AIMS

Report

Monthly Air Quality

September 2025

Submitted to: Candice Webb / Sandy Camminga

Richards Bay Clean Air Association (RBCAA)

Suite 18 Calypso Centre, 2 Kruger Rand Grove, Richards Bay, KwaZulu-Natal, 3900

P O Box 10299, Meerensee, 3901

Submitted by: Lance Coetzee

Air Impact Measurement Specialists

Suite 18 Calypso Centre, 2 Kruger Rand Grove, Richards Bay, KwaZulu-Natal, 3900

PO Box 10491, Meerensee, Kwa-Zulu Natal, 3901

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Reviewed/Approved	Senior Consultant	Lance Coetzee	2025-10-10
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Note

This report has been finalised with the available information at the time of its compilation.

Table of Contents

Appendices

Appendix A: List of Abbreviations and Terms

Appendix B: Quality Assurance

Appendix C: Emission Inventory

Appendix D: Operational Report

Appendix E: Rainfall

Appendix F: Complaints Log

Appendix G: PM_{10} Exceedance Log

Appendix H: $PM_{2.5}$ Exceedance Log

Appendix I: SO_2 Exceedance Log

Appendix J: TRS Exceedance Log

List of Tables

List of Figures

1. INTRODUCTION

This monthly air quality report provided by the Richards Bay Clean Air Association (RBCAA) offers a comprehensive overview of air quality monitoring data for the specific month under review. It aims to provide a detailed analysis of meteorology, sulphur dioxide (SO_2), total reduced sulphur (TRS), and particulate matter (PM) levels measured by the RBCAAs monitoring network. Each monthly report focuses on a single calendar month, highlighting any notable incidents or exceedances of the applicable ambient air quality standards during that period. By analysing the monthly data, trends and patterns in air quality can be identified, helping to assess potential environmental impacts and mitigate any adverse effects.

In addition to the monthly reports, RBCAA publishes annual air quality reports summarising the key findings and trends observed over a complete calendar year. These annual reports provide a comprehensive overview of the region's overall air quality performance and long-term trends. They provide stakeholders with a thorough understanding of air quality and serve as a valuable tool for informed decision-making, policy development, and environmental management. By consistently monitoring and reporting air quality data, the RBCAA aims to promote transparency, facilitate ongoing environmental assessments, and ensure the well-being of the local community and the surrounding environment.

The RBCAA monitoring network comprises ten (10) stations (Figure 1.1 and Table 1.1).

Figure 1.1: RBCAA monitoring network.

Table 1.1: Station coordinates.

Station	Latitude	Longitude	Elevation (m)
Airport	-28.738138	32.093333	34
Arboretum	-28.752385	32.062738	30
Brackenham	-28.731301	32.039016	51
CBD	-28.744719	32.054805	32
eSikhaleni	-28.865244	31.911679	13
Felixton	-28.829229	31.893536	51
Felixton Met	-28.836487	31.892513	30
Harbour West	-28.787286	32.027065	6
Richardia	-28.762776	32.066072	20
Scorpio	-28.769692	32.034228	31

2. METEOROLOGY

2.1. Data Availability

The percentage of valid data received from the meteorological network for September 2025 is shown in Table 2.1.

Table 2.1: Meteorological data capture.

Station	Availability (%)	Wind (%)	Temperature (%)	Relative Humidity (%)	Pressure (%)	Solar Radiation (%)	Rain (%)
Airport	100	***63***	100	100	100	100	-
Arboretum	100	97	100	-	-	-	-
Brackenham	100	100	100	-	-	-	-
CBD	***89***	***89***	***89***	***89***	-	-	-
CBD Rain	***89***	-	-	-	-	-	***89***
eSikhaleni	100	100	100	100	-	-	-
Felixton Met	100	100	100	100	-	-	-
Harbour West	100	100	100	-	-	-	-

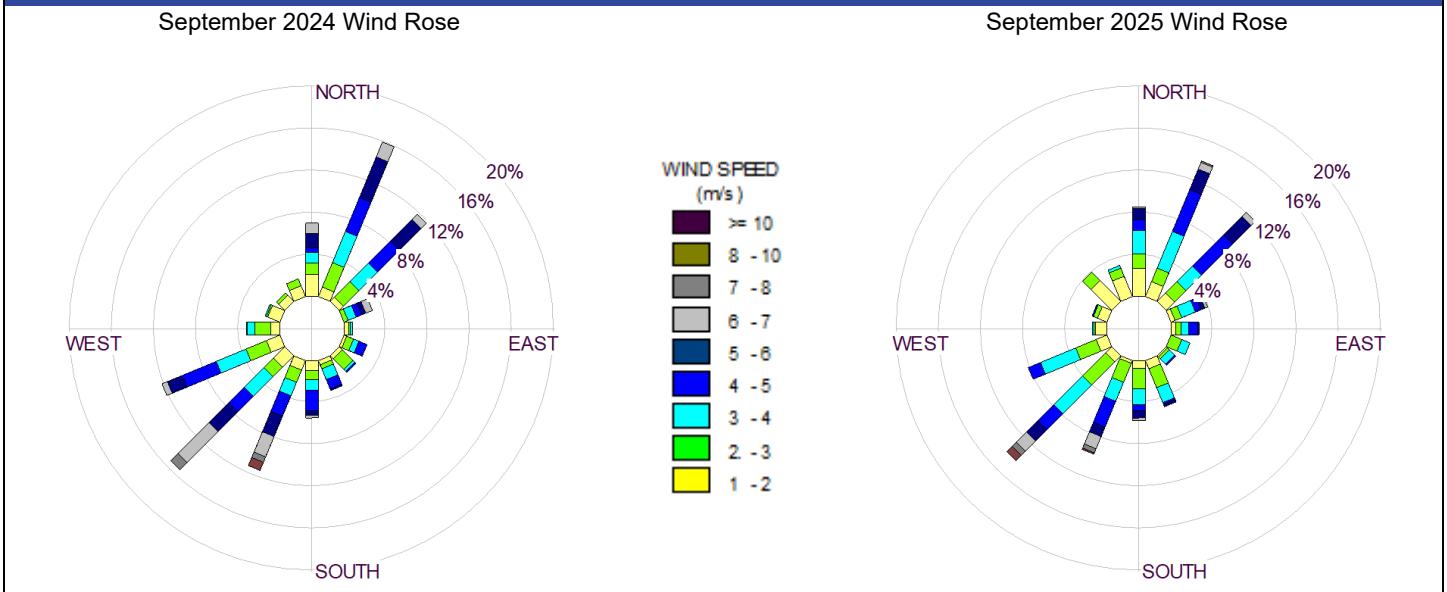
Notes:
1. *Red - Not acceptable for statistical purposes (<80%),*
2. *Orange – Does not meet SANAS data capture requirements (<90%),*
3. *Yellow – RBCAA reporting requirement (<=95%)*

Missing Data (Station and Meteorology):
- *Airport (Wind) – Anemometer failure (11 day/s with <80% data capture, 20 - 30 September 2025).*
- *CBD (Station) – Power outage plus issue with inverter auto start (4 day/s with <80% data capture, 11-14 September 2025).*

2.2. Wind Roses

Monthly wind roses for September 2024 and 2025 for Arboretum are presented in Figure 2.1. They indicate that the wind blew predominantly along the NE and SW axes. NE wind is generally associated with fair weather, while SW wind is usually associated with the passage of coastal lows, cold fronts, and inclement weather.

Arboretum



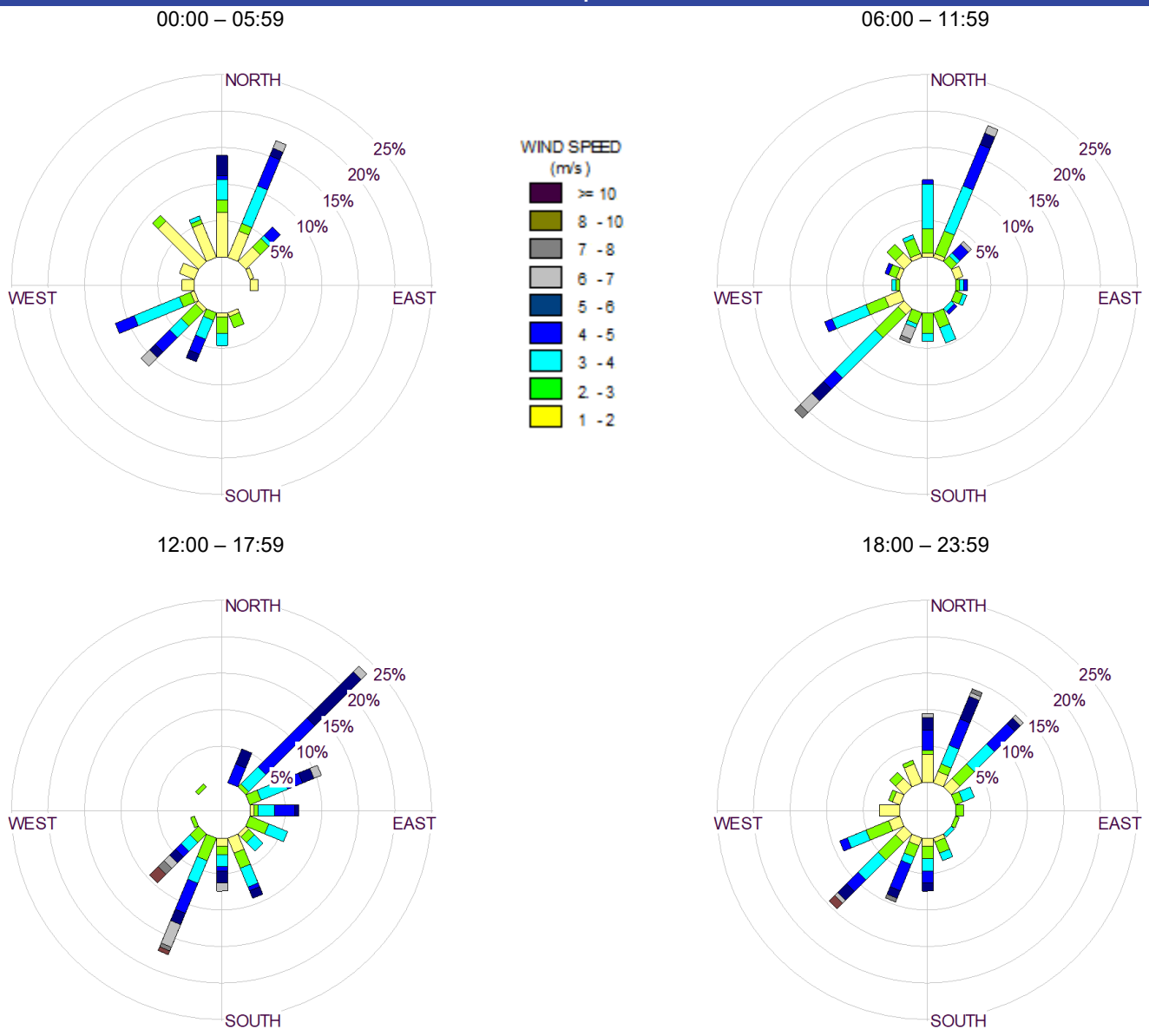
Period	Wind Speed	Dominant Sector 1		Dominant Sector 2		Calms	Valid Data
September 2024	3.9 m/s	N-NE	35%	SSW-WSW	40%	1%	98%
September 2025	3.8 m/s	N-NE	36%	SSW-WSW	33%	0%	96%

Figure 2.1: Wind roses - monthly.

Typically, there is an increase in light (1 to 3 m/s) to moderate (3 to 6 m/s) wind from the NNW during periods that include autumn and winter conditions and the seasonal increase in fresh (6 to 8 m/s) to strong (> 8 m/s) N to NE wind during periods that include spring and early summer. Strong southerly to SSW winds occur throughout the year and are typically associated with the arrival of coastal lows and cold fronts. Coastal lows are more frequent during the summer, which is why the slightly higher proportion of these winds is observed.

Diurnal wind roses for September 2025 are shown in Figure 2.2. ESE to SSE wind primarily consists of sea breezes during the day and early evening, particularly during the warmer spring and summer months. In contrast, WNW to NNW wind is mainly in the form of land breezes at night and early morning, particularly during the colder and more stable autumn and winter months.

Arboretum – September 2025



Period	Wind Speed	Dominant Sector 1		Dominant Sector 2		Calms	Valid Data
00:00-05:59	3.0 m/s	NW-NE	56%	SSW-WSW	32%	0%	95%
06:00-11:59	3.4 m/s	N-NNE	32%	SW-WSW	34%	0%	94%
12:00-17:59	4.3 m/s	NE-E	41%	SSE-SW	44%	0%	98%
18:00-23:59	3.4 m/s	N-NE	39%	S-WSW	42%	0%	96%

Figure 2.2: Wind roses - diurnal.

2.3. Rainfall

Rainfall measured at various locations is presented in Figure 2.3, Figure 2.4, Figure 2.5 and Figure 2.6 (See APPENDIX F for tables).

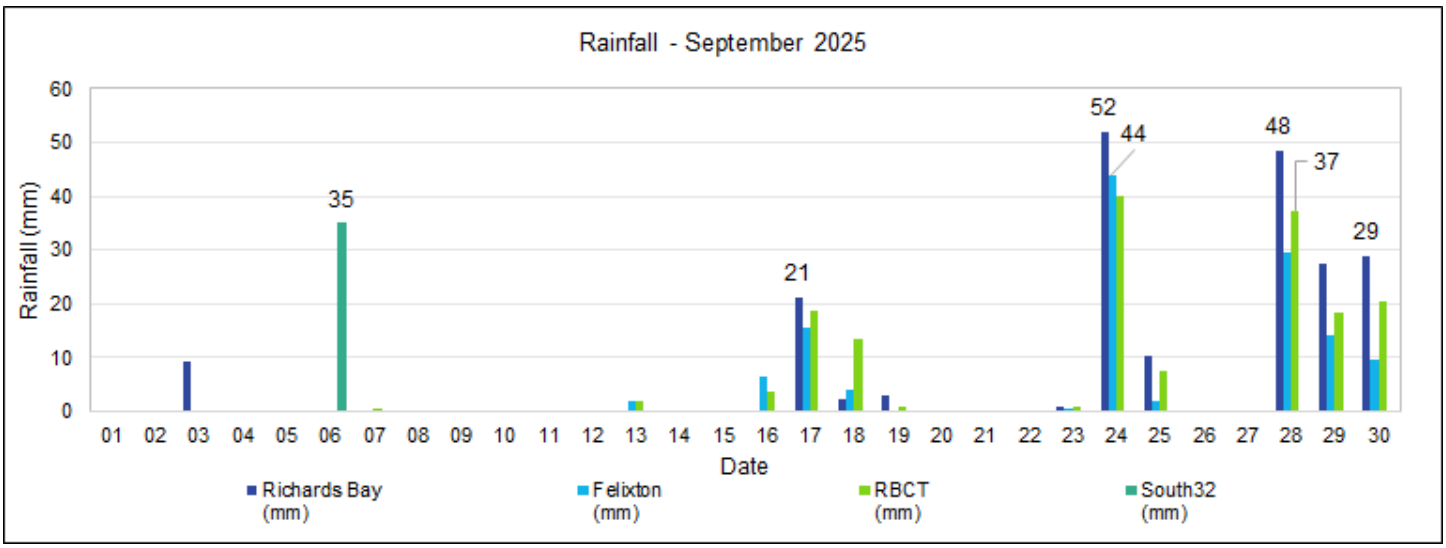


Figure 2.3: Rainfall.

Table 2.2: Rainfall -monthly averages.

Month	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	South32 (mm)	Average (mm)
September 2025	203	127	164	35	132

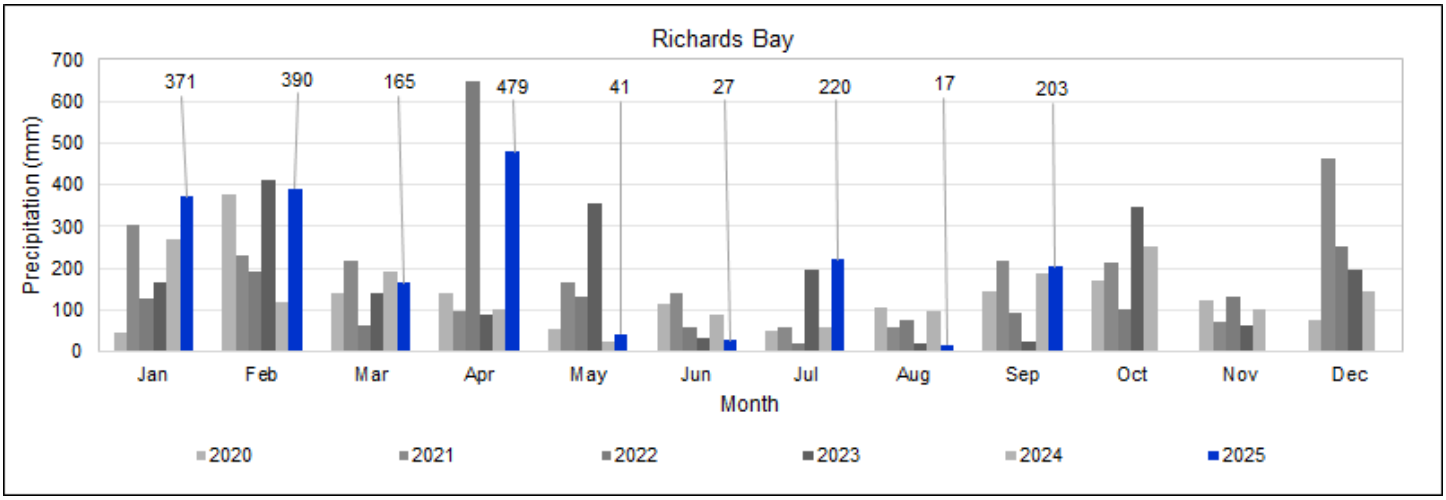


Figure 2.4: Rainfall –Richards Bay.

