	NF	NF	0	0	0.0
4-Jun	NF	NF	NF	NF	NF	0	0	0.0
5-Jun	NF	NF	NF	NF	NF	0	0	0.0
6-Jun	NF	NF	NF	NF	NF	0	0	0.0
7-Jun	NF	NF	NF	NF	NF	0	0	0.0
8-Jun	NF	NF	NF	NF	NF	0	0	0.5
9-Jun	NF	NF	NF	NF	NF	0	0	0.5
10-Jun	NF	NF	NF	NF	NF	0	0	0.0
11-Jun	NF	NF	NF	NF	NF	0	0	NRA
12-Jun	NF	NF	NF	NF	NF	0	0	NRA
13-Jun	NF	NF	NF	NF	NF	0	0	0.0
14-Jun	NF	NF	NF	NF	NF	0	0	0.5
15-Jun	NF	NF	NF	NF	NF	0	0	0.0
16-Jun	NF	NF	NF	NF	NF	0	0	0.0
17-Jun	NF	NF	NF	NF	NF	0	0	0.0
18-Jun	NF	NF	NF	NF	NF	0	0	NRA
19-Jun	NF	NF	NF	NF	NF	0	0	0.0
20-Jun	NF	NF	NF	NF	NF	0	0	0.0
21-Jun	NF	NF	NF	NF	NF	0	0	0.0
22-Jun	NF	NF	NF	NF	NF	0	0	0.5
23-Jun	NF	NF	NF	NF	NF	0	0	2.0
24-Jun	NF	NF	NF	NF	NF	0	0	0.0
25-Jun	NF	NF	NF	NF	NF	0	0	0.0
26-Jun	NF	NF	NF	NF	NF	0	0	0.0
27-Jun	NF	NF	NF	NF	NF	0	0	0.0
28-Jun	NF	NF	NF	NF	NF	0	0	1.5
29-Jun	NF	NF	NF	NF	NF	0	0	0.0
30-Jun	NF	NF	NF	NF	NF	0	0	0.0
Monthly Av.	NF	NF	NF	NF	NF	NF	NF	5.5 (total)

NF = No Flow Over Weir
 NRA = No Result Available
 NR = Not Required

 Indicates 1/2 LOR used
 Volume weighted average

Days of overflow 0

Q2 2022 Stormwater Discharge Data (EPA Point 16)

Discharge Date	pH	F (mg/L)	Cond. (uS/cm)	Suspended Solids (mg/L)	kL	PAH (mg/L)	TRH (mg/L)
There were no controlled stormwater discharges during Quarter 2, 2023							

NR= Not Required

ENVIRONMENT SYSTEM
WATER AND VEGETATION MONITORING FOR JUNE 2023

PAGE: 1

RESULTS BY SAMPLING GROUP

500 - SURFACE WATER

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

1	001	Surface Water	PH	6.2	6.3	nra	nra	5.7	6.1	6.7	6.5						
		Surface Water	SOL F mg/L	4.27	6.92	nra	nra	7.63	7.13	6.28	6.63						
		Surface Water	COND uS/cm	337	399	nra	nra	57	580	350	610						
2	002	Surface Water	PH	6.1	nra	nra	nra	nra	nra	nra	nra						
		Surface Water	SOL F mg/L	0.99	nra	nra	nra	nra	nra	nra	nra						
		Surface Water	COND uS/cm	290	nra	nra	nra	nra	nra	nra	nra						
3	003	Surface Water	PH	5.5	5.4	5.0	nra	nra	5.2	5.8	5.6						
		Surface Water	SOL F mg/L	1.44	1.13	0.57	nra	nra	1.05	1.28	1.60						
		Surface Water	COND uS/cm	236	116	97	nra	nra	74	82	210						
4	004	Surface Water	PH	6.7	6.5	nra	nra	6.4	6.3	6.7	6.6						
		Surface Water	SOL F mg/L	2.86	2.90	nra	nra	3.53	3.13	2.74	2.19						
		Surface Water	COND uS/cm	289	2125	nra	nra	3800	2000	1500	1200						
5	005	Surface Water	PH	7.5	7.8	8.0	8.0	8.2	7.4	7.9	7.5						
		Surface Water	SOL F mg/L	0.54	0.92	1.21	0.63	0.42	0.99	1.65	0.59						
		Surface Water	COND uS/cm	4362	25333	28000	21000	11100	36000	36000	19900						
6	006	Surface Water	PH	7.6	8.0	8.2	8.3	8.1	7.5	8.0	8.1						
		Surface Water	SOL F mg/L	0.36	0.66	0.84	0.48	0.41	0.74	0.87	0.64						
		Surface Water	COND uS/cm	2029	21017	18000	15900	11200	28000	29000	24000						
7	007	Surface Water	PH	6.9	7.3	7.2	7.5	7.7	7.7	7.0	6.9						
		Surface Water	SOL F mg/L	1.03	1.33	1.49	1.21	1.19	1.07	1.46	1.57						
		Surface Water	COND uS/cm	538	542	620	360	450	610	350	860						
8	009	Surface Water	PH	4.8	5.4	4.8	5.3	5.1	5.0	5.6	6.5						
		Surface Water	SOL F mg/L	0.23	0.23	0.37	0.14	0.14	0.17	0.31	0.23						
		Surface Water	COND uS/cm	155	150	160	160	150	140	140	150						
9	011	Surface Water	PH	6.5	6.3	6.5	6.9	6.8	5.6	6.0	6.2						
		Surface Water	SOL F mg/L	0.41	0.38	0.57	0.33	0.26	0.16	0.66	0.27						
		Surface Water	COND uS/cm	229	305	270	520	340	210	210	280						
10	017	Surface Water	PH	7.2	7.0	q	6.5	q	q	7.5	q						
		Surface Water	SOL F mg/L	0.21	0.21	q	0.12	q	q	0.29	q						
		Surface Water	COND uS/cm	233	215	q	210	q	q	220	q						
11	034	Surface Water	PH	7.5	6.9	nra	6.9	7.0	6.7	7.0	6.9						
		Surface Water	SOL F mg/L	0.29	0.23	nra	0.10	0.10	0.68	0.17	0.10						
		Surface Water	COND uS/cm	309	290	nra	330	310	190	310	310						
12	178	Surface Water	PH	8.3	9.4	9.3	9.2	nra	nra	9.3	9.8						
		Surface Water	SOL F mg/L	0.77	1.07	1.29	1.01	nra	nra	1.11	0.88						
		Surface Water	COND uS/cm	190	150	150	150	nra	nra	160	140						