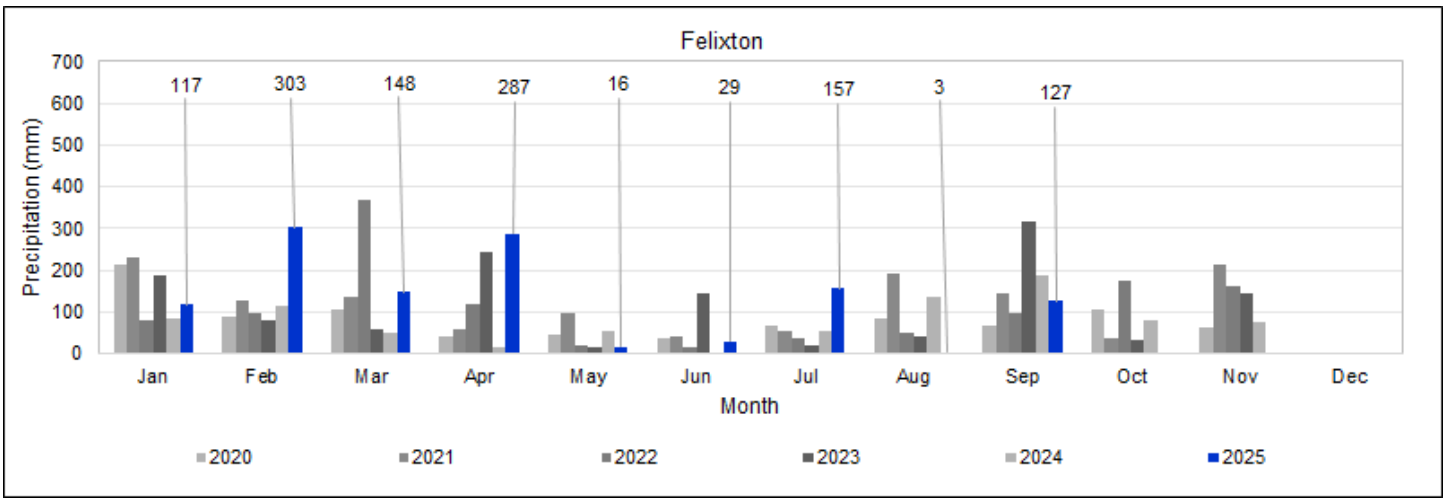


Figure 2.5: Rainfall – Felixton.

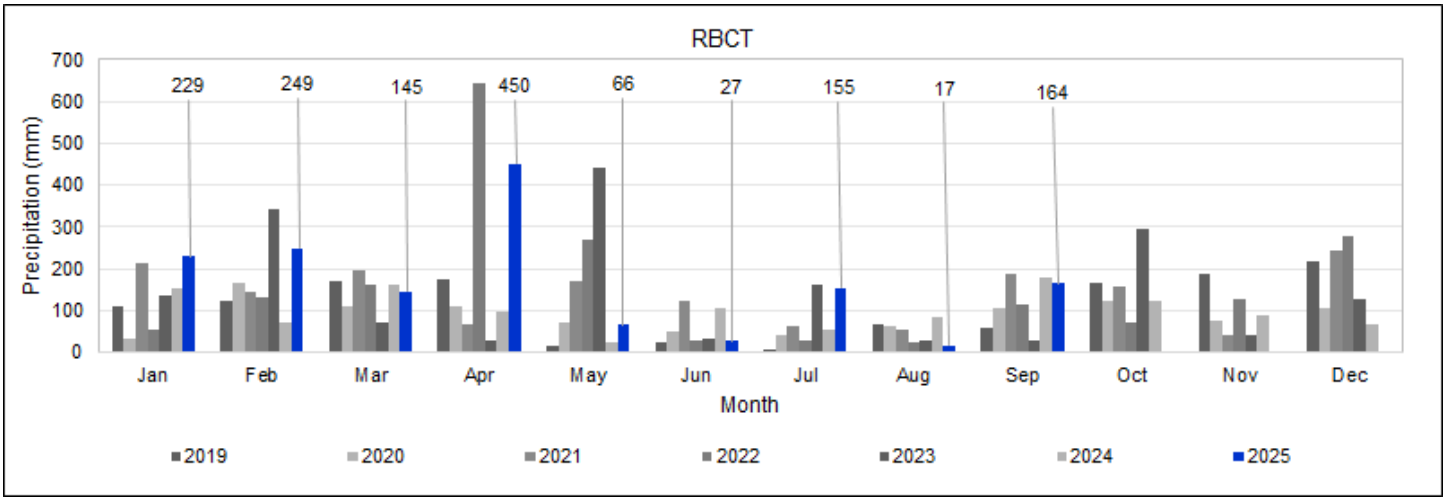


Figure 2.6: Rainfall – RBCT.

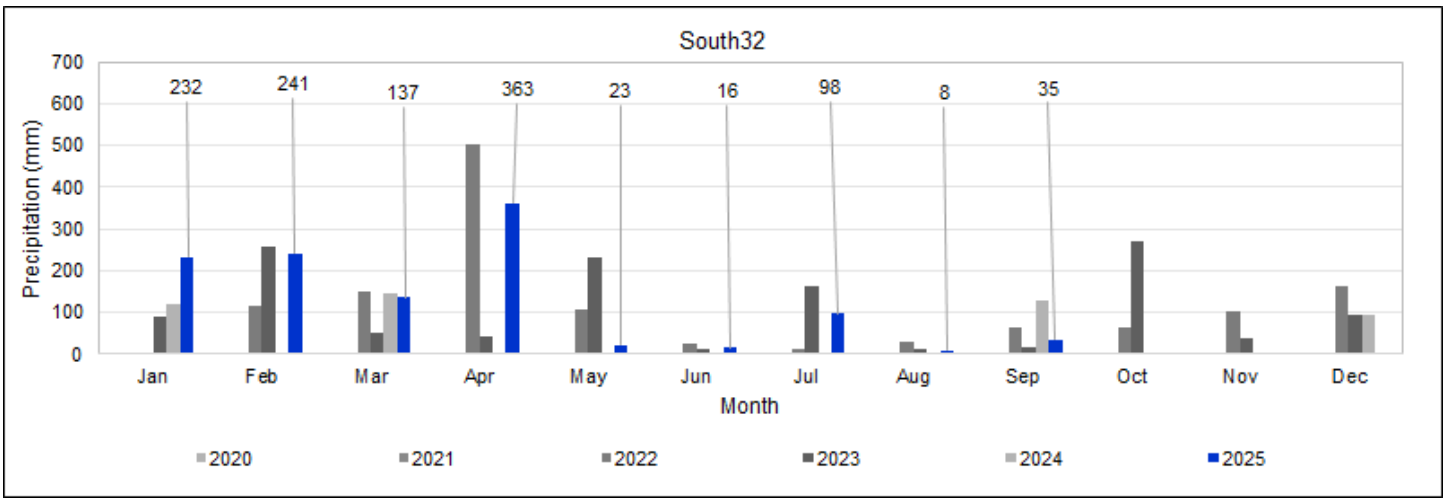


Figure 2.7: Rainfall - South32.
Note: South32 has had issues with its rain gauge in 2024.

3. AIR QUALITY COMPLAINTS

Detailed complaint records are maintained, updated, and distributed weekly to the RBCAA's complaints mailing list. The following sections summarise and analyse the complaints received during September 2025. Please see APPENDIX F for the Complaints Log.

3.1. Field Observations

Thirty-nine (39) air quality complaints were received during September 2025; Ten (10) were logged in September 2024. The daily complaints and a monthly historical count are reflected below (Figure 3.1 and Figure 3.2).

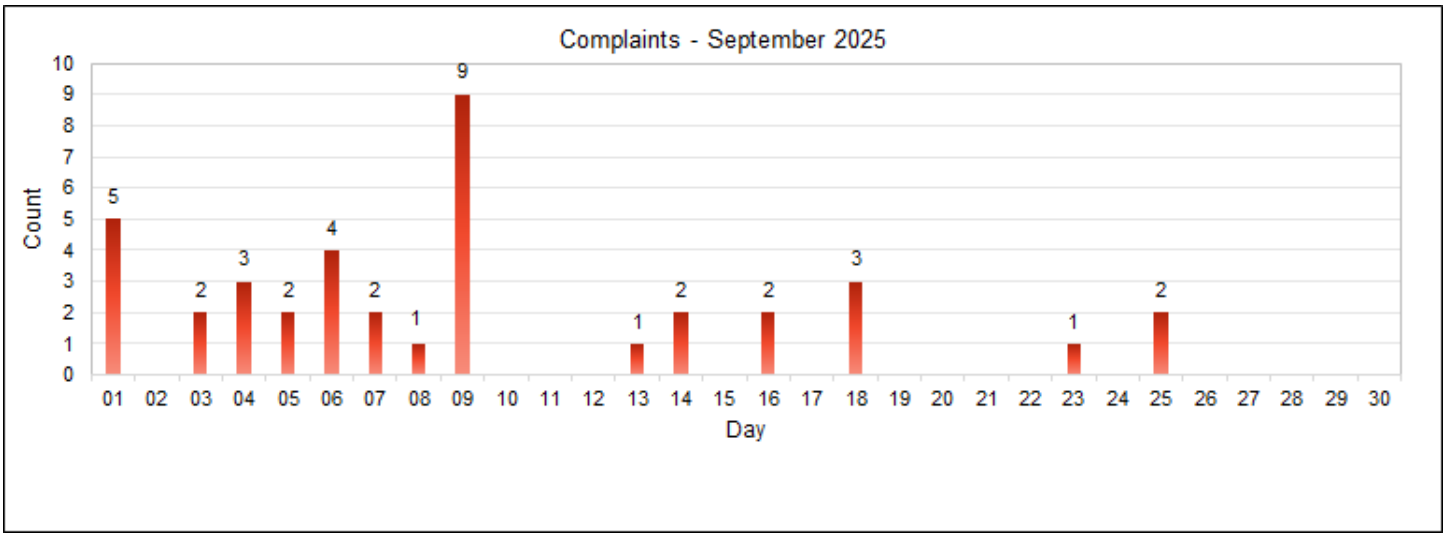


Figure 3.1: Complaints – daily.

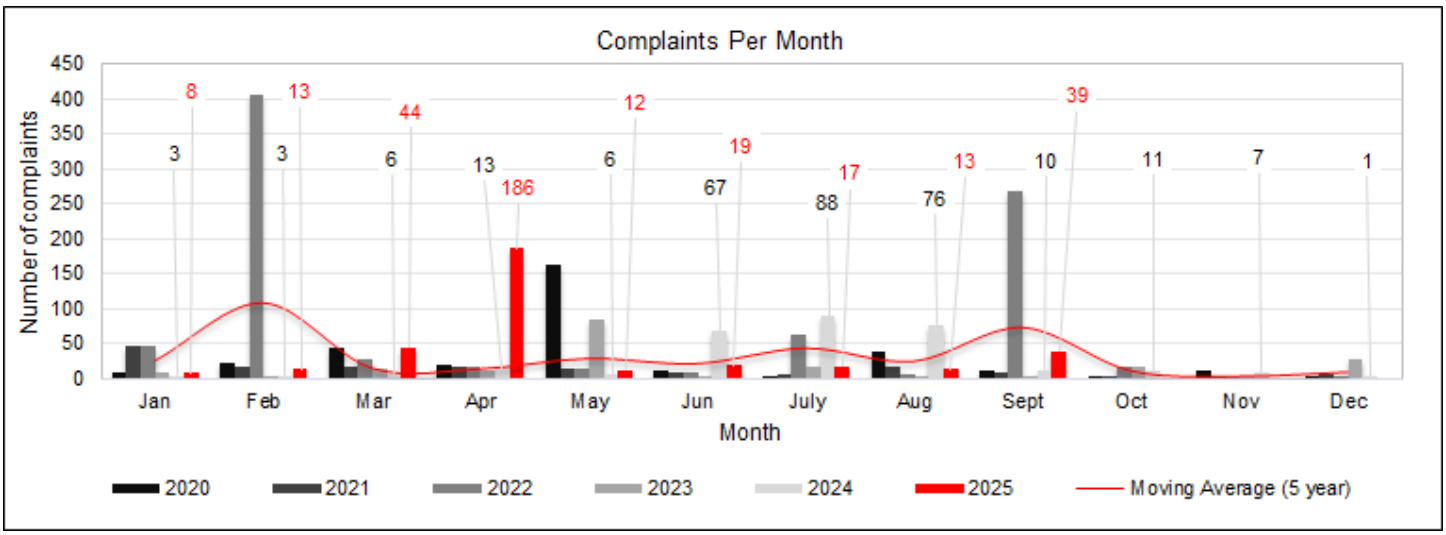


Figure 3.2: Complaints - historical monthly comparison.

3.2. Complaints Distribution

The distribution of complaints in September 2025 by region, source and type is presented in Figure 3.3, Figure 3.4, and Figure 3.5.

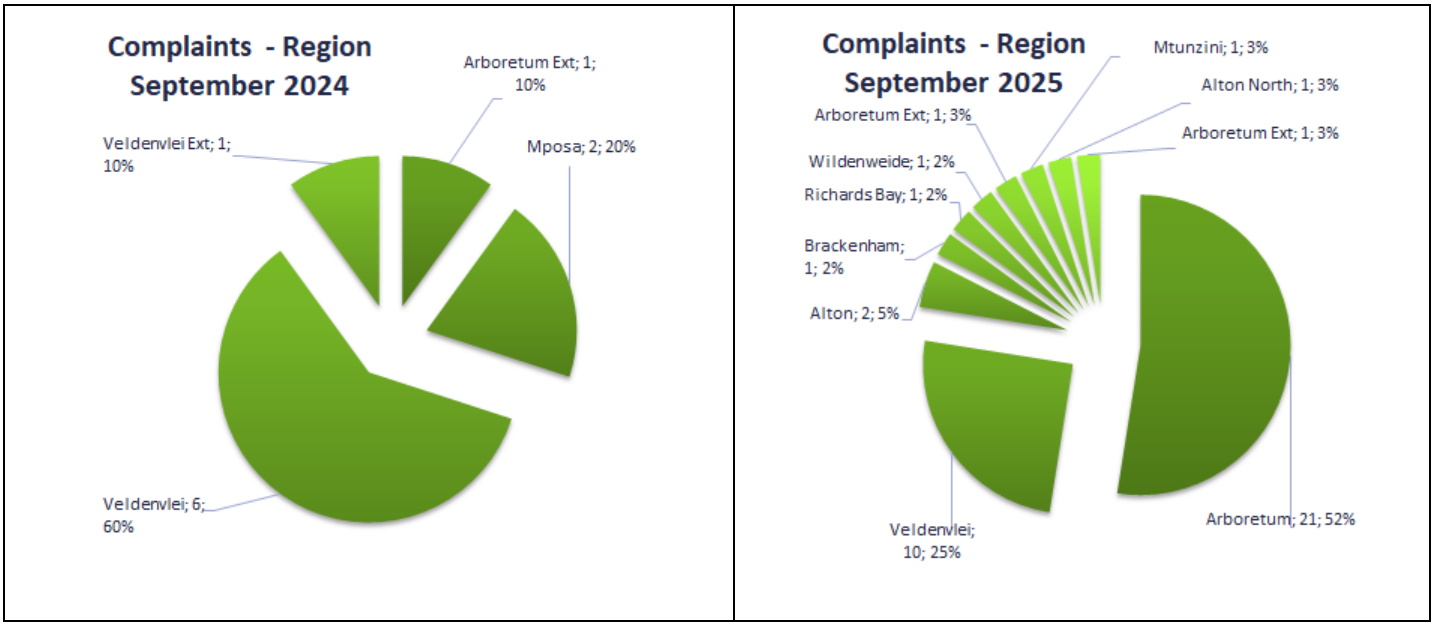


Figure 3.3: Complaints - region.

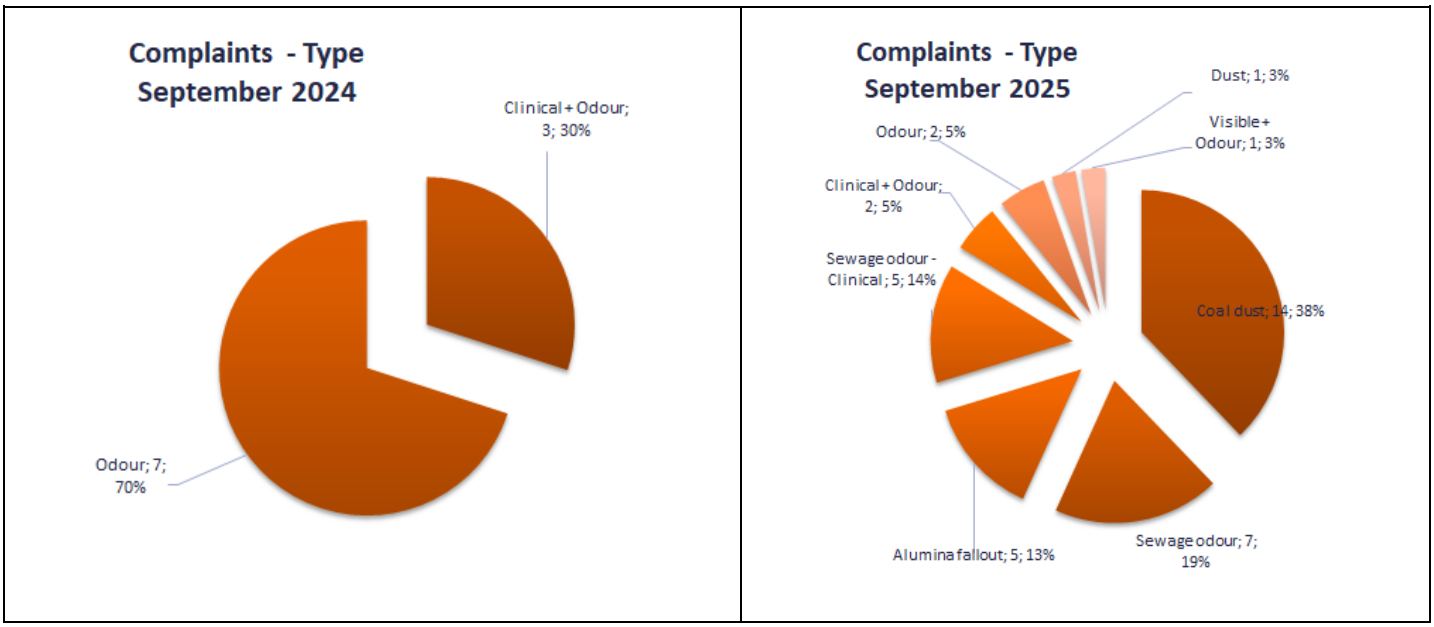


Figure 3.4: Complaints - type.

The complaints received were allocated as follows: TPT (14, 35.9%), CoU (12, 30.8%), South32 (6, 15.4%), Mondi (4, 10.3%), Clariant (1, 2.6%), Tronox (1, 2.6%), RBIDZ (1, 2.6%).

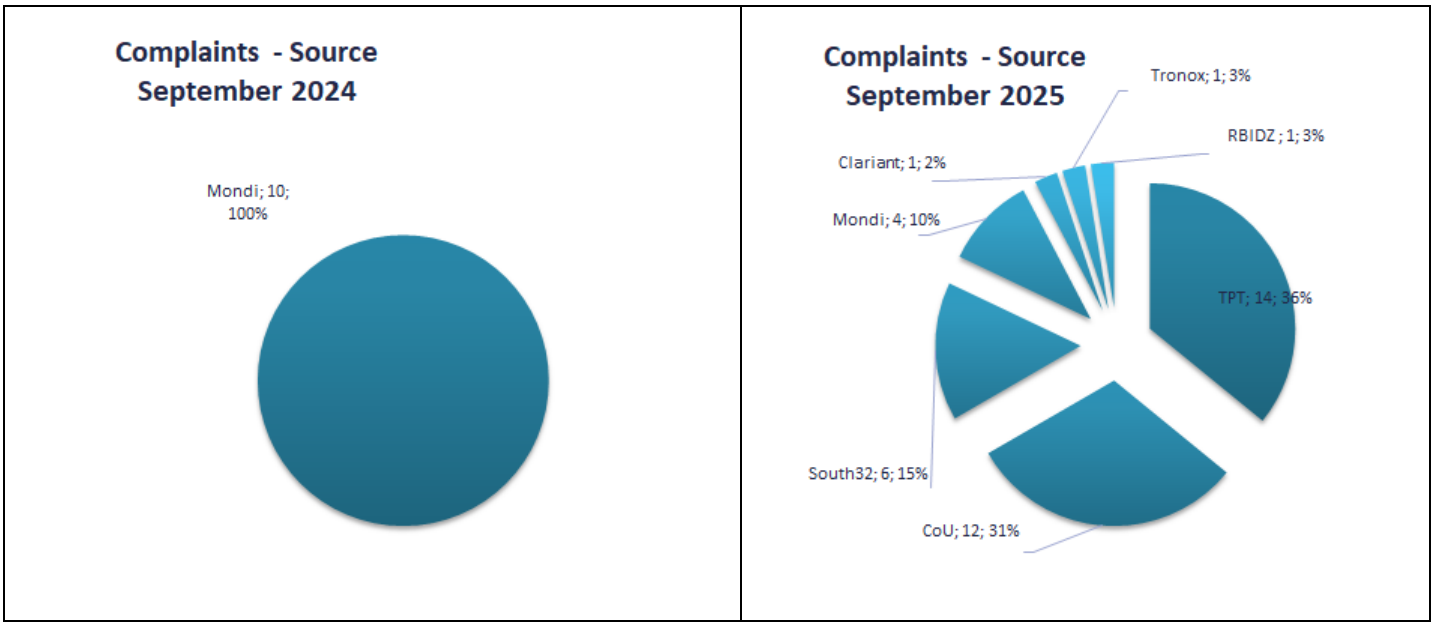


Figure 3.5: Complaints - source.

Table 3.1: Complaint - allocation, region, and type.

Complaint - allocation, region, and type	39
Clariant	**1**
Alton	1
Visible + Odour	1
CoU	**12**
Arboretum	12
Sewage odour	7
Sewage odour - Clinical	5
Mondi	**4**
Arboretum	1
Odour	1
Brackenham	1
Clinical + Odour	1
Alton	1
Odour	1
Veldenvlei	1
Clinical + Odour	1
RBIDZ	**1**
Alton North	1
Dust	1
South32	**6**
Wildenweide	1
White Dust Fallout	1
Arboretum	1
Alumina fallout	1
Veldenvlei	4
Alumina fallout	4
TPT	**14**
Arboretum Ext	1
Coal dust	1
Richards Bay	1
Coal dust	1
Veldenvlei	5
Coal dust	5
Arboretum	7
Coal dust	7
Tronox	**1**
Mtunzini	1
Dust fallout	1

4. FINE PARTICULATE MONITORING

Particulate Matter (PM) refers to the solid particles and liquid droplets in the atmosphere. Many anthropogenic and natural sources emit PM directly or release other pollutants into the atmosphere, which then form PM. These solid and liquid particles can vary in size. For example, particles less than 10 micrometres (µm) in diameter are classified as PM_{10}, and particles less than 2.5 micrometres (µm) in diameter are classified as $PM_{2.5}$.

Fine particulates can be inhaled and accumulate in the deep recesses of the respiratory system. Therefore, exposure to sustained high concentrations may result in the following:

- Reduced lung development in children
- Allergy-related inflammatory reactions of the airway
- Asthma, nasal congestion, and sinus problems
- Increase in symptoms associated with the lower respiratory tract.
- In severe cases, a reduction in life expectancy

Particulate matter (PM) monitoring at eSikhaleni and Richardia uses Tapered Element Oscillating Microbalance (TEOM) devices, which are U.S. EPA-approved for continuous PM measurement. These instruments determine particle mass by detecting frequency changes in a vibrating element as particles accumulate on it. In contrast, Brackenham, CBD, Felixton, Scorpio, and Harbour West employ E-Samplers, which combine real-time light scattering with filter-based sampling to measure particulate concentrations. The E-Sampler is certified under the UK's Monitoring Certification Scheme (MCERTS) for indicative ambient particulate monitoring.

4.1. Ambient Air Quality Standards

Ambient air quality standards for particulates are listed below (Table 4.1).

Table 4.1: Particulate ambient air quality limits.

Organisation	Limit	PM_{10} Daily Average (µg/m³)	PM_{10} Annual Average (µg/m³)	$PM_{2.5}$ Daily Average (µg/m³)	$PM_{2.5}$ Annual Average (µg/m³)
RSA [a, d]	Standard	75 [b]	40 [c]	40 [b]	20 [c]
WHO [e]	Guideline	45 [c]	15 [c]	15 [c]	5 [c]

Notes:

a) *Government Gazette 32816 (24 December 2009) in terms of the National Environmental Management: Air Quality Act No. 39 of 2004, effective from 2015* (RSA-NEMAQA, 2009).
b) *Not to be exceeded more than four (4) times in one year.*
c) *Not to be exceeded.*
d) *Government Gazette 35463 (29 June 2009) in terms of the National Environmental Management: Air Quality Act No. 39 of 2004, effective from 2015* (RSA-NEMAQA, 2012).
e) *World Health Organisation* (WHO, 2021).

4.2. Data Availability

The percentage of valid data received from the PM analysers for September 2025 is shown in Table 4.2.

Table 4.2: PM data capture.

Station	Availability (%)	PM_{10} (%)	$PM_{2.5}$ (%)
Brackenham ES2	100	-	100
CBD ES1	***89***	***89***	-
eSikhaleni	100	100	-
Felixton ES1	100	100	-
Felixton ES2	98	-	98
Harbour West ES2	100	-	100
Richardia	100	100	-
Scorpio ES1	96	96	-
Scorpio ES2	96	-	96

Missing Data (PM_{10}):

- *CBD – Power outage plus issue with inverter auto start (4 day/s with <80% data capture, 11-14 September 2025).*
- *Scorpio – Earth leakage trip associated with station alarm power supply (3 day/s with <80% data capture, 11, 13-14 September 2025).*

Missing Data ($PM_{2.5}$):

- *Scorpio – Earth leakage trip associated with station alarm power supply (3 day/s with <80% data capture, 11, 13-14 September 2025).*

4.3. Monthly

PM_{10} monthly average concentrations did not exceed the RSA Annual Limit; the WHO Annual Limit was exceeded at CBD, eSikhaleni, Felixton, Richardia and Scorpio – all points monitored (Figure 4.1). Comparisons to previous months are also provided (Figure 4.2).

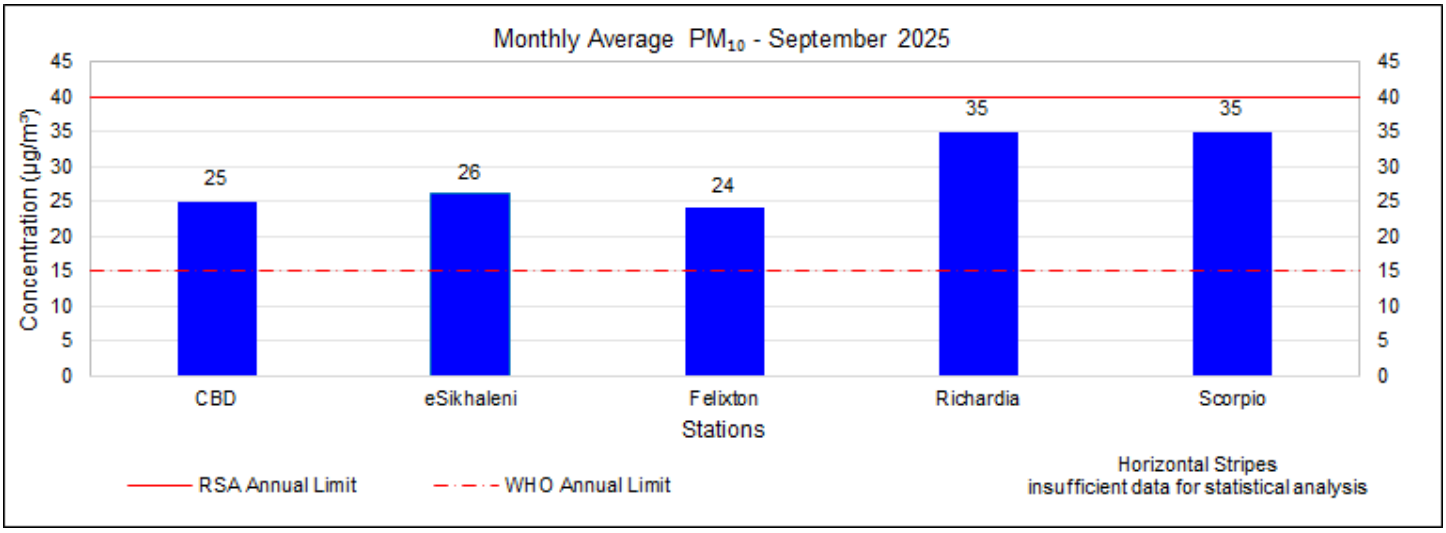


Figure 4.1: PM_{10} monthly concentrations.

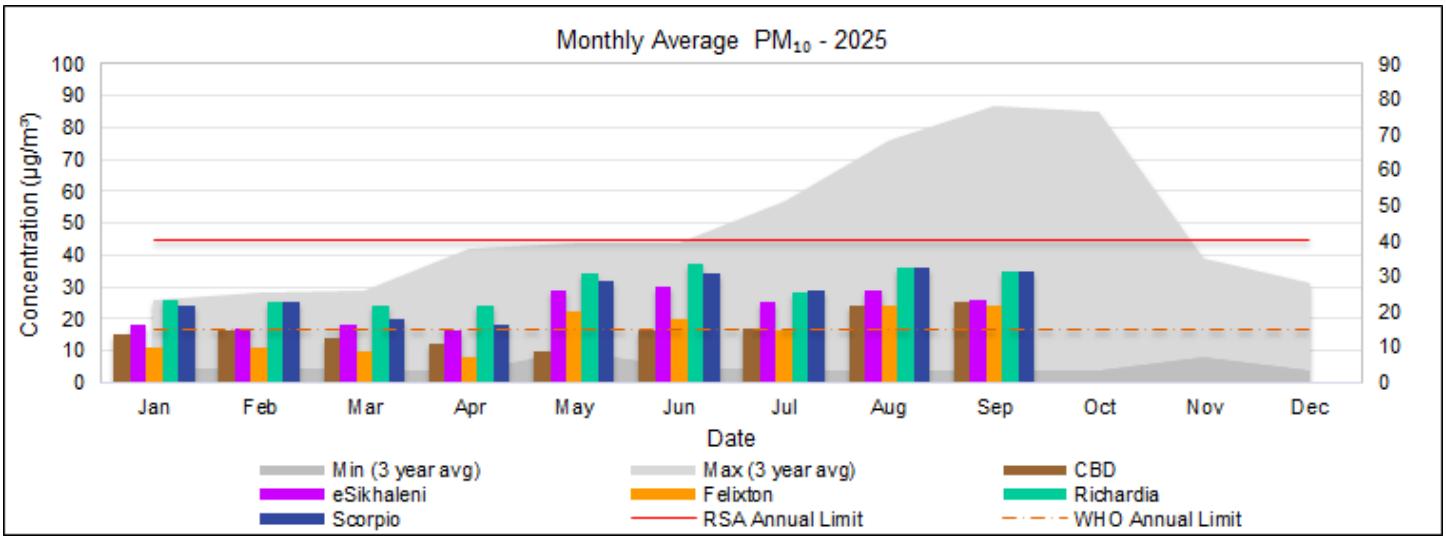


Figure 4.2: PM_{10} monthly comparison.

$PM_{2.5}$ monthly average concentrations exceeded the RSA Annual Limit at Brackenham and Scorpio. The WHO Annual Limit was exceeded at Brackenham, Felixton, Harbour West and Scorpio - all points monitored (Figure 4.3). Comparisons to previous months are also provided (Figure 4.4).

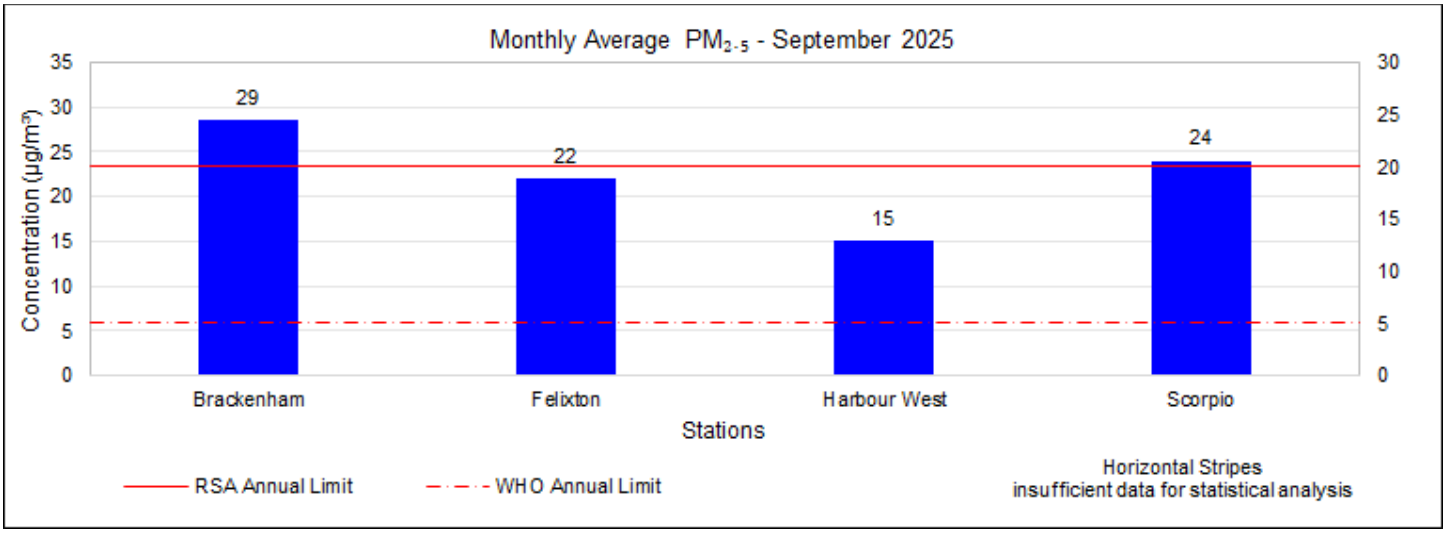


Figure 4.3: $PM_{2.5}$ monthly concentrations.

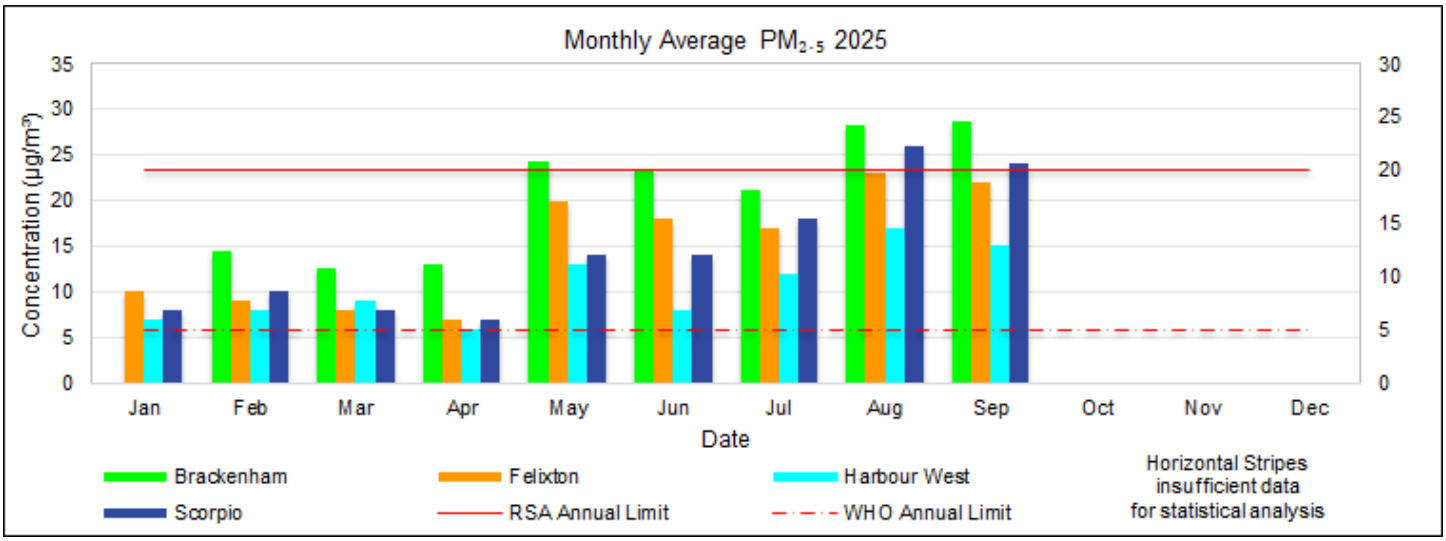


Figure 4.4: $PM_{2.5}$ monthly comparison.