nra = No Result Available

tba = To Be Analysed

c = Result Being Checked

q = Samples collected quarterly

ALY = Average Last Year

AYTD = Average Year To Date

ENVIRONMENT SYSTEM
BORE WATER REPORTING FOR 2023

PAGE: 1

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	053	DEPTH 5M	PH	nra	5.6	s	s	s	5.6	s	s						
		DEPTH 5M	COND US/CM	nra	192.0	s	s	s	192.0	s	s						
		DEPTH 5M	SOL F MG/L	nra	0.05	s	s	s	0.05	s	s						
		DEPTH 9M	PH	nra	5.7	s	s	s	5.7	s	s						
		DEPTH 9M	COND US/CM	nra	193.0	s	s	s	193.0	s	s						
		DEPTH 9M	SOL F MG/L	nra	0.05	s	s	s	0.05	s	s						
		DEPTH 13.5M	PH	nra	5.7	s	s	s	5.7	s	s						
		DEPTH 13.5M	COND US/CM	nra	195.0	s	s	s	195.0	s	s						
		DEPTH 13.5M	SOL F MG/L	nra	0.05	s	s	s	0.05	s	s						
2	054	DEPTH 6M	PH	4.9	5.2	s	s	s	5.2	s	s						
		DEPTH 6M	COND US/CM	131.5	110.0	s	s	s	110.0	s	s						
		DEPTH 6M	SOL F MG/L	0.05	0.05	s	s	s	0.05	s	s						
		DEPTH 10M	PH	5.0	5.2	s	s	s	5.2	s	s						
		DEPTH 10M	COND US/CM	128.5	109.0	s	s	s	109.0	s	s						
		DEPTH 10M	SOL F MG/L	0.05	0.05	s	s	s	0.05	s	s						
		DEPTH 14M	PH	5.0	5.2	s	s	s	5.2	s	s						
		DEPTH 14M	COND US/CM	129.5	110.0	s	s	s	110.0	s	s						
		DEPTH 14M	SOL F MG/L	0.05	0.05	s	s	s	0.05	s	s						
3	055	DEPTH 7M	PH	6.0	6.2	s	s	s	6.2	s	s						
		DEPTH 7M	COND US/CM	725.0	820.0	s	s	s	820.0	s	s						
		DEPTH 7M	SOL F MG/L	0.05	0.05	s	s	s	0.05	s	s						
4	056	DEPTH 6M	PH	5.2	6.4	s	s	s	6.4	s	s						
		DEPTH 6M	COND US/CM	74.0	298.0	s	s	s	298.0	s	s						
		DEPTH 6M	SOL F MG/L	0.05	0.05	s	s	s	0.05	s	s						
5	057	DEPTH 7M	PH	6.4	5.7	s	s	s	5.7	s	s						
		DEPTH 7M	COND US/CM	280.0	228.0	s	s	s	228.0	s	s						
		DEPTH 7M	SOL F MG/L	0.05	0.05	s	s	s	0.05	s	s						
6	062	DEPTH 6M	PH	5.7	5.6	5.6	5.7	s	5.7	5.5	s						
		DEPTH 6M	COND US/CM	474.8	366.3	299.0	283.0	s	313.0	570.0	s						
		DEPTH 6M	SOL F MG/L	0.13	0.11	0.05	0.05	s	0.30	0.05	s						
7	063	DEPTH 5M	PH	4.9	5.0	4.8	4.8	s	5.4	5.0	s						
		DEPTH 5M	COND US/CM	150.5	157.8	129.0	135.0	s	213.0	154.0	s						
		DEPTH 5M	SOL F MG/L	0.86	0.83	0.90	1.00	s	0.80	0.60	s						
		DEPTH 10M	PH	5.0	4.8	4.7	4.7	s	4.9	4.9	s						
		DEPTH 10M	COND US/CM	151.5	133.8	129.0	135.0	s	113.0	158.0	s						
		DEPTH 10M	SOL F MG/L	0.78	0.93	0.90	1.00	s	1.20	0.60	s						