4.4. Diurnal

PM diurnal concentrations are shown below (Figure 4.5 and Figure 4.6). Diurnal concentrations of PM_{10} exceeded the RSA Daily Limit (75 µg/m³) at Scorpio. The WHO Daily Limit (45 µg/m³) was exceeded at Felixton, Richardia and Scorpio. Diurnal concentrations of $PM_{2.5}$ exceed the RSA Daily Limit (40 µg/m³) at Brackenham and Scorpio; the WHO Daily Limit (15 µg/m³) was exceeded at all monitored stations. These exceedances are associated with bush, cane and regional fires.

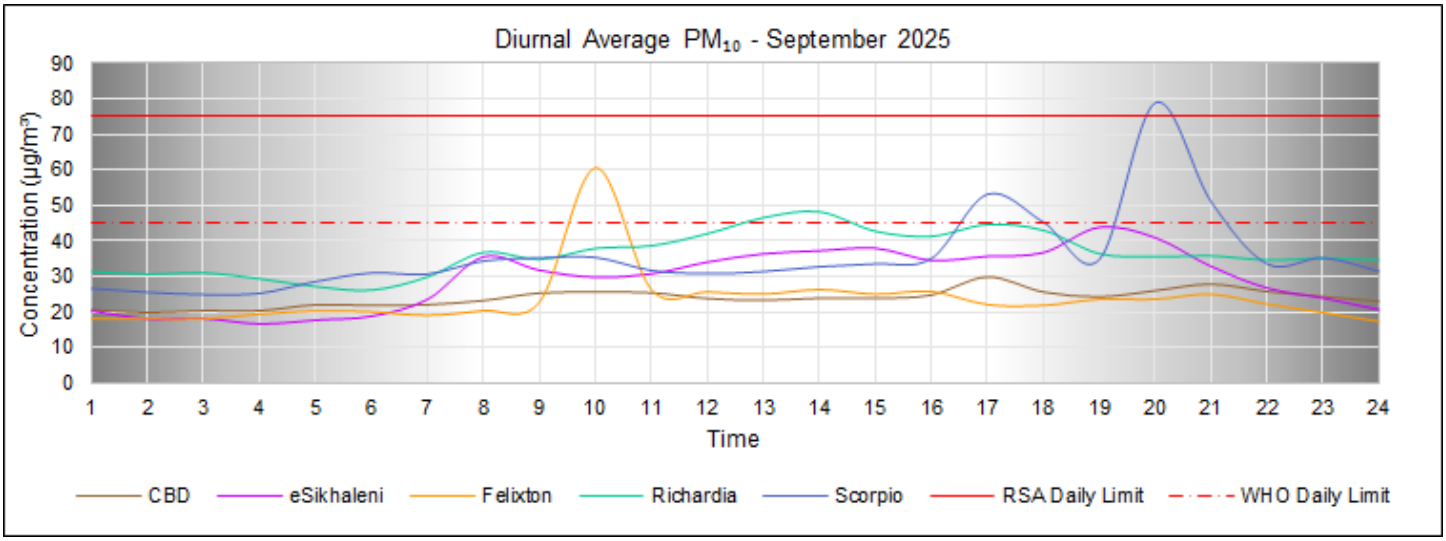


Figure 4.5: PM_{10} diurnal concentrations.

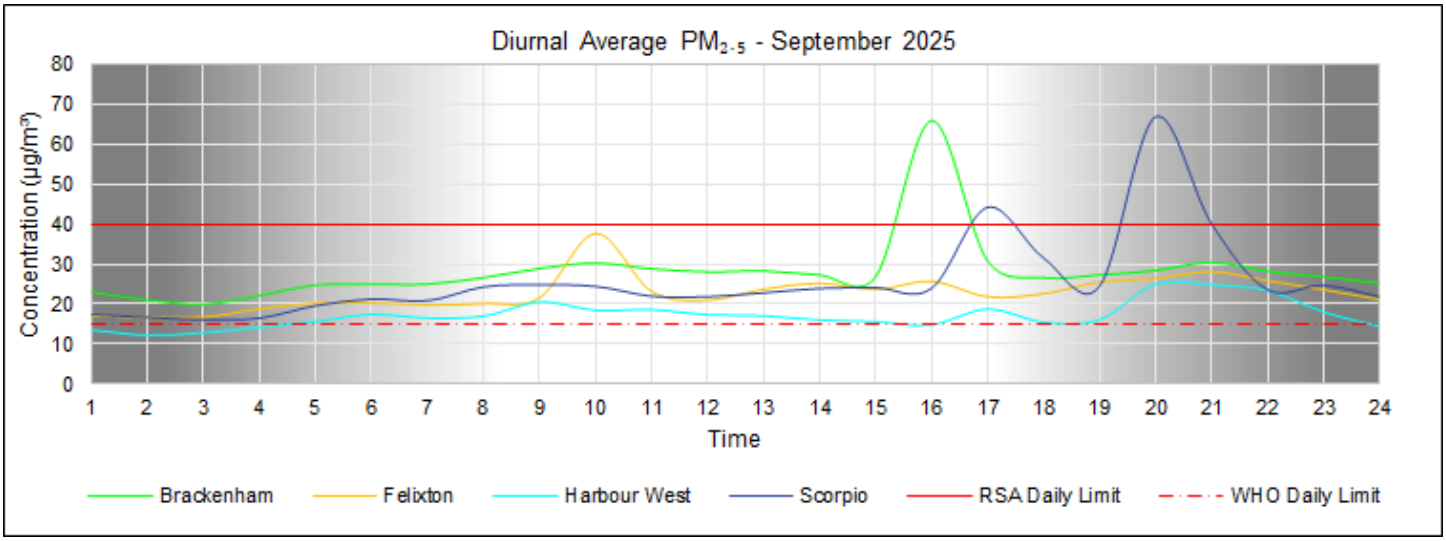


Figure 4.6: $PM_{2.5}$ diurnal concentrations.

4.5. Daily

PM_{10} daily concentrations are shown in Figure 4.7, and exceedances are in Table 4.3. There were:

- Two (2) measured exceedances of the RSA Limit (75 µg/m³); and,
- Sixteen (16) measured exceedances of the WHO Limit (45 µg/m³).

Table 4.3: PM_{10} 24-hour exceedances

PM_{10} Daily RSA Limit (75 µg/m³)	**2**
Regional Fires	**1**
Richardia	1
RBCAA allocation	1
South32	**1**
Scorpio	1
Planned maintenance. Furnaces venting.	1
PM_{10} Daily WHO Limit (45 µg/m³)	**16**
No response required	**16**
eSikhaleni	2
None	2
Richardia	7
None	7
Scorpio	7
None	7

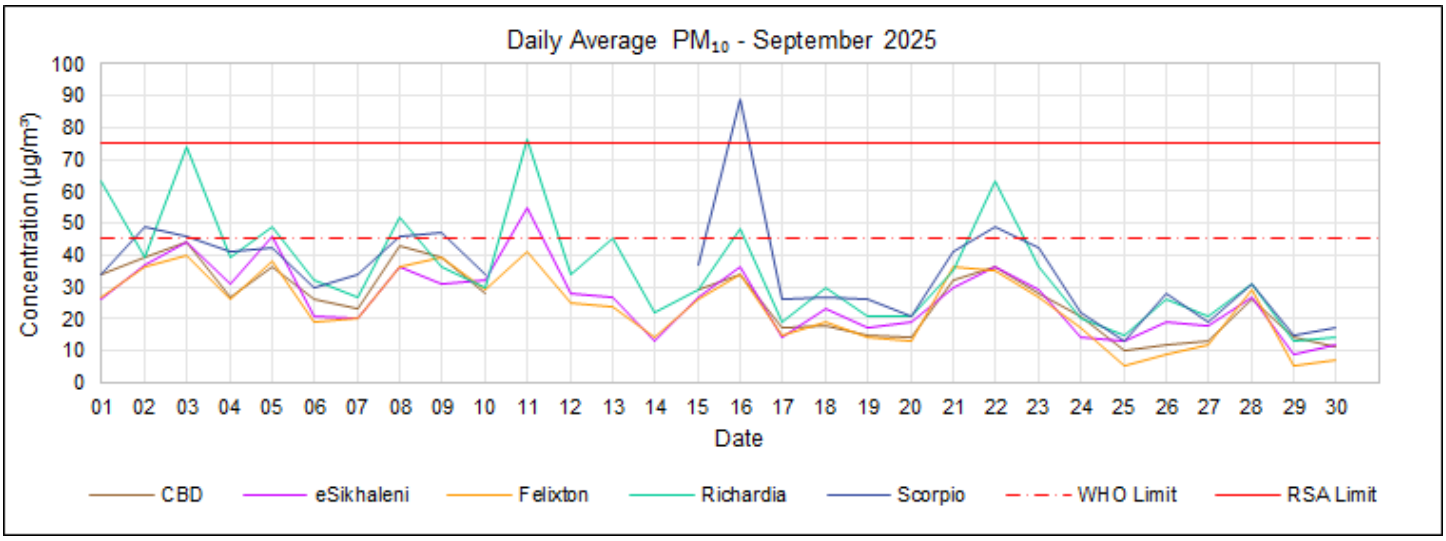


Figure 4.7: PM_{10} 24-hour average concentrations.

Missing Data (PM_{10})

- *CBD – Power outage plus issue with inverter auto start (4 day/s with <80% data capture, 11-14 September 2025).*
- *Scorpio – Earth leakage trip associated with station alarm power supply (3 day/s with <80% data capture, 11, 13-14 September 2025).*

$PM_{2.5}$ daily concentrations are shown in Figure 4.8, and exceedances are in Table 4.4. There were:

- Eight (8) measured exceedances of the RSA Limit (40 µg/m³); and,
- Seventy-five (75) measured exceedances of the WHO Limit (15 µg/m³).

Table 4.4: $PM_{2.5}$ 24-hour exceedances (WHO).

$PM_{2.5}$ Daily RSA Limit (40 µg/m³)	**8**
Fires	**4**
Brackenham	4
RBCAA allocation	4
Regional Fires	**1**
Scorpio	1
RBCAA allocation	1
RBIDZ	**2**
Brackenham	2
RBCAA allocation	2
South32	**1**
Scorpio	1
Planned maintenance. Furnaces venting.	1
$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	**75**
No response required	**75**
Brackenham	23
None	23
Felixton	20
None	20
Scorpio	19
None	19
Harbour West	13
None	13

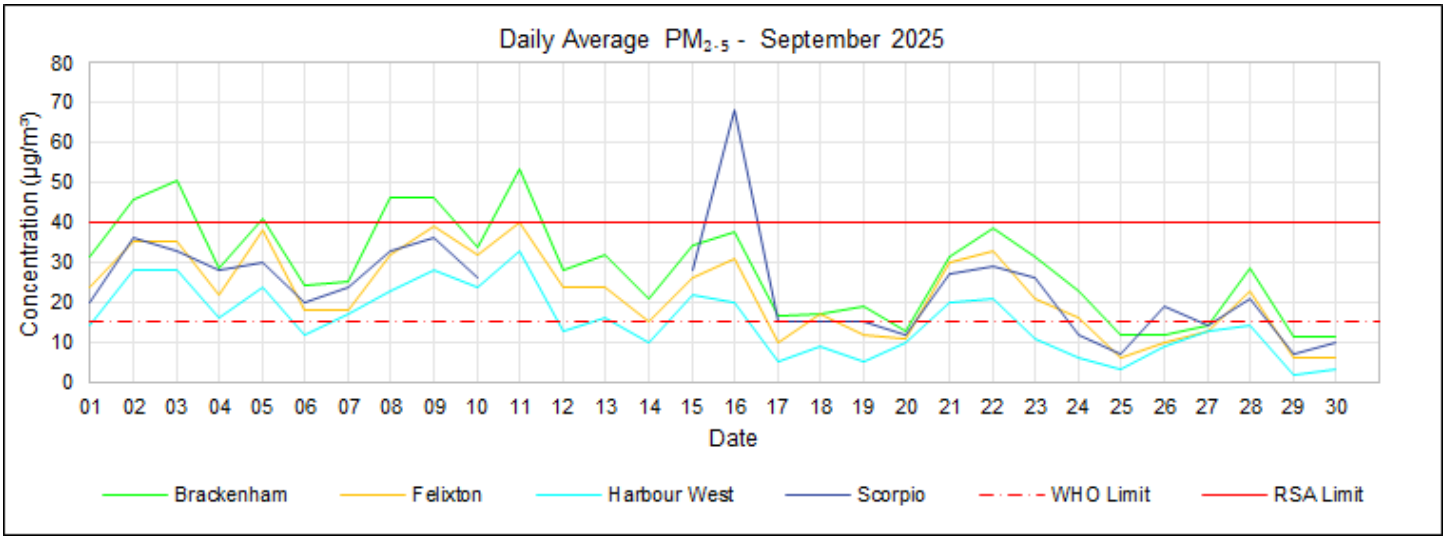


Figure 4.8: $PM_{2.5}$ daily average concentrations.

Missing Data ($PM_{2.5}$):

- *Scorpio – Earth leakage trip associated with station alarm power supply (3 day/s with <80% data capture, 11, 13-14 September 2025).*

4.6. Exceedances

The number of days on which exceedances occurred, plus comparisons to previous months, is shown in Figure 4.9 and Figure 4.10, and a summary of PM exceedances broken down per station is presented in Table 4.5 and Table 4.6. According to the relevant Air Quality Index (AQI), the areas where no exceedances were measured may be considered good air quality concerning PM.

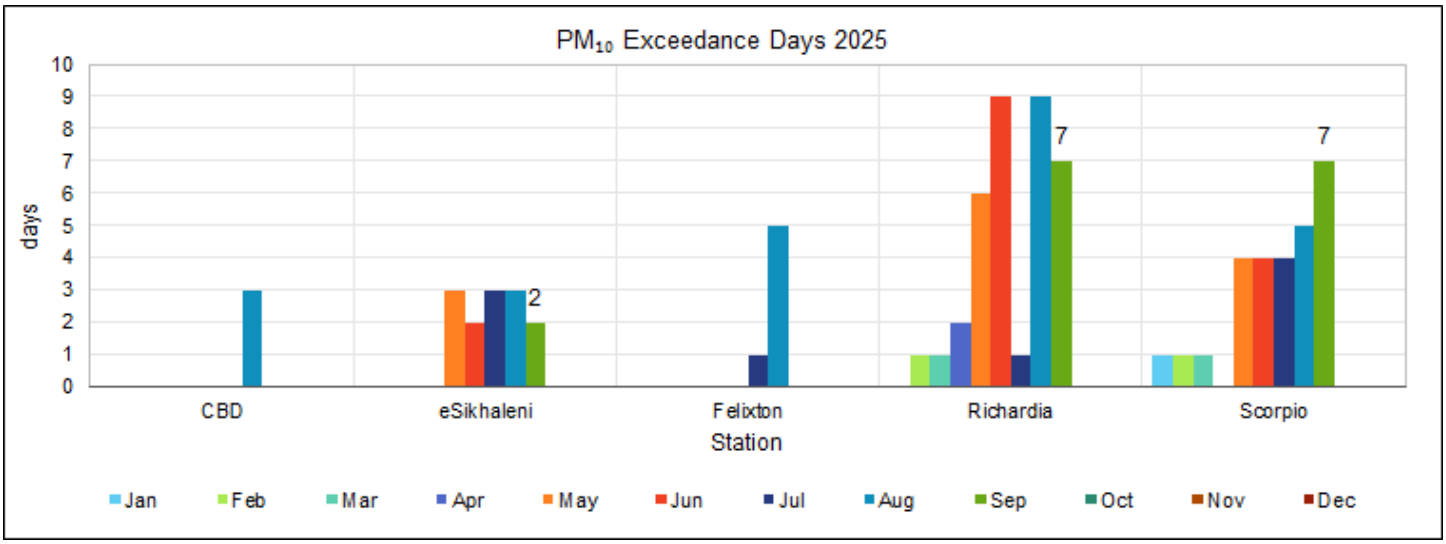


Figure 4.9: PM_{10} exceedance days.

Table 4.5: PM_{10} exceedance summary.

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PM_{10} Daily RSA Limit (75 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	1	-	-	1	-	-	-	2
Scorpio	-	-	-	-	-	-	-	1	1	-	-	-	2
PM_{10} Daily WHO Limit (45 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	1	-	-	-	-	-	-	3	-	-	-	-	**4**
eSikhaleni	-	-	-	-	3	2	3	3	2	-	-	-	**13**
Felixton	-	-	-	-	-	-	1	5	-	-	-	-	**6**
Richardia	-	1	1	2	6	9	1	9	7	-	-	-	**36**
Scorpio	1	1	1	-	4	5	4	5	7	-	-	-	**28**

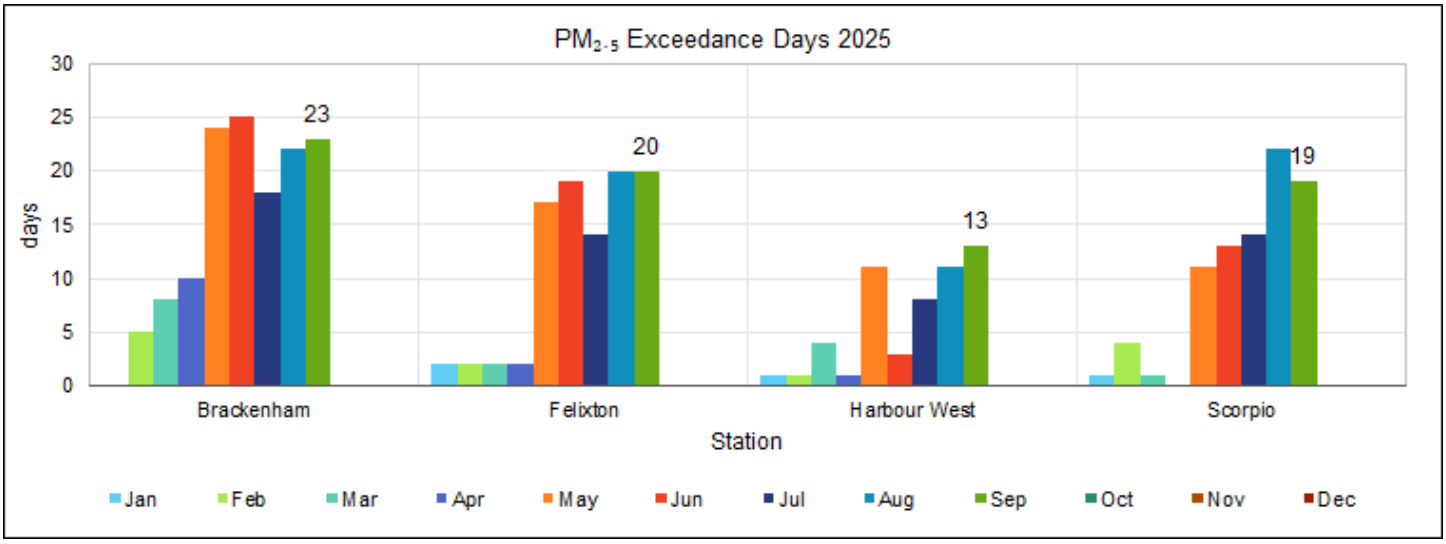


Figure 4.10: $PM_{2.5}$ exceedance days.