nra = No Result Available
tba = To Be Analysed
c = Result Being Checked
s = Samples collected six-monthly
ALY = Average Last Year
AYTD = Average Year To Date

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	254	REDUCED LEVEL TOP OF PIPE 7.29m															
		REDUCED LVL GROUNDWATER m		4.5	4.18	4.22	4.23	4.19	4.29	4.12	4.03						
		DEPTH TOP	PH	5.2	5.2	5.3	5.3	5.4	5.1	4.9	5.3						
		DEPTH TOP	COND US/CM	100.4	92.7	92	86	96	91	94	97						
		DEPTH TOP	SOL F mg/L	9.63	8.47	8.97	7.48	8.52	8.92	8.32	8.62						
2	255	REDUCED LEVEL TOP OF PIPE 7.36m															
		REDUCED LVL GROUNDWATER m		4.3	3.96	4.01	4.06	3.80	4.10	3.94	3.85						
		DEPTH TOP	PH	5.4	5.1	5.2	5.4	5.2	5.1	4.9	4.9						
		DEPTH TOP	COND US/CM	301.6	310.3	302	308	322	317	297	316						
		DEPTH TOP	SOL F mg/L	4.98	5.25	5.09	5.14	5.98	5.88	4.54	4.88						
3	256	REDUCED LEVEL TOP OF PIPE 5.82m															
		REDUCED LVL GROUNDWATER m		4.0	3.74	3.72	3.87	3.78	3.82	3.65	3.59						
		DEPTH TOP	PH	6.1	5.9	5.9	6.3	6.0	6.0	5.7	5.6						
		DEPTH TOP	COND US/CM	493.6	611.5	532	532	607	648	670	680						
		DEPTH TOP	SOL F mg/L	4.28	4.27	4.79	4.14	4.44	4.84	3.64	3.79						
4	258	REDUCED LEVEL TOP OF PIPE 4.04m															
		REDUCED LVL GROUNDWATER m		2.5	2.39	2.17	2.48	2.48	2.50	2.34	2.36						
		DEPTH TOP	PH	5.8	5.5	5.4	5.6	5.7	5.6	5.1	5.7						
		DEPTH TOP	COND US/CM	234.8	355.8	302	357	396	391	370	319						
		DEPTH TOP	SOL F mg/L	4.67	6.49	6.13	6.53	7.13	6.93	6.08	6.13						
5	259	REDUCED LEVEL TOP OF PIPE 4.44m															
		REDUCED LVL GROUNDWATER m		2.4	2.32	2.26	2.36	2.38	2.37	2.29	2.24						
		DEPTH TOP	PH	5.3	5.3	5.2	5.2	5.3	5.6	4.9	5.3						
		DEPTH TOP	COND US/CM	468.1	344.2	445	394	325	302	302	297						
		DEPTH TOP	SOL F mg/L	0.12	0.14	0.16	<0.10	0.22	0.12	0.15	<0.10						
6	260	REDUCED LEVEL TOP OF PIPE 4.25m															
		REDUCED LVL GROUNDWATER m		2.3	2.20	2.15	2.24	2.22	2.26	2.21	2.14						
		DEPTH TOP	PH	5.6	5.6	5.6	5.7	5.6	5.8	5.1	5.9						
		DEPTH TOP	COND US/CM	655.6	701.7	734	737	664	696	690	689						
		DEPTH TOP	SOL F mg/L	17.17	16.70	18.1	14.9	14.9	17.9	16.4	18.0						
7	261	REDUCED LEVEL TOP OF PIPE 5.22m															
		REDUCED LVL GROUNDWATER m		2.9	2.79	2.72	2.92	2.82	2.89	2.73	2.67						
		DEPTH TOP	PH	5.8	5.7	6.4	5.9	5.6	5.7	5.3	5.5						
		DEPTH TOP	COND US/CM	408.8	316.0	314	299	287	317	340	339						
		DEPTH TOP	SOL F mg/L	1.56	1.70	1.61	1.42	1.82	1.82	1.73	1.77						
8	262	REDUCED LEVEL TOP OF PIPE 3.20m															
		REDUCED LVL GROUNDWATER m		2.5	2.40	2.37	2.48	2.37	2.48	2.40	2.33						
		DEPTH TOP	PH	6.3	6.1	6.4	6.3	6.3	5.7	5.9	6.2						
		DEPTH TOP	COND US/CM	275.7	273.3	271	275	270	260	279	285						
		DEPTH TOP	SOL F mg/L	50.78	51.62	55.5	47.3	48.5	62.8	48.1	47.5						