Table 4.6: $PM_{2.5}$ exceedance summary.

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
$PM_{2.5}$ Daily RSA Limit (40 µg/m³)													
Brackenham	-	-	-	-	2	-	3	5	6	-	-	-	**16**
Felixton	-	-	-	-	-	-	1	5	-	-	-	-	**6**
Harbour West	-	-	-	-	-	-	-	3	-	-	-	-	3
Scorpio	-	-	-	-	-	-	1	5	2	-	-	-	**8**
$PM_{2.5}$ Daily WHO Limit (15 µg/m³)													
Brackenham	-	6	8	10	25	25	18	22	23	-	-	-	**137**
Felixton	2	3	2	2	18	19	14	20	20	-	-	-	**100**
Harbour West	1	2	4	1	11	3	8	11	13	-	-	-	**54**
Scorpio	1	4	1	-	11	14	14	22	19	-	-	-	**86**

5. SULPHUR DIOXIDE MONITORING

Sulphur dioxide (SO_2) is one of the highly reactive gases known as "oxides of sulphur." Anthropogenic sources include fossil fuel combustion (particularly coal-burning power plants), industrial processes such as wood pulping, paper manufacturing, petroleum and metal refining, and metal smelting (particularly from sulphide-containing ores, e.g., lead, silver, and zinc ores), as well as vehicle tailpipe emissions. Natural sources of SO_2 emissions include geothermal activity (including hot springs and volcanic activity) and the natural decay of vegetation on land, in wetlands, and oceans.

SO_2 is linked with several adverse effects on the respiratory system as it is highly soluble and thus readily absorbed by the mucous membranes of the nose and upper respiratory tract. Exposure to high concentrations may result in the following:

- Reduction in lung function (especially in asthmatics and children)
- Wheezing and coughing
- In severe cases, a decrease in life expectancy

5.1. Ambient Air Quality Standards

South African ambient air quality standards for SO_2 are listed below (Table 5.1).

Table 5.1: SO_2 ambient air quality limits.

Organisation	Limit	10-min Average	Hourly Average	Daily Average	Annual Average
RSA [a]	SO_2 Standard	500 µg/m³ [b]	350 µg/m³ [c]	125 µg/m³ [d]	50 µg/m³ [e]
		191ppb [b]	134 ppb [c]	48 ppb [d]	19 ppb [e]
WHO [f]	SO_2 Guideline	500 µg/m³	-	40 µg/m³	-
		191ppb	-	15 ppb	-

Notes:

a) SA Government Gazette 32816 (published 24 December 2009) in terms of the National Environmental Management: Air Quality Act 39 of 2004 (RSA-NEMAQA, 2009)
b) Not to be exceeded more than five hundred and twenty-six (526) times in one year.
c) Not to be exceeded more than eighty-eight (88) times in one year
d) Not to be exceeded more than four (4) times in one year
e) Not to be exceeded
f) World Health Organisation (WHO, 2021)

5.2. Data Availability

The percentage of valid data received from the SO_2 analysers for September 2025 is shown in Table 5.2.

Table 5.2: SO_2 data capture.

Station	Availability (%)	SO_2 (%)
Arboretum	100	100
Brackenham	100	100
CBD	***89***	***88***
eSikhaleni	100	100
Felixton	100	***88***
Harbour West	100	99
Richardia	100	100
Scorpio	96	96

Notes:

- *Red - Not acceptable for statistical purposes (<80%)*
- *Orange – Does not meet SANAS data capture requirements (<90%)*
- *Yellow – RBCAA reporting requirement (<=95%)*

Missing Data (SO_2):

- *CBD – Power outage plus issue with inverter auto start (4 day/s with <80% data capture, 11-14 September 2025).*
- *Felixton – Baseline drift, analyser swapped, data invalidated (4 day/s with <80% data capture, 12-15 September 2025).*
- *Scorpio – Earth leakage trip associated with station alarm power supply (3 day/s with <80% data capture, 11, 13-14 September 2025).*

5.3. Monthly

Monthly average SO_2 concentrations did not exceed the RSA Annual Limit (Figure 5.1). Comparisons to previous months are also provided (Figure 5.2).

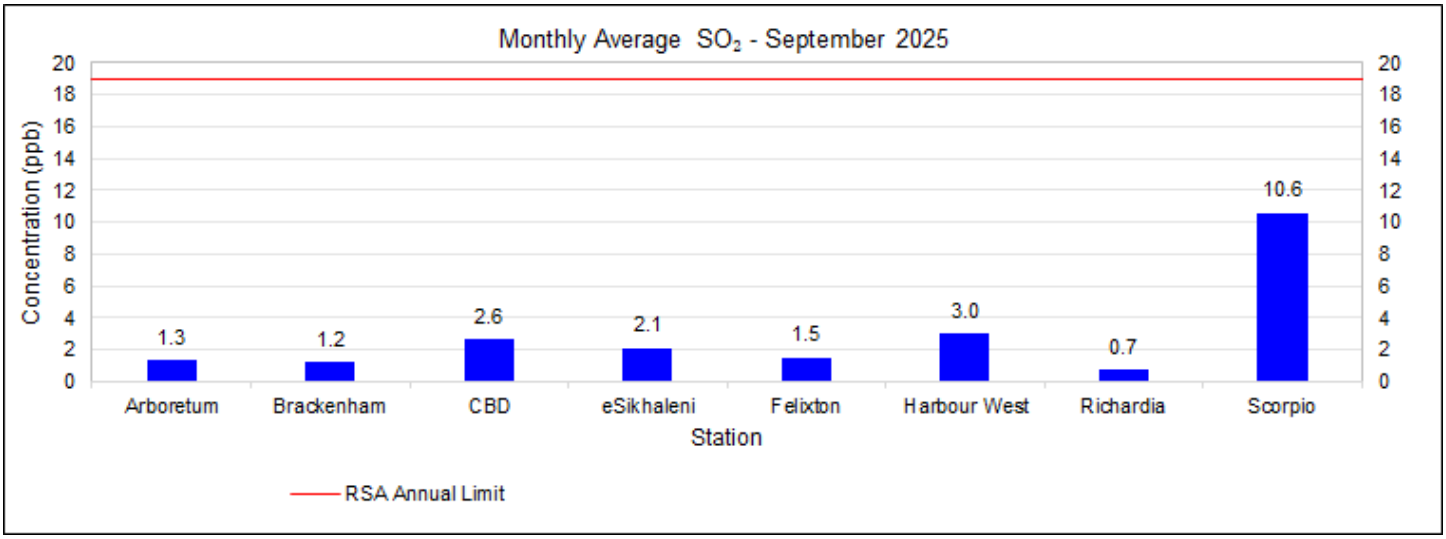


Figure 5.1: SO_2 monthly concentrations.

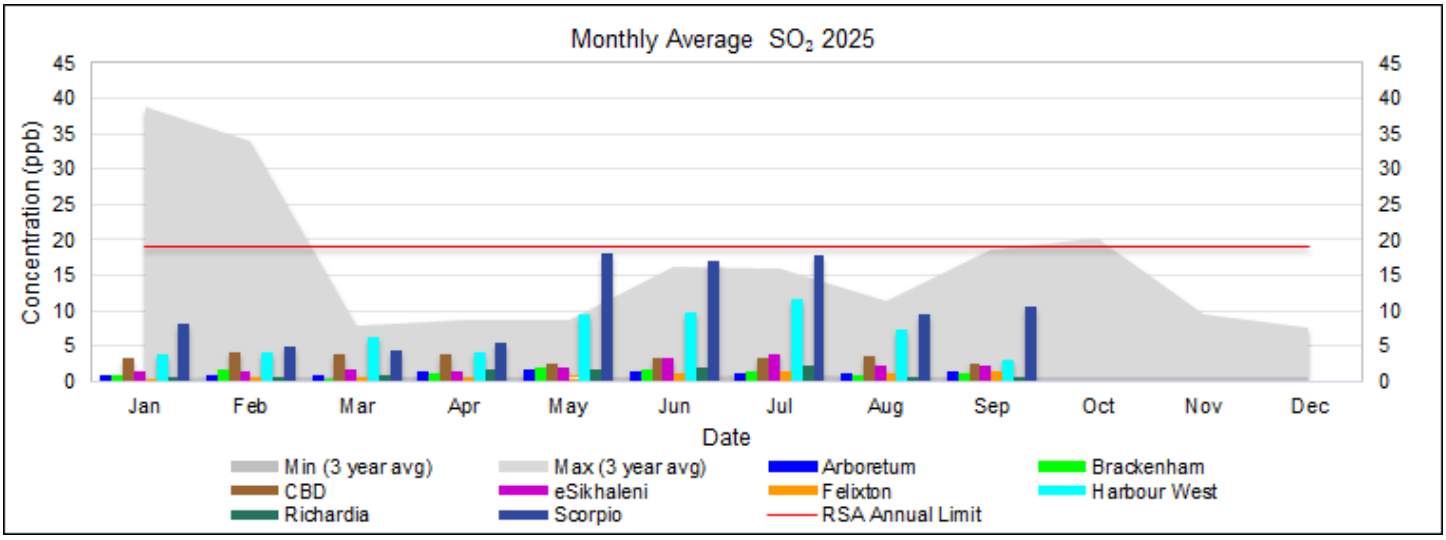


Figure 5.2: SO_2 monthly comparison.

5.4. Diurnal

Diurnal SO_2 concentrations are shown below (Figure 5.3). Diurnal concentrations of SO_2 did not exceed the RSA Daily Limit (48 ppb); the WHO Daily Limit (15 ppb) was exceeded at Scorpio.

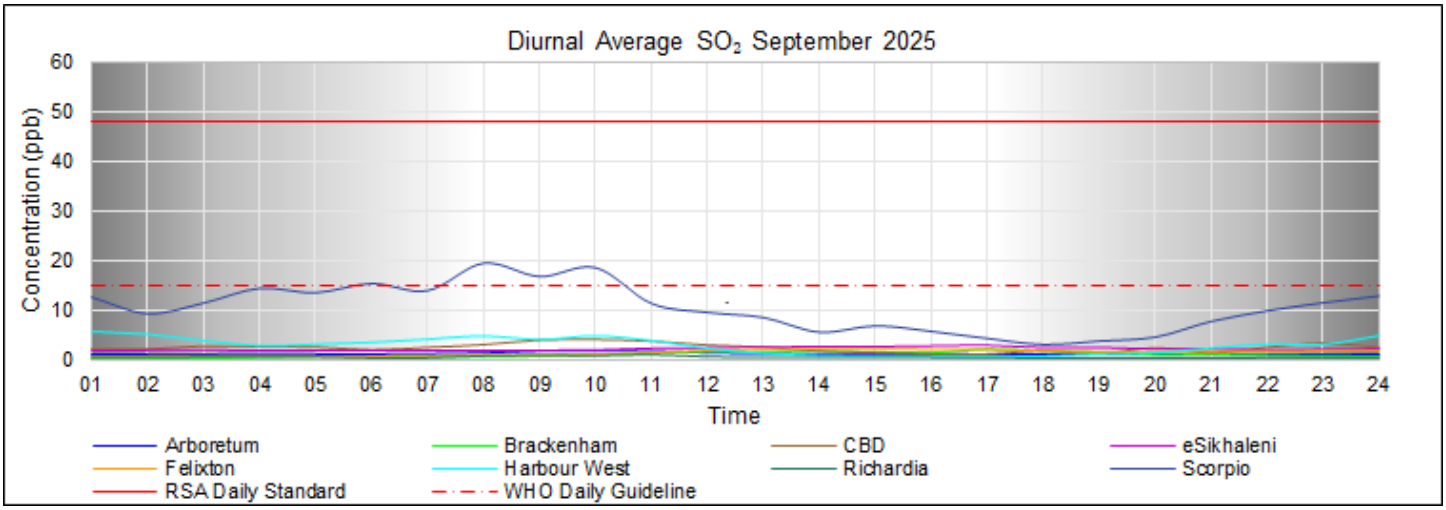


Figure 5.3: SO_2 diurnal concentrations.

5.5. Daily

SO_2 daily average concentrations are shown in Figure 5.4 and exceedances in Table 5.3: There were:

- One (1) measured exceedance of the RSA Limit (48 ppb); and,
- Seven (7) measured exceedances of the WHO Limit (15 ppb).

Table 5.3: SO_2 24-hour average exceedances.

SO_2 Daily RSA Limit (48 ppb)	**1**
South32	**1**
Scorpio	1
Planned maintenance.	1
SO_2 Daily WHO Limit (15 ppb)	**7**
No response required	**7**
Scorpio	7
None	7

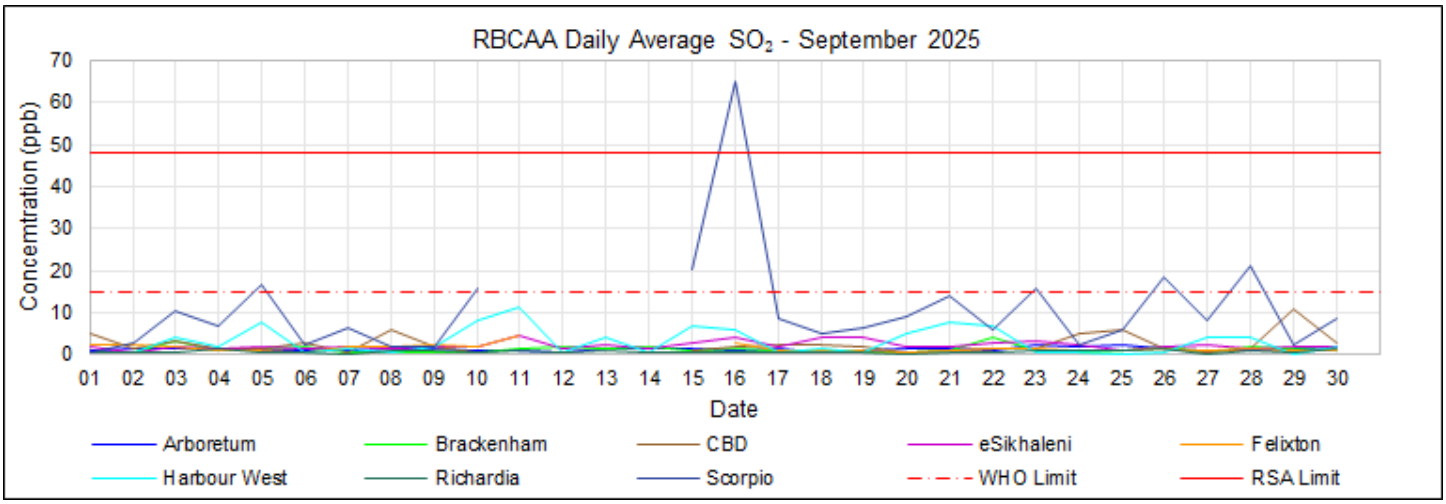


Figure 5.4: SO_2 24-hour average concentrations.

Missing Data (SO_2):

- *CBD – Power outage plus issue with inverter auto start (4 day/s with <80% data capture, 11-14 September 2025).*
- *Felixton – Baseline drift, analyser swapped, data invalidated (4 day/s with <80% data capture, 12-15 September 2025).*
- *Scorpio – Earth leakage trip associated with station alarm power supply (3 day/s with <80% data capture, 11, 13-14 September 2025).*

5.6. Hourly

SO_2 hourly average concentrations are shown in Figure 5.5. Two (2) measured exceedances of the RSA Limit (134 ppb) were recorded.

Table 5.4: SO_2 1-hour average exceedances.

SO_2 Hourly RSA Limit (134 ppb)	2
South32	2
Scorpio	2
Planned maintenance.	2

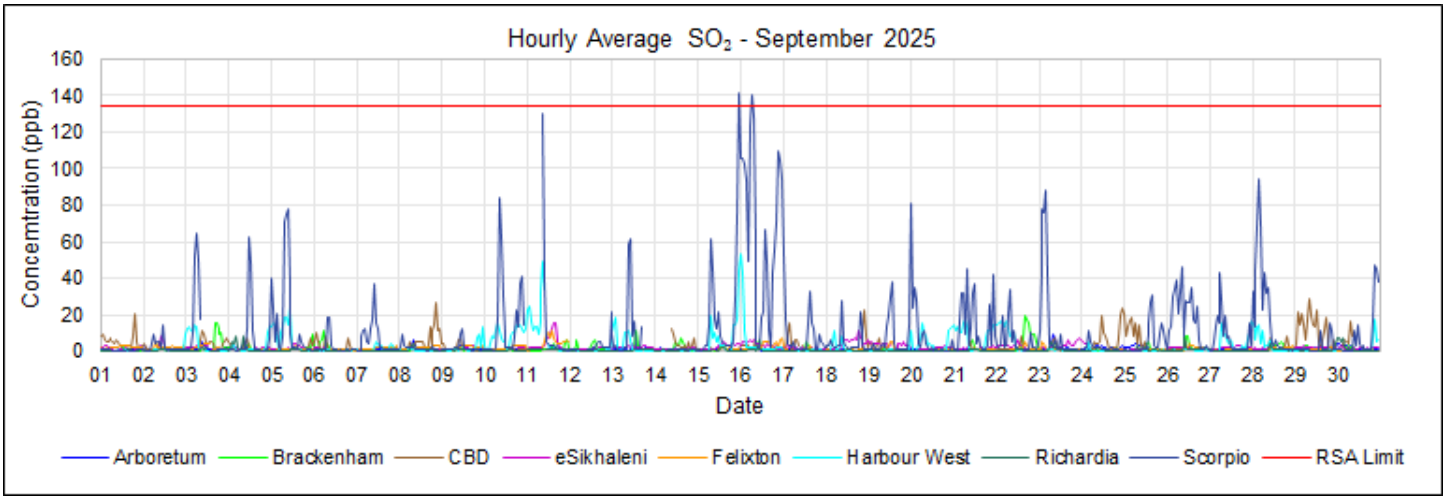


Figure 5.5: SO_2 1-hour average concentrations.

5.7. 10-minute

SO_2 10-minute average concentrations are shown in Figure 5.6. There were no (0) measured exceedances of the RSA and WHO Limit (191 ppb).