EVR454B

TOMAGO ALUMINIUM CO PTY LTD (A.C.N. 001 862 228)
 ENVIRONMENT SYSTEM
 BORE WATER REPORTING FOR 2023

13:28:43 27 JUL 2023
 PAGE: 3

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
9	263	REDUCED LEVEL TOP OF PIPE 4.08m															
		REDUCED LVL GROUNDWATER m		2.3	2.18	2.13	2.36	2.17	2.24	2.11	2.08						
		DEPTH TOP	PH	6.1	5.9	5.9	6.2	6.1	5.8	5.8	5.8						
		DEPTH TOP	COND US/CM	398.8	287.3	352	265	263	267	290	287						
		DEPTH TOP	SOL F mg/L	40.39	43.58	40.1	34.5	44.0	54.3	43.6	45.0						
10	264	REDUCED LEVEL TOP OF PIPE 6.40m															
		REDUCED LVL GROUNDWATER m		3.3	3.12	3.10	3.17	3.10	3.23	3.10	3.04						
		DEPTH TOP	PH	5.7	5.5	5.7	5.5	5.4	5.4	4.9	6.0						
		DEPTH TOP	COND US/CM	279.5	257.3	283	287	256	249	233	236						
		DEPTH TOP	SOL F mg/L	0.52	0.21	0.26	0.20	0.26	0.20	0.19	0.13						
11	266	REDUCED LEVEL TOP OF PIPE 6.85m															
		REDUCED LVL GROUNDWATER m		4.5	4.41	q	4.40	q	q	4.43	q						
		DEPTH TOP	PH	5.6	5.4	q	5.7	q	q	5.1	q						
		DEPTH TOP	COND US/CM	290.0	247.0	q	264	q	q	230	q						
		DEPTH TOP	SOL F mg/L	0.24	0.11	q	<0.10	q	q	0.12	q						
12	268	REDUCED LEVEL TOP OF PIPE 7.44m															
		REDUCED LVL GROUNDWATER m		5.5	5.17	5.03	5.18	5.16	5.43	5.19	5.06						
		DEPTH TOP	PH	6.6	6.5	6.6	6.6	6.5	6.6	6.2	6.6						
		DEPTH TOP	COND US/CM	532.8	648.0	540	595	624	675	760	694						
		DEPTH TOP	SOL F mg/L	9.50	9.45	12.1	10.6	10.1	9.07	6.58	8.22						