Table 5.5: SO_2 10-minute average exceedances.

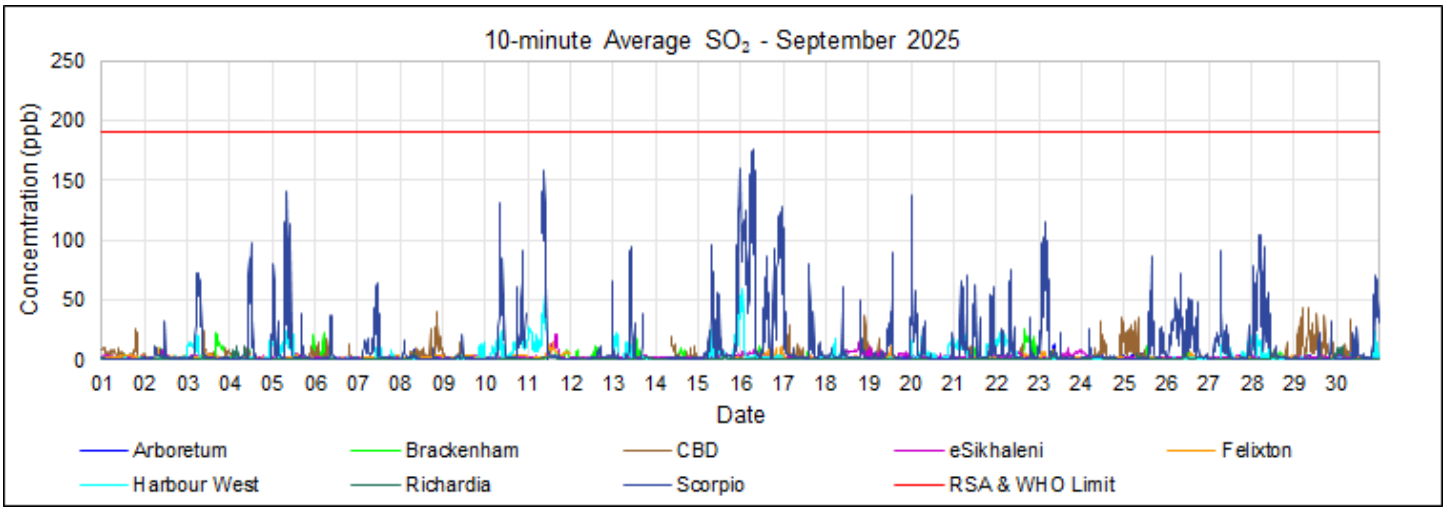


Figure 5.6: SO_2 10-minute average concentrations.

5.8. Exceedances

The number of days on which exceedances occurred, plus comparisons to previous months, is shown in Figure 5.7, and a summary of the SO_2 exceedances broken down per station is presented in Table 5.6. SO_2 exceedances can be associated with emissions resulting from process upsets (e.g., planned maintenance, plant shutdowns, or start-ups), leaks in equipment, pipelines, seals, and valves (fugitive emissions), or an event (e.g., fires or emergency shutdowns). According to the relevant Air Quality Index (AQI), the areas where no exceedances were measured may be considered to have good air quality regarding SO_2.

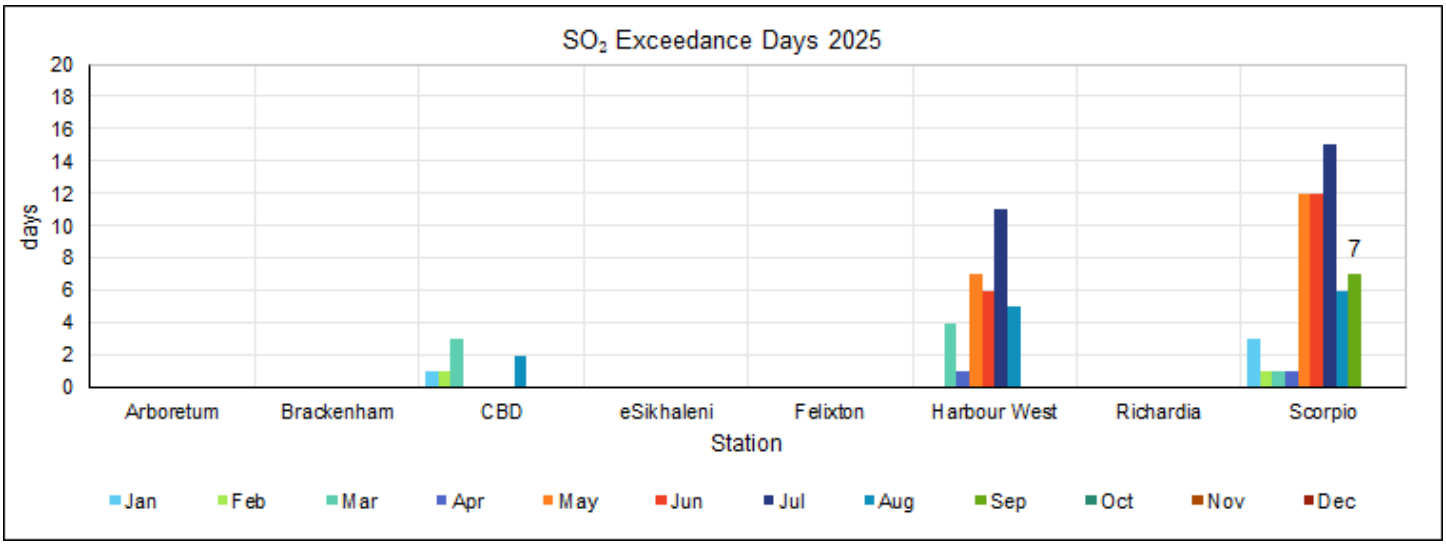


Figure 5.7: SO_2 exceedance days.

Table 5.6: SO_2 exceedance summary.

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SO_2 Daily RSA Limit (48 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	1	-	-	-	2	2	1	-	1	-	-	-	**7**
SO_2 Daily WHO Limit (15 ppb)													
CBD	1	1	3	-	-	-	-	2	-	-	-	-	**7**
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	4	1	7	6	11	5	-	-	-	-	**34**
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	3	-	1	1	12	11	15	6	7	-	-	-	**56**
SO_2 Hourly RSA Limit (134 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	1	-	-	-	-	-	-	-	-	-	-	-	1
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	4	-	3	-	1	-	2	2	-	-	-	-	12
SO_2 10-minute RSA & WHO Limit (191 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	18	1	-	-	-	3	3	-	-	-	-	-	25

6. TOTAL REDUCED SULPHUR MONITORING

Total reduced sulphur compounds (TRS), often associated with rotten egg or cooked cabbage odour, refer to a gaseous mixture of compounds consisting mainly of hydrogen sulphide (H_2S), methyl mercaptan (CH_3S-H), dimethyl sulphide (CH_3-S-CH_3) and dimethyl disulphide (CH_3-S-S-CH_3). While there are other ambient TRS compounds, these four are the most common, abundant, and generally referred to in TRS discussions. Once released into the atmosphere, oxidation products of TRS compounds, such as sulphuric acid, contribute to the environment's acidity. The most often reported health concerns related to TRS substances are nausea and headaches, although each component has its own characteristics and effects.

6.1. Ambient Air Quality Standards

There are no South African standards for TRS; however, the World Health Organisation (WHO) and the Ontario Ministry for the Environment (OME) have derived guidelines.

Table 6.1: TRS ambient air quality limits.

Organisation	Limit	10-min Average	30-minute Average	24-hour Average	Annual Average
WHO	Guideline	-	7 µg/m³ [a]	-	-
		-	5 ppb [a]	-	-
OME	Standard (pulp and paper)	13 µg/m³ [b]	10 µg/m³ [b]	14 µg/m³ [c]	-
		9.3 ppb [b]	7.2 ppb [b]	10.1 ppb [c]	-
OME	Standard (other industries)	13 µg/m³ [b]	10 µg/m³ [b]	7 µg/m³ [b]	-
		9.3 ppb [b]	7.2 ppb [b]	5.0 ppb [b]	-

Notes:

a) *World Health Organisation recommendation to avoid substantial complaints about odour annoyance among the exposed population* (WHO, 2000).
b) *Based on odour effects* (OME, 1999).
c) *Based on the odour and health effects* (OME, 1999).
d) *Based on the adverse effects on the respiratory system (nasal lesions)* (OME, 1999).

The RBCAA has decided to implement the following:

- 30-minute WHO H_2S Guideline; and the
- Daily and 10-minute OME standards for the Pulp and Paper sector.

6.2. Data Availability

The percentage of valid data received from the TRS analysers for August 2025 is shown in Table 6.2.

Table 6.2: TRS data capture.

Station	Availability (%)	TRS (%)
CBD	***89***	***84***
eSikhaleni	100	99
Felixton	100	100
Richardia	100	100

Notes:
- *Red - Not acceptable for statistical purposes (<80%)*
- *Orange – Does not meet SANAS data capture requirements (<90%)*
- *Yellow – RBCAA reporting requirement (<=95%)*

Missing Data (TRS):
- *CBD – Power outage plus issue with inverter auto start (4 day/s with <80% data capture, 11-14 September 2025).*

6.3. Monthly

Monthly average TRS concentrations are shown in Figure 6.1. Comparisons to previous months are also provided (Figure 6.2).

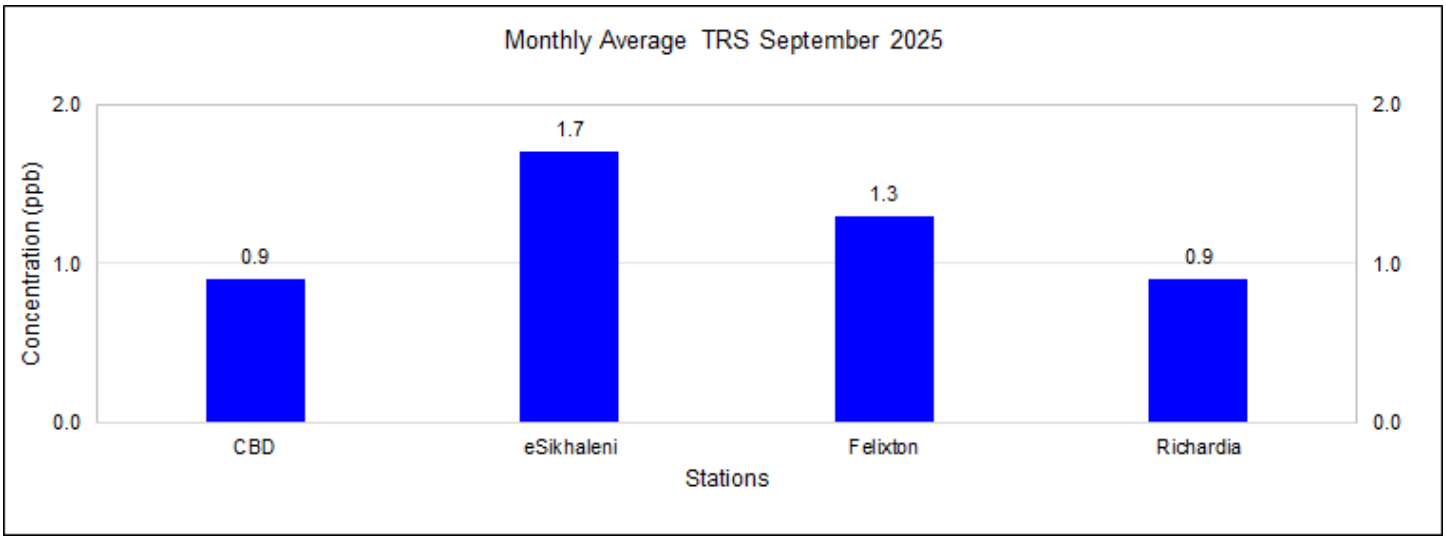


Figure 6.1: TRS monthly concentrations.

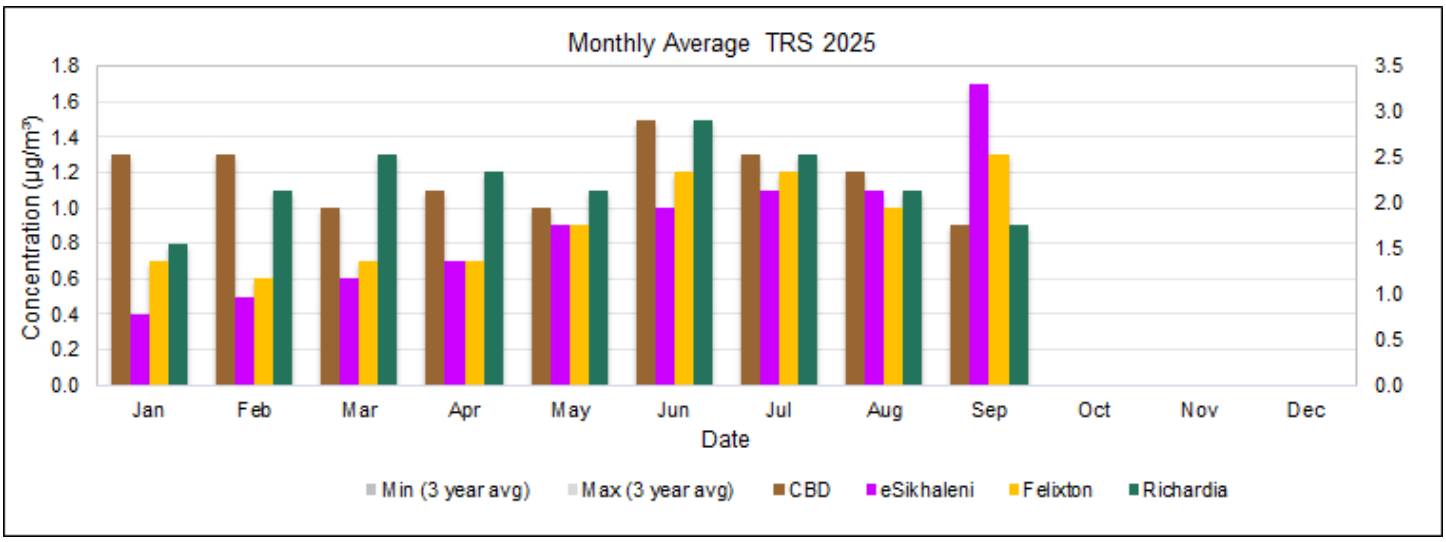


Figure 6.2: TRS monthly comparison.

6.4. Diurnal

The diurnal TRS concentrations are shown below (Figure 6.3). Diurnal concentrations of TRS did not exceed the OME Daily Limit (10.1 ppb).

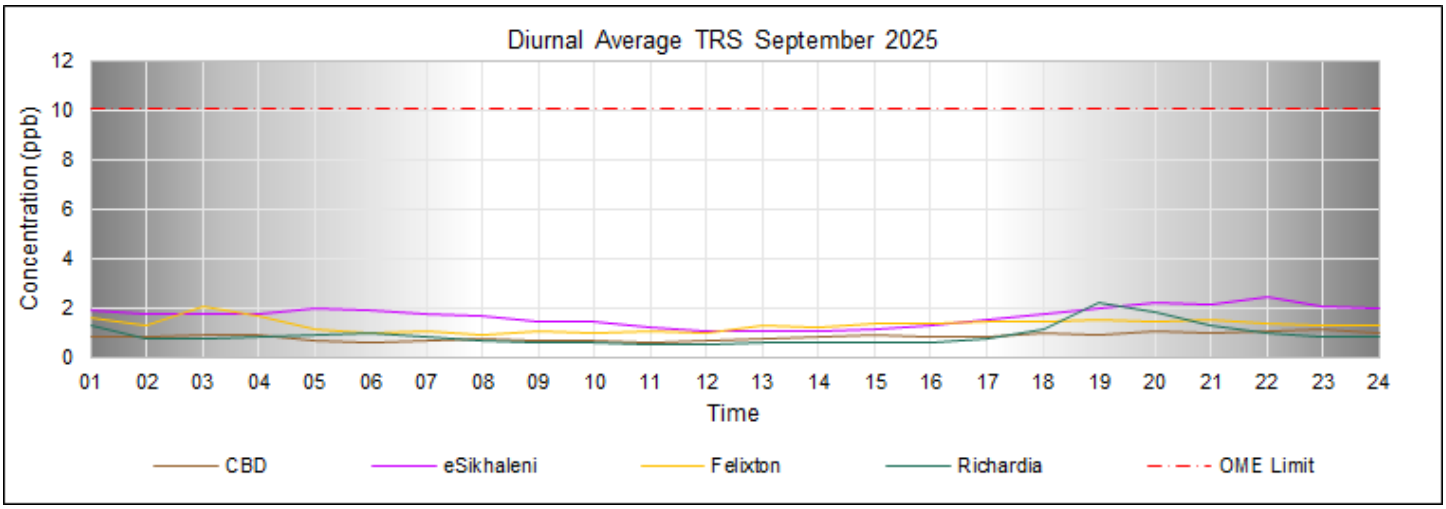


Figure 6.3: TRS diurnal concentrations.

6.5. Daily

The daily average concentrations of TRS are shown in Figure 6.4. No (0) exceedances of the OME Limit (10.1 ppb) were measured.

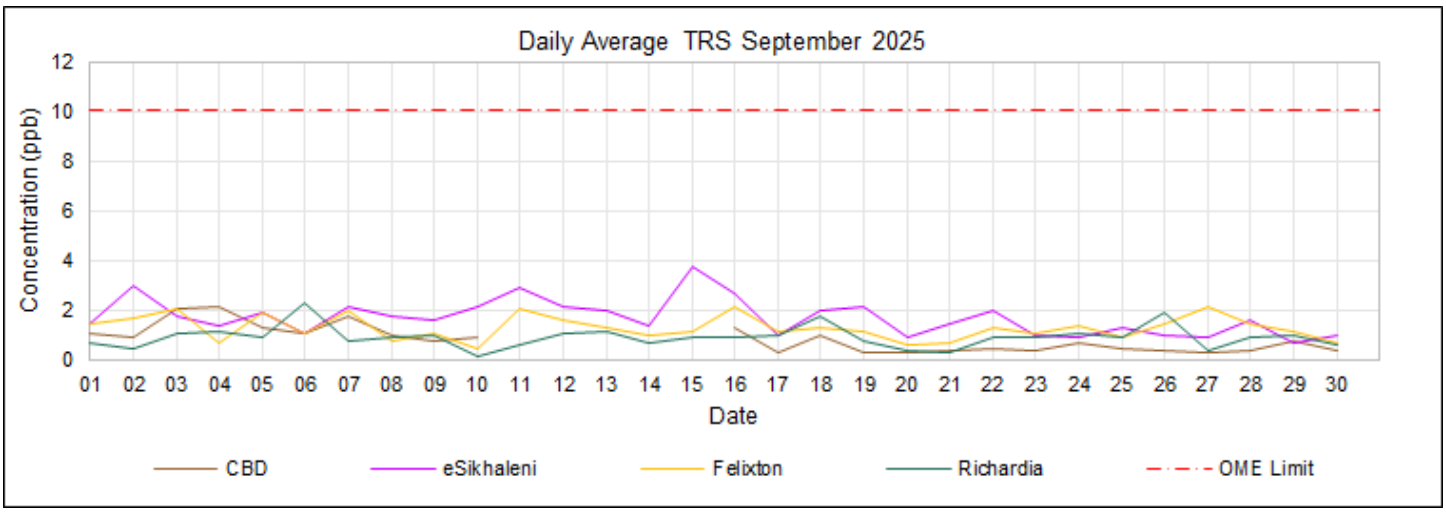


Figure 6.4: TRS daily average concentration.

Missing Data (TRS):

- *CBD – Power outage plus issue with inverter auto start (4 day/s with <80% data capture, 11-14 September 2025).*

6.6. 30-minute

The TRS 30-minute average concentrations are shown in Figure 6.5, and exceedances in Table 6.3. One hundred and two (102) exceedances of the WHO Limit (5.0 ppb) were measured.

Table 6.3: TRS 30-minute average exceedances (WHO).

TRS 30-minute WHO H_2S Limit (5.0 ppb)	102
CoU	**18**
Richardia	18
RBCAA allocation - sewage discharge	18
Mondi	**23**
CBD	3
NCG system	1
STP & Condensable gas	2
eSikhaleni	20
SETP	20
THS	**55**
eSikhaleni	5
Smuts systems	5
Felixton	50
Boilers-coal operated.	7
RBCAA allocation	3
Smuts systems	40
THS & Mondi	**6**
eSikhaleni	4
Smuts Plant + Mondi NCG system	4
Felixton	1
Smuts Plant + Mondi STP and condensable gases	1
Richardia	1
Smuts systems + Mondi unidentified cause	1

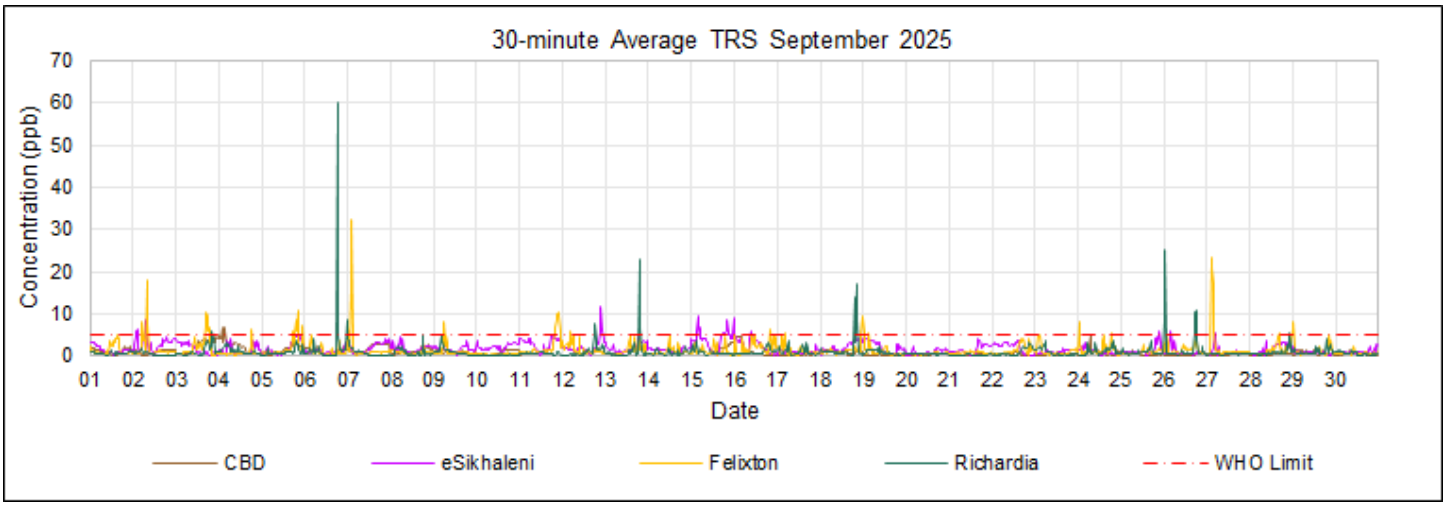


Figure 6.5: TRS 30-minute average concentration.

6.7. 10-minute

The TRS 10-minute average concentrations are shown in Figure 6.6, and exceedances in Table 6.4. Eighty-two (82) exceedances of the OME Limit (9.3 ppb) were measured.

Table 6.4: TRS 10-minute average exceedances (OME).

TRS 10-minute OME Limit (9.3 ppb)	82
CoU	**24**
Richardia	24
RBCAA allocation - sewage discharge	24
Mondi	**9**
CBD	2
NCG system	1
STP & Condensable gas	1
eSikhaleni	7
SETP	7
THS	**46**
Felixton	46
Boilers-coal operated.	9
RBCAA allocation	5
Smuts systems	32
THS & Mondi	**3**
eSikhaleni	3
Smuts Plant + Mondi NCG system	3

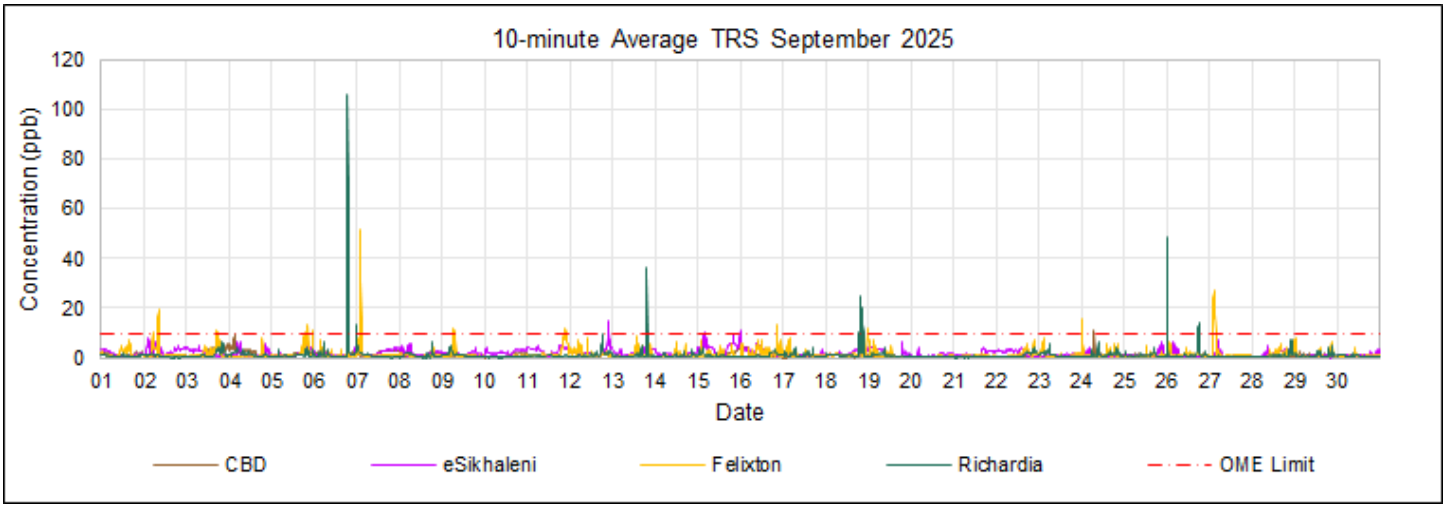


Figure 6.6: TRS 10-minute average concentrations.

6.8. Exceedances

The number of days on which exceedances occurred, plus comparisons to previous months, is shown in Figure 6.7, and a summary of the TRS exceedances, broken down per station, is presented in Table 6.5TRS exceedances can be associated with emissions because of process upsets (e.g., planned maintenance, plant shutdowns, or start-up), leaks in equipment, pipelines, seals, and valves (fugitive emissions), or an event (e.g., fires or emergency shutdowns). According to the relevant Air Quality Index (AQI), the areas where no exceedances were measured may have good air quality.

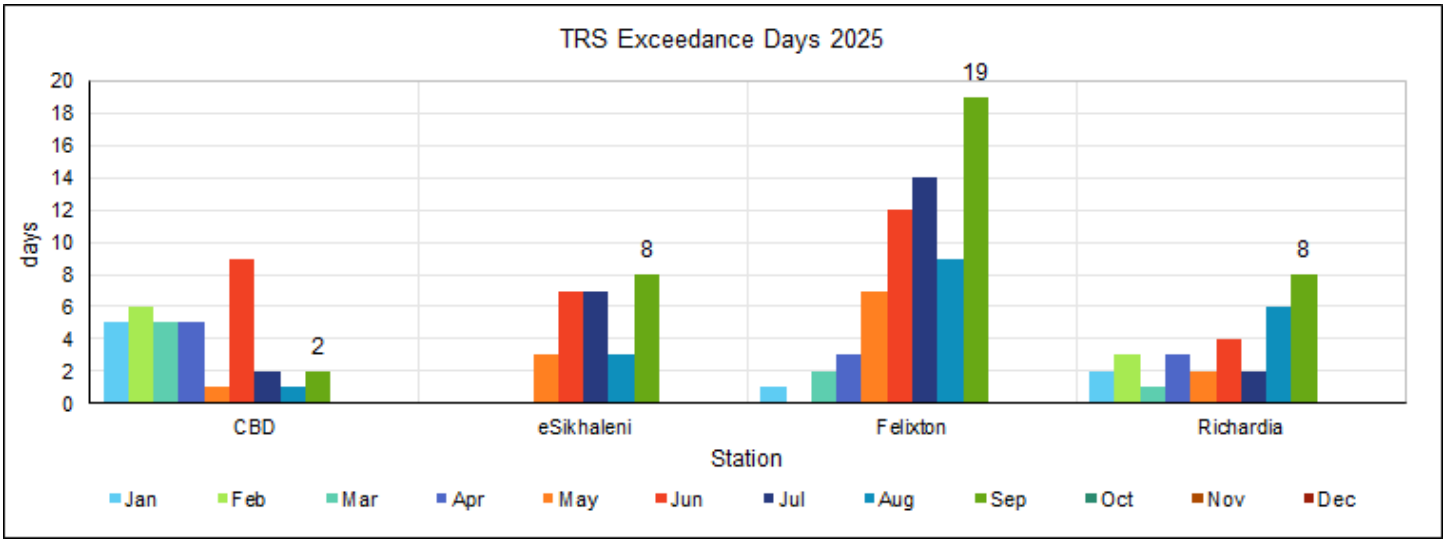


Figure 6.7: TRS exceedance days.

Table 6.5: TRS exceedance summary.

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
TRS 24-hr-OME Limit (10.1 ppb)													
CBD	1	-	-	-	-	-	-	-	-	-	-	-	**1**
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
TRS 30-minute WHO H_2S Limit (5.0 ppb)													
CBD	34	25	15	10	2	41	3	10	3	-	-	-	**143**
eSikhaleni	-	-	-	-	4	19	11	4	29	-	-	-	**67**
Felixton	1	-	8	7	11	31	51	20	51	-	-	-	**180**
Richardia	5	7	3	7	3	16	3	9	19	-	-	-	**72**
TRS 10-minute OME Limit (9.3 ppb)													
CBD	53	10	8	7	-	27	-	-	2	-	-	-	**107**
eSikhaleni	-	-	-	-	4	11	8	1	10	-	-	-	**34**
Felixton	2	-	4	10	10	43	66	13	46	-	-	-	**194**
Richardia	3	1	-	9	-	13	-	19	24	-	-	-	**69**

7. MONTHLY AIR QUALITY

Where possible, the RBCAA assesses data collected by its network against National Standards, International Guidelines, and Local Targets. The WHO air quality guidelines (AQGs) are intended for global use and have been developed to support actions that achieve air quality protecting public health in various contexts. On the other hand, air quality standards and local targets are set by each country or region to protect the public health of its citizens, and as such, are an essential component of national risk management and environmental policies. National standards and local targets vary according to the approach adopted for balancing health risks, technological feasibility, economic considerations, and other political and social factors. These factors, in turn, depend on, among other things, the level of development and national capability in air quality management. (WHO, 2005)

7.1. Conclusion

Determining air quality concerning pollutants measured and impacts simulated is based on comparison to and exceedances of short-term (10-minute, 30-minute, 1-hour and 24-hour averages) and long-term (monthly and annual averages) targets, guidelines, and standards.

AIMS concludes that during September 2025, based on the following:

- Measured long-term average concentrations (chronic exposure) and WHO health guidelines of concern are:
  - PM_{10} at CBD, eSikhaleni, Felixton, Richardia and Scorpio - all points monitored.
  - $PM_{2.5}$ at Brackenham, Felixton, Harbour West and Scorpio - all points monitored.

- Measured short-term average concentrations (acute exposure) and the WHO health guidelines, ambient air quality was compromised by:
  - PM_{10} at eSikhaleni, Richardia and Scorpio.
  - $PM_{2.5}$ at Brackenham, Felixton, Harbour West and Scorpio - all points monitored.
  - SO_2 at Scorpio; and
  - TRS at CBD, eSikhaleni, Felixton and Richardia - all points monitored.

8. AIRGRADIENT MONITORING NETWORK

The AirGradient network was established towards the end of 2023 as a co-location study to verify the accuracy of its particulate measurements. It was later expanded in response to an RBCAA objective, adding monitoring capabilities for additional pollutants. Initially, there were only two sites, Harbour West and Richardia, and only particulates (PM_{10}, $PM_{2.5}$ and PM_1) were monitored. The network was expanded to Brackenham, CBD, eSikhaleni and Felixton in July 2024, and all the monitors were upgraded to measure volatile organic compounds (TVOC), nitrogen oxides (NO_x), and carbon dioxide (CO_2).

AirGradient monitors are designed to provide accessible and cost-effective solutions for air quality monitoring. While they offer valuable insights into environmental conditions, there are notable differences when compared to analysers approved by organisations such as the U.S. Environmental Protection Agency (EPA):

- Accuracy and Precision: Approved analysers are subjected to rigorous testing to ensure high accuracy and precision in measuring specific pollutants. AirGradient monitors utilise sensors such as the Plantower PMS5003 for particulate matter and the SenseAir S8 for CO_2, which are dependable but may not meet the stringent accuracy levels of certified equipment. For instance, the SenseAir S8 has an accuracy of ±30 ppm ±3% of the reading, which is suitable for general monitoring but may not meet standards for regulatory compliance.
- Calibration and Certification: Approved devices undergo regular calibration and certification processes to maintain compliance with federal standards. AirGradient monitors, particularly the DIY kits, may not come with such certifications, and their accuracy can be influenced by factors like sensor placement and environmental conditions. However, AirGradient offers fully assembled monitors certified for CE, FCC, RoHS, and REACH, providing a higher level of assurance in their performance.
- Data Application: AirGradient monitors are well-suited for educational purposes, personal use, and preliminary air quality assessments. They are beneficial for raising awareness and informing decisions on indoor air quality management. In contrast, approved analysers are employed for regulatory monitoring, research, and enforcement of air quality standards, where data accuracy and reliability are paramount.
- Cost and Accessibility: AirGradient monitors are more affordable and accessible, making them ideal for widespread use in homes, schools, and communities. Approved analysers are significantly more expensive and are typically used by governmental agencies and research institutions.

In summary, while AirGradient monitors provide valuable air quality data for non-regulatory applications, they do not replace the precision and certification of approved analysers required for compliance and enforcement purposes.

The RBCAA AirGradient monitoring network comprises six (6) stations (Figure 8.1).

Figure 8.1: RBCAA monitoring network.

8.1. Data Availability

The percentage of valid data received from the AirGradient network for 2025 is shown in Table 8.1.

Table 8.1: AirGradient network data availability.

	Brk	CBD	eSk	Flx	HW	MS	Mtz	Rch
Jan 2025	99	98	97	97	98	-	-	97
Feb 2025	***89***	***90***	***89***	***86***	***86***	-	-	***90***
Mar 2025	99	100	97	95	100	-	-	100
Apr 2025	***86***	96	***93***	***93***	96	-	-	96
May 2025	***55***	99	99	***93***	99	-	-	99
Jun 2025	96	97	96	***89***	97	-	-	***95***
Jul 2025	100	99	99	98	100	-	-	98
Aug 2025	100	100	99	96	100	***56***	-	100
Sept 2025	97	***86***	96	***92***	96	96	***69***	97
Oct 2025	-	-	-	-	-	-	-	-
Nov 2025	-	-	-	-	-	-	-	-
Dec 2025	-	-	-	-	-	-	-	-

Notes:
1. Red - Not acceptable for statistical purposes (<80%),
2. Orange – Does not meet SANAS data capture requirements (<90%),
3. Yellow – RBCAA reporting requirement (<=95%)

Missing Data:

- *Brackenham*
  - *February '25 –power outages (load shedding).*
  - *April '25 – power outages.*
  - *May '25 –issue with firmware upgrade /Wi-Fi connectivity.*
- *CBD*
  - *February '25 –power outages (load shedding).*
  - *September'25 - power outage plus issue with inverter auto start.*
- *eSikhaleni*
  - *February '25 –power outages (load shedding).*
  - *April '25 – power outages.*
- *Felixton*
  - *February '25 –power outages (load shedding).*
  - *April '25 – power outages.*
  - *June'25 – power outages.*
  - *September'25 – power outages.*
- *Harbour West*
  - *February '25 –power outages (load shedding).*
- *Meerensee*
  - *August'25 – unit commissioned on the 14th of August.*
- *Mtunzini*
  - *September'25 – unit commissioned on the 5th of September, power outages.*
- *Richardia*
  - *February '25 –power outages (load shedding).*
  - *June'25 – power outages.*

8.2. Particulate Monitoring

8.2.1. Monthly

PM_{10}, $PM_{2.5}$ and PM_1 monthly average concentrations are shown in Figure 8.2, Figure 8.3, and Figure 8.4. Comparisons to previous months are also provided (Figure 8.5, Figure 8.6, and Figure 8.7). There are similar seasonal trends, with elevated concentrations during winter.