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2	218	REDUCED LEVEL TOP OF PIPE 6.57m															
		REDUCED LVL GROUNDWATER m		4.0	3.82	3.85	3.88	3.82	3.89	3.77	3.70						
		PH		5.6	5.3	5.1	5.6	5.3	5.4	5.0	5.6						
		COND US/CM		422.9	455.7	275.0	295.0	591.0	612.0	532.0	429.0						
		SOL F mg/L		0.17	0.14	0.17	0.10	0.11	0.10	0.24	0.10						
3	219	REDUCED LEVEL TOP OF PIPE 6.75m															
		REDUCED LVL GROUNDWATER m		5.9	5.53	5.64	5.49	5.73	5.65	5.42	5.27						
		PH		4.4	4.2	3.8	4.3	4.2	4.3	4.1	4.4						
		COND US/CM		192.4	204.2	206.0	190.0	206.0	202.0	206.0	215.0						
		SOL F mg/L		0.71	0.30	0.32	0.19	0.29	0.26	0.32	0.44						
4	220	REDUCED LEVEL TOP OF PIPE 7.03m															
		REDUCED LVL GROUNDWATER m		5.7	5.40	5.46	5.36	5.56	5.49	5.30	5.23						
		PH		5.0	4.7	4.4	5.0	4.6	4.8	4.5	4.8						
		COND US/CM		178.0	153.3	156.0	148.0	155.0	150.0	152.0	159.0						
		SOL F mg/L		3.19	3.26	3.69	3.19	3.44	2.99	2.84	3.39						
5	221	REDUCED LEVEL TOP OF PIPE 8.73m															
		REDUCED LVL GROUNDWATER m		6.1	6.16	6.02	5.97	6.04	6.09	6.98	5.88						
		PH		5.1	4.8	4.5	5.2	4.8	5.0	4.6	4.9						
		COND US/CM		177.5	160.7	155.0	160.0	160.0	165.0	162.0	162.0						
		SOL F mg/L		7.62	7.09	6.73	8.13	6.58	6.88	6.88	7.33						
6	224	REDUCED LEVEL TOP OF PIPE 9.54m															
		REDUCED LVL GROUNDWATER m		5.3	5.02	q	5.07	q	q	4.97	q						
		PH		5.7	5.6	q	6.0	q	q	5.2	q						
		COND US/CM		275.5	288.0	q	309.0	q	q	267.0	q						
		SOL F mg/L		8.02	3.57	q	3.69	q	q	3.44	q						
7	227	REDUCED LEVEL TOP OF PIPE 9.88m															
		REDUCED LVL GROUNDWATER m		5.5	5.38	q	5.43	q	q	5.33	q						
		PH		5.7	5.4	q	5.7	q	q	5.0	q						
		COND US/CM		614.5	547.0	q	551.0	q	q	543.0	q						
		SOL F mg/L		1.20	0.71	q	0.72	q	q	0.70	q						
8	228	REDUCED LEVEL TOP OF PIPE 10.09m															
		REDUCED LVL GROUNDWATER m		5.1	4.98	q	5.04	q	q	4.93	q						
		PH		5.8	5.5	q	5.8	q	q	5.2	q						
		COND US/CM		290.0	255.5	q	248.0	q	q	263.0	q						
		SOL F mg/L		7.65	6.36	q	5.78	q	q	6.93	q						

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
9	230	REDUCED LEVEL TOP OF PIPE 10.14m															
		REDUCED LVL GROUNDWATER m		5.3	5.20	q	5.26	q	q	5.15	q						
		PH		6.0	5.6	q	5.8	q	q	5.3	q						
		COND US/CM		338.0	318.0	q	318.0	q	q	318.0	q						
		SOL F mg/L		3.66	2.14	q	2.19	q	q	2.09	q						
10	231	REDUCED LEVEL TOP OF PIPE 9.53m															
		REDUCED LVL GROUNDWATER m		4.8	4.59	q	4.63	q	q	4.55	q						
		PH		5.8	5.5	q	5.7	q	q	5.2	q						
		COND US/CM		393.3	356.5	q	375.0	q	q	338.0	q						
		SOL F mg/L		11.52	11.80	q	12.60	q	q	11.00	q						
11	233	REDUCED LEVEL TOP OF PIPE 9.22m															
		REDUCED LVL GROUNDWATER m		4.7	4.46	q	4.53	q	q	4.40	q						
		PH		5.9	5.6	q	5.8	q	q	5.3	q						
		COND US/CM		430.5	471.5	q	448.0	q	q	495.0	q						
		SOL F mg/L		41.98	18.60	q	22.40	q	q	14.80	q						
12	234	REDUCED LEVEL TOP OF PIPE 7.60m															
		REDUCED LVL GROUNDWATER m		4.6	4.42	q	4.48	q	q	4.37	q						
		PH		5.7	5.4	q	5.6	q	q	5.2	q						
		COND US/CM		291.5	240.0	q	246.0	q	q	234.0	q						
		SOL F mg/L		3.58	1.58	q	1.33	q	q	1.82	q						
13	236	REDUCED LEVEL TOP OF PIPE 9.05m															
		REDUCED LVL GROUNDWATER m		5.6	5.32	5.41	5.41	5.36	5.35	5.25	5.17						
		PH		5.6	5.4	5.5	5.8	5.4	5.4	4.9	5.5						
		COND US/CM		191.8	201.3	175.0	154.0	176.0	188.0	308.0	207.0						
		SOL F mg/L		7.48	5.73	5.29	4.79	4.79	5.78	6.13	7.58						
14	237	REDUCED LEVEL TOP OF PIPE 7.94m															
		REDUCED LVL GROUNDWATER m		5.3	4.66	4.94	4.75	4.60	4.62	4.61	4.47						
		PH		5.7	5.6	5.5	5.9	5.5	5.7	5.7	5.5						
		COND US/CM		260.8	258.3	264.0	234.0	255.0	255.0	277.0	265.0						
		SOL F mg/L		0.23	0.25	0.30	0.21	0.24	0.21	0.24	0.31						
15	238	REDUCED LEVEL TOP OF PIPE 6.54m															
		REDUCED LVL GROUNDWATER m		5.1	4.66	4.79	4.71	4.64	4.76	4.58	4.50						
		PH		5.5	5.0	5.1	5.4	4.6	5.1	5.0	4.9						
		COND US/CM		426.6	254.2	285.0	280.0	245.0	252.0	227.0	236.0						
		SOL F mg/L		4.35	3.48	4.74	2.84	2.26	5.33	2.29	3.39						

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
16	239	REDUCED LEVEL TOP OF PIPE 7.36m															
		REDUCED LVL GROUNDWATER m		4.3	4.08	4.12	4.13	4.14	4.09	4.06	3.92						
		PH		6.2	6.2	6.3	6.4	6.1	6.4	5.6	6.1						
		COND US/CM		725.1	728.5	735.0	656.0	811.0	799.0	731.0	639.0						
		SOL F mg/L		41.35	39.28	40.10	38.90	39.60	44.10	38.20	34.80						
17	241	REDUCED LEVEL TOP OF PIPE 4.48m															
		REDUCED LVL GROUNDWATER m		2.8	2.68	2.58	2.81	2.68	2.79	2.63	2.58						
		PH		5.5	5.5	5.8	5.7	5.3	5.5	5.4	5.5						
		COND US/CM		284.6	355.2	369.0	362.0	356.0	334.0	344.0	366.0						
		SOL F mg/L		1.39	1.05	1.23	1.19	1.27	1.18	0.95	0.50						
18	242	REDUCED LEVEL TOP OF PIPE 6.63m															
		REDUCED LVL GROUNDWATER m		5.0	4.58	4.35	4.61	4.57	4.85	4.60	4.48						
		PH		6.1	6.2	6.0	6.6	6.2	6.4	5.7	6.4						
		COND US/CM		299.0	333.8	190.0	207.0	296.0	309.0	681.0	320.0						
		SOL F mg/L		0.76	1.00	0.91	0.98	1.06	0.98	0.76	1.29						
19	243	REDUCED LEVEL TOP OF PIPE 7.41m															
		REDUCED LVL GROUNDWATER m		5.5	5.18	4.91	5.01	5.41	5.60	5.22	4.93						
		PH		6.0	6.0	6.0	6.0	5.9	6.1	5.6	6.1						
		COND US/CM		201.1	221.2	228.0	182.0	206.0	253.0	243.0	215.0						
		SOL F mg/L		5.82	6.49	8.28	5.43	6.63	5.13	5.68	7.78						
20	245	REDUCED LEVEL TOP OF PIPE 9.92m															
		REDUCED LVL GROUNDWATER m		5.4	5.29	q	5.31	q	q	5.27	q						
		PH		5.8	5.5	q	5.7	q	q	5.2	q						
		COND US/CM		332.8	278.0	q	285.0	q	q	271.0	q						
		SOL F mg/L		2.80	0.93	q	1.18	q	q	0.67	q						
21	247	REDUCED LEVEL TOP OF PIPE 9.29m															
		REDUCED LVL GROUNDWATER m		5.1	4.88	q	4.94	q	q	4.83	q						
		PH		5.7	5.1	q	5.4	q	q	4.8	q						
		COND US/CM		376.8	262.5	q	278.0	q	q	247.0	q						
		SOL F mg/L		5.59	0.41	q	0.72	q	q	0.10	q						
22	249	REDUCED LEVEL TOP OF PIPE 10.04m															
		REDUCED LVL GROUNDWATER m		5.2	5.11	q	5.14	q	q	5.09	q						
		PH		5.8	5.6	q	5.9	q	q	5.3	q						
		COND US/CM		380.5	356.5	q	365.0	q	q	348.0	q						
		SOL F mg/L		3.99	4.42	q	4.84	q	q	3.99	q						
23	250	REDUCED LEVEL TOP OF PIPE 10.10m															
		REDUCED LVL GROUNDWATER m		5.1	4.93	q	4.99	q	q	4.87	q						
		PH		5.8	5.6	q	5.8	q	q	5.3	q						
		COND US/CM		360.3	458.5	q	456.0	q	q	461.0	q						
		SOL F mg/L		14.78	7.51	q	8.58	q	q	6.43	q						

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
24	269	REDUCED LEVEL TOP OF PIPE 7.285m															
		REDUCED LVL GROUNDWATER m		5.4	5.04	4.91	5.04	5.11	5.21	5.07	4.92						
		PH		6.2	6.1	6.1	6.3	6.0	6.2	5.6	6.1						
		COND US/CM		587.0	628.3	498.0	468.0	776.0	463.0	727.0	838.0						
		SOL F mg/L		4.69	5.59	7.73	6.98	5.48	4.79	4.04	4.54						
25	272	REDUCED LEVEL TOP OF PIPE 6.910m															
		REDUCED LVL GROUNDWATER m		5.4	5.09	4.96	5.00	5.16	5.34	5.14	4.97						
		PH		5.6	5.6	5.7	5.8	5.5	5.6	5.0	5.8						
		COND US/CM		369.8	388.3	402.0	433.0	469.0	405.0	321.0	300.0						
		SOL F mg/L		9.60	6.58	8.03	10.40	6.48	4.54	4.39	5.63						
26	274	REDUCED LEVEL TOP OF PIPE 6.785m															
		REDUCED LVL GROUNDWATER m		5.0	4.66	4.49	4.76	4.73	4.80	4.64	4.53						
		PH		6.2	6.4	6.4	6.7	6.5	6.5	6.1	6.4						
		COND US/CM		559.5	475.7	422.0	423.0	387.0	440.0	591.0	591.0						
		SOL F mg/L		1.00	1.24	1.65	1.52	1.34	1.11	0.81	1.02						
27	276	REDUCED LEVEL TOP OF PIPE 6.272m															
		REDUCED LVL GROUNDWATER m		4.5	4.17	4.08	4.30	4.21	4.25	4.15	4.06						
		PH		6.1	6.2	6.2	6.4	6.3	6.3	5.9	6.2						
		COND US/CM		438.3	503.2	426.0	481.0	371.0	375.0	668.0	698.0						
		SOL F mg/L		1.30	1.69	1.48	1.29	2.72	2.02	1.30	1.31						
28	279	REDUCED LEVEL TOP OF PIPE 8.46m															
		REDUCED LVL GROUNDWATER m		5.5	5.15	5.29	5.21	5.07	5.20	5.08	5.05						
		PH		6.8	6.7	6.8	6.9	6.7	6.7	6.4	6.7						
		COND US/CM		1245	1112	1371	1205	1078	1032	1007	977.0						
		SOL F mg/L		57.95	51.62	73.80	50.10	48.90	50.90	42.00	44.00						
29	280	REDUCED LEVEL TOP OF PIPE 7.89m															
		REDUCED LVL GROUNDWATER m		5.4	5.13	5.11	5.08	5.39	5.10	4.98	nra						
		PH		6.7	6.2	6.7	6.6	5.2	6.5	6.1	nra						
		COND US/CM		363.1	876.8	653.0	714.0	1131	996.0	890.0	nra						
		SOL F mg/L		14.83	15.60	20.80	12.20	16.00	15.30	13.70	nra						
30	305	REDUCED LEVEL TOP OF PIPE 8.94m															
		REDUCED LVL GROUNDWATER m		5.6	5.25	q	5.40	q	q	5.10	q						
		PH		5.5	5.6	q	5.9	q	q	5.2	q						
		COND US/CM		250.3	300.0	q	210.0	q	q	390.0	q						
		SOL F mg/L		5.46	3.82	q	3.84	q	q	3.79	q						

#	SITE	SPECIES	TEST	ALY	AYTD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
31	306	REDUCED LEVEL TOP OF PIPE 9.27m															
		REDUCED LVL GROUNDWATER m		5.4	5.30	q	5.36	q	q	5.25	q						
		PH		5.7	5.6	q	5.8	q	q	5.3	q						
		COND US/CM		264.5	242.0	q	285.0	q	q	199.0	q						
		SOL F mg/L		11.98	8.35	q	9.67	q	q	7.03	q						
32	309	REDUCED LEVEL TOP OF PIPE 5.07m															
		REDUCED LVL GROUNDWATER m		2.6	2.64	3.27	2.58	2.60	2.56	2.46	2.38						
		PH		5.2	5.2	5.4	5.5	5.4	5.1	4.9	5.0						
		COND US/CM		136.8	96.0	79.0	84.0	88.0	105.0	107.0	113.0						
		SOL F mg/L		5.33	4.38	4.49	3.79	4.34	4.64	4.44	4.59						
33	310	REDUCED LEVEL TOP OF PIPE 7.42m															
		REDUCED LVL GROUNDWATER m		5.3	5.07	4.90	4.88	5.22	5.54	5.06	4.85						
		PH		4.6	4.4	4.3	4.5	4.3	4.9	4.0	4.2						
		COND US/CM		6504	4271	1551	3620	1375	4620	6990	7470						
		SOL F mg/L		0.53	0.44	0.70	0.16	0.65	0.42	0.36	0.32						
34	311	REDUCED LEVEL TOP OF PIPE 7.69m															
		REDUCED LVL GROUNDWATER m		4.9	4.50	4.58	4.60	4.51	4.57	4.41	4.33						
		PH		5.6	5.3	5.2	5.5	5.1	5.5	5.2	5.5						
		COND US/CM		145.2	147.8	138.0	141.0	118.0	113.0	156.0	221.0						
		SOL F mg/L		15.98	19.85	24.50	22.40	17.60	17.90	17.00	19.70						
35	312	REDUCED LEVEL TOP OF PIPE 4.42m															
		REDUCED LVL GROUNDWATER m		3.3	3.15	3.02	3.45	3.25	3.21	3.02	2.96						
		PH		6.0	5.6	5.5	5.9	5.8	5.7	5.4	5.4						
		COND US/CM		291.4	429.2	344.0	725.0	271.0	352.0	423.0	460.0						
		SOL F mg/L		9.45	13.22	18.10	13.60	10.90	12.50	11.80	12.40						
36	313	REDUCED LEVEL TOP OF PIPE 3.29m															
		REDUCED LVL GROUNDWATER m		1.5	1.57	1.41	2.13	1.51	1.50	1.45	1.41						
		PH		5.6	5.6	5.6	6.0	5.6	5.7	5.4	5.4						
		COND US/CM		272.8	293.3	270.0	264.0	265.0	302.0	322.0	337.0						
		SOL F mg/L		0.13	0.14	0.23	0.10	0.12	0.21	0.10	0.10						
37	314	REDUCED LEVEL TOP OF PIPE 3.18m															
		REDUCED LVL GROUNDWATER m		1.2	1.03	0.46	1.21	1.18	1.22	1.10	1.04						
		PH		6.4	6.4	6.3	6.5	6.7	6.4	6.0	6.2						
		COND US/CM		216.9	266.8	341.0	332.0	196.0	192.0	258.0	282.0						
		SOL F mg/L		0.58	0.62	0.60	0.51	0.87	0.71	0.55	0.49						
38	315	REDUCED LEVEL TOP OF PIPE 4.98m															
		REDUCED LVL GROUNDWATER m		1.5	1.38	1.26	1.44	1.43	1.45	1.37	1.32						
		PH		5.6	5.4	5.4	5.7	5.5	5.5	5.3	5.2						
		COND US/CM		203.8	330.8	301.0	286.0	343.0	333.0	316.0	406.0						
		SOL F mg/L		0.12	0.11	0.15	0.10	0.10	0.10	0.10	0.10						
39	316	REDUCED LEVEL TOP OF PIPE 7.64m															
		REDUCED LVL GROUNDWATER m		5.7	5.28	5.37	5.29	5.35	5.30	5.24	5.13						
		PH		5.3	5.3	5.4	5.5	5.2	5.5	4.9	5.5						
		COND US/CM		756.1	749.2	758.0	851.0	885.0	700.0	560.0	741.0						
		SOL F mg/L		0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.10						

APPENDIX 7 –

SAMPLING PROCEDURES

The following procedures have been used by Tomago Aluminium for the sampling and/or analysis data contained in this report:

Stack Fluoride	ES.ESM.0001 LMM0006, LMM0026
Roof Vent Fluoride	ES.ESM.0002 LMM0034, LMM0026
Stack Sulfur Dioxide	ES.ESM.0011 LMM0105
Continuous stack gaseous fluoride	ES.ESM.0024
Ambient Fluoride	ES.ESM.0004 LMM0033
Stormwater monitoring	ES.ESM.0009, ES.ESM.0019 LMM0124, LMM0116, LMM0043, LMM0121
**Sewerage	ES.ESM.0021 LMM0132, LMM0043, LMM0116, LMM0124
Vegetation	ES.ESM.0010 LMM0010
Groundwater	ES.ESM.0014 LMM0116, LMM0096
Surface Water	ES.ESM.0008 LMM0116, LMM0096
***Meteorological monitoring	ES.ESM.0023
Ambient Sulfur Dioxide	ES.ESM.0031

NATA Accreditation No. 1904

**NATA accreditation does not cover the performance of the following services contained in this method:

- Ammonia
- Nitrate
- Dissolved Oxygen
- E.coli

*** NATA accreditation does not cover the performance of this service

APPENDIX 8 -

CUSTOMER FEEDBACK FORM

Customer Feedback Survey

Receiving regular feedback from our customers is important to us. It helps us understand if our environmental reporting is presented in a meaningful and clear manner.

Name.....

Organisation.....

Report this feedback relates to.....

Does this report contain all the information required?

.....

.....

.....

Is the report format logical and easy to follow?

.....

.....

.....

Any other comments and / or suggestions?

.....

.....

.....

Please complete the form and either fax to Environment Services Department on 0249 669100 or email robyn.parker@tomago.com.au

End of Report

Tomago Aluminium Company