- PM_{10} monthly average concentrations did not exceed the RSA Annual Limit; the WHO Annual Limit was exceeded at Brackenham, eSikhaleni, Felixton, Meerensee, and Richardia.
- $PM_{2.5}$ monthly average concentrations did not exceed the RSA Annual Limit; the WHO Annual Limit was exceeded at Brackenham, eSikhaleni, Felixton, Meerensee, Mtunzini and Richardia.

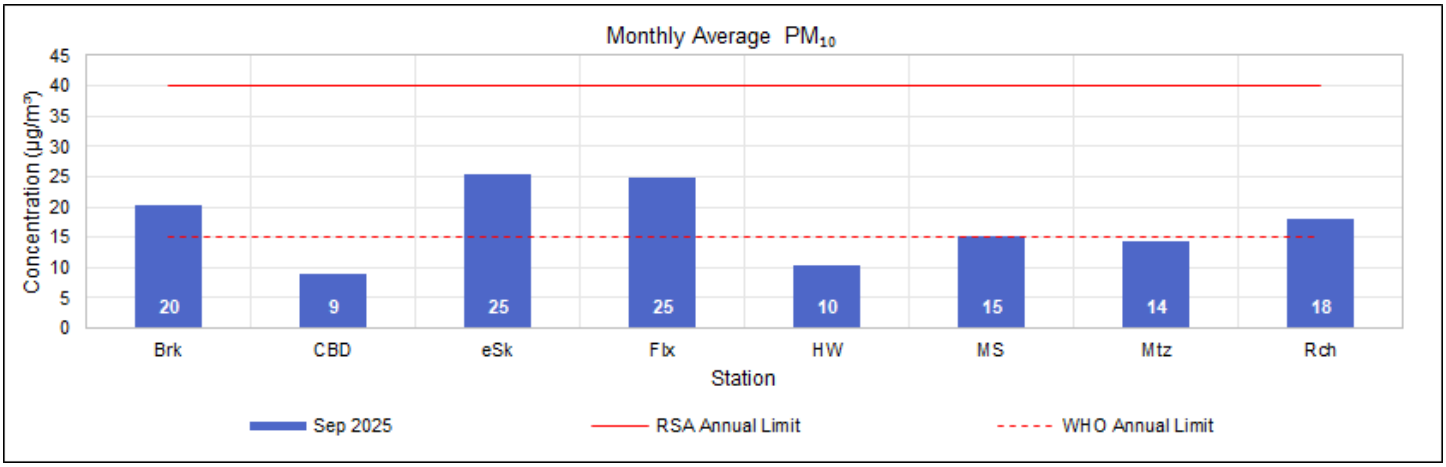


Figure 8.2: PM_{10} monthly concentration.

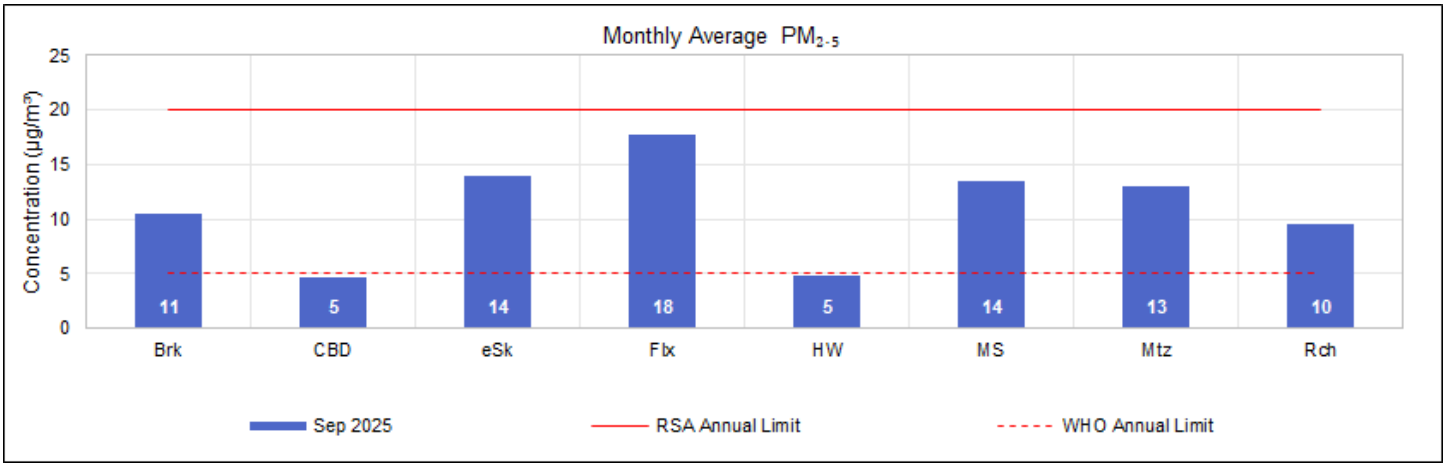


Figure 8.3: $PM_{2.5}$ monthly concentration.

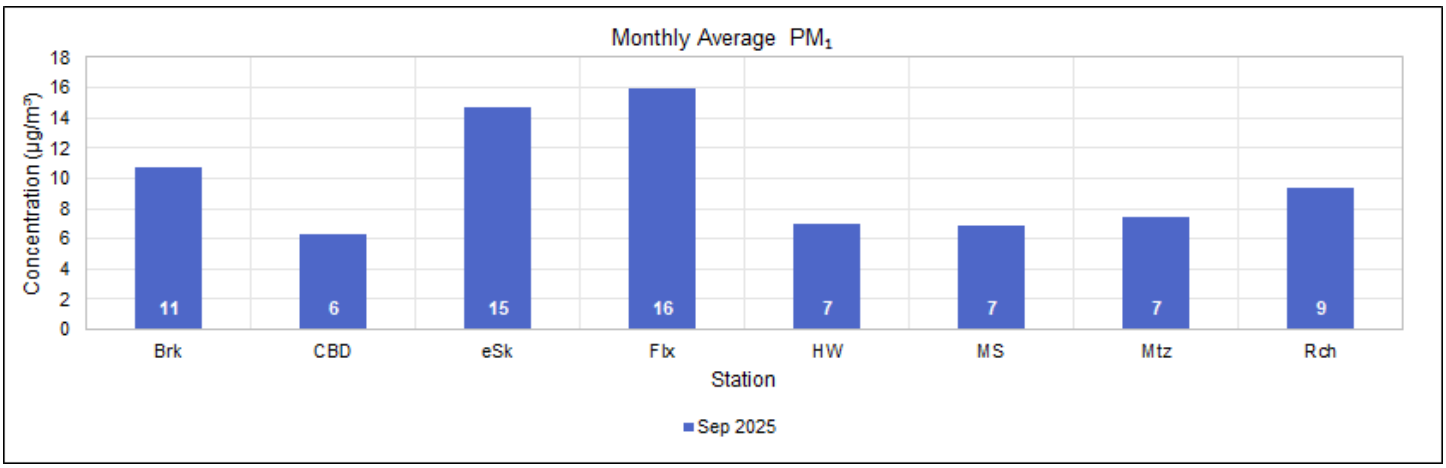


Figure 8.4: PM_{10} monthly concentration.

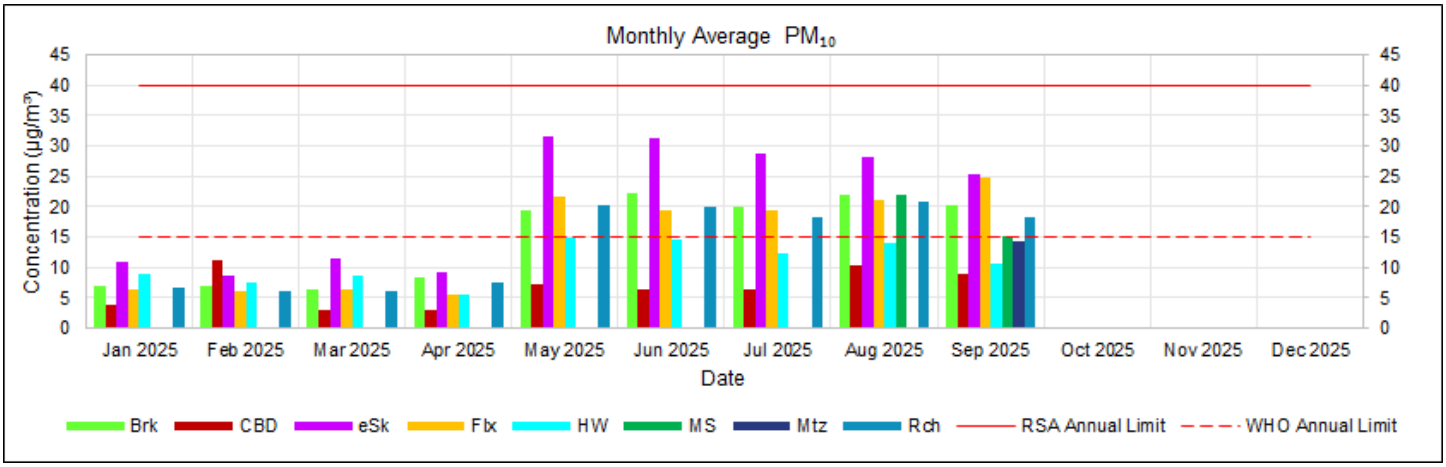


Figure 8.5: PM_{10} monthly comparison.

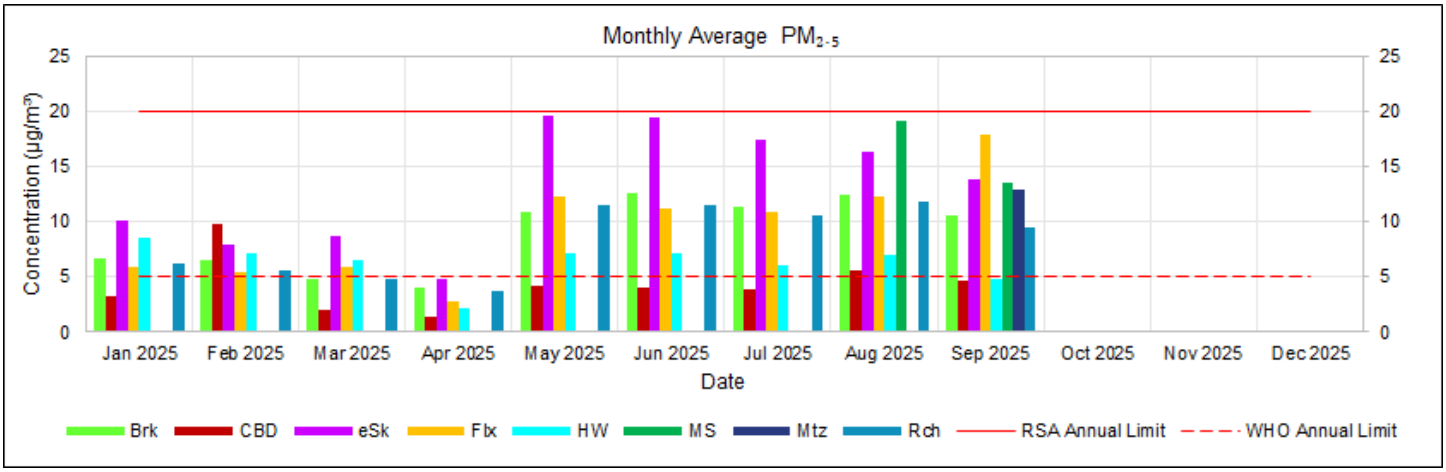


Figure 8.6: $PM_{2.5}$ monthly comparison.

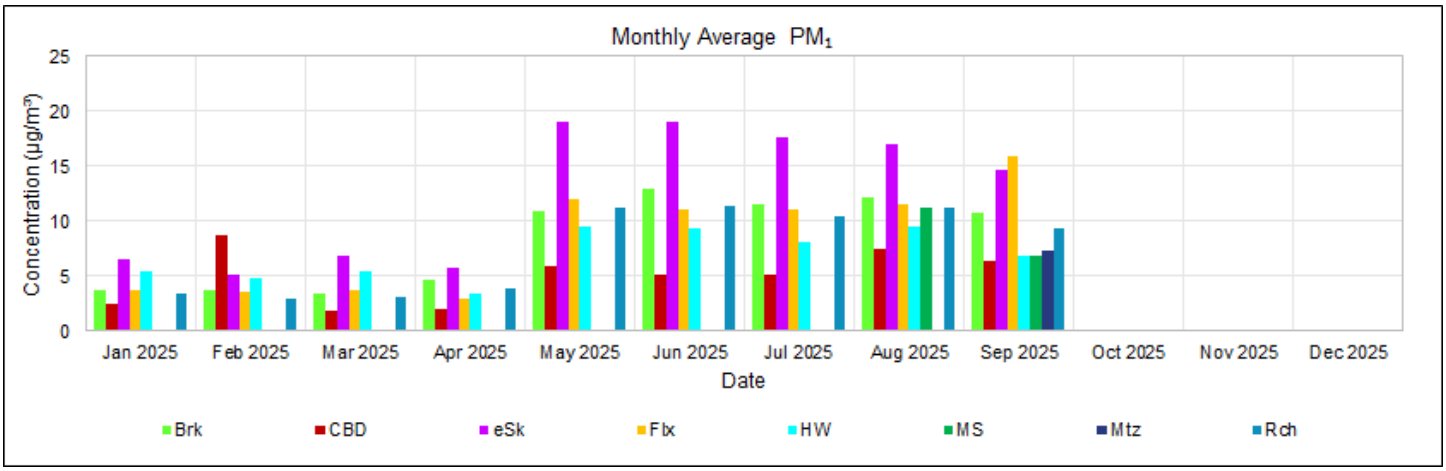


Figure 8.7: PM_1 monthly comparison.

8.2.2. Diurnal

PM diurnal concentrations are shown below (Figure 8.8, Figure 8.9, and Figure 8.10).

- PM_{10} diurnal concentrations did not exceed the RSA daily limit or the WHO daily limit.
- $PM_{2.5}$ diurnal concentrations did not exceed the RSA limit, and the WHO daily limit was exceeded at eSikhaleni, Felixton and Meerensee.

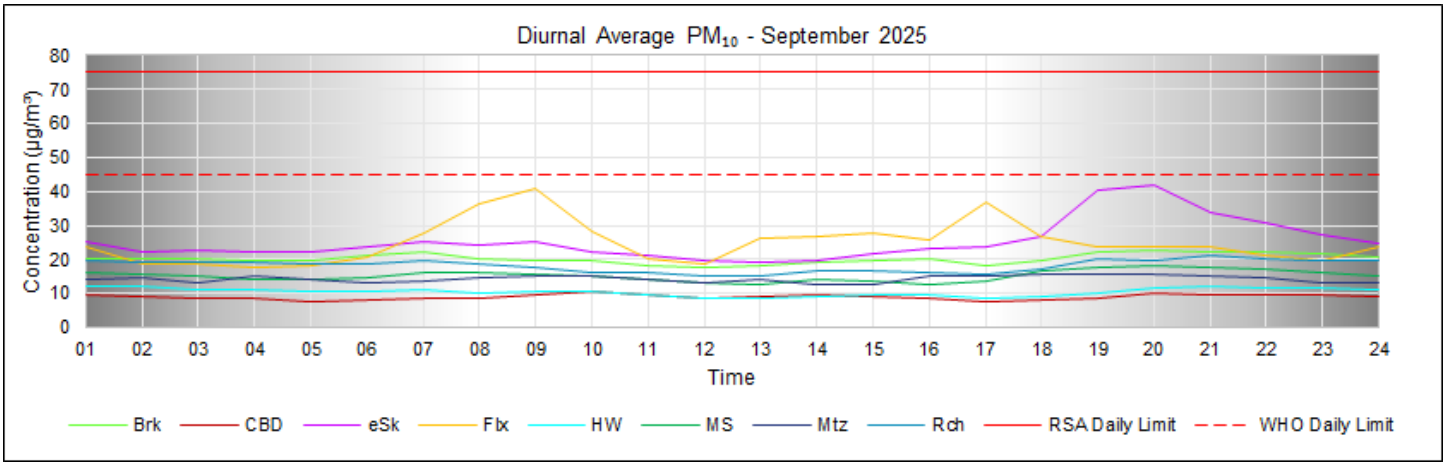


Figure 8.8: PM_{10} diurnal concentrations.

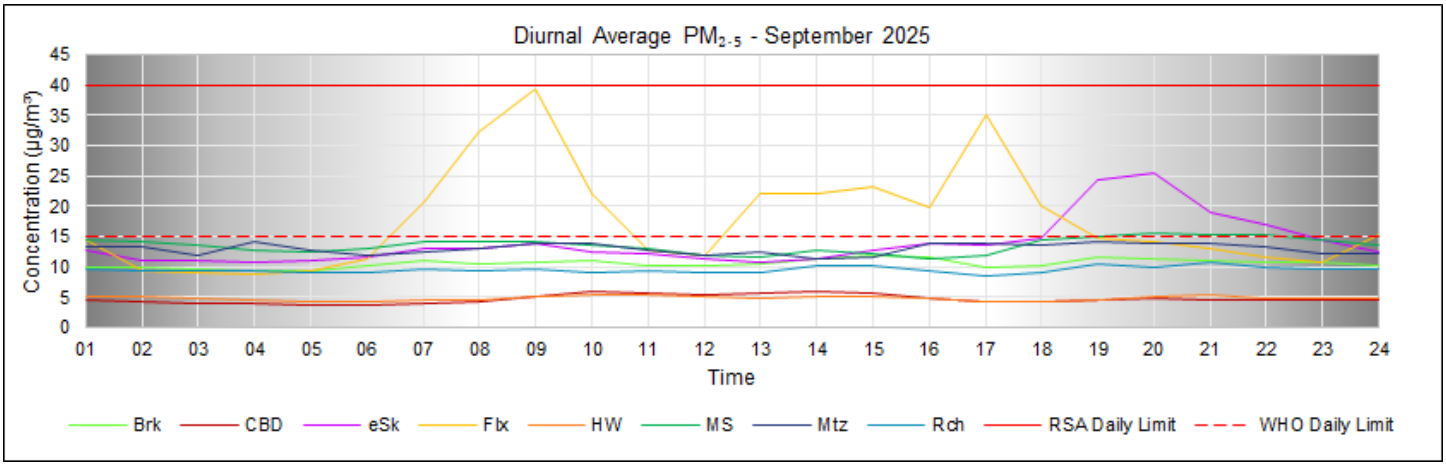


Figure 8.9: $PM_{2.5}$ diurnal concentrations.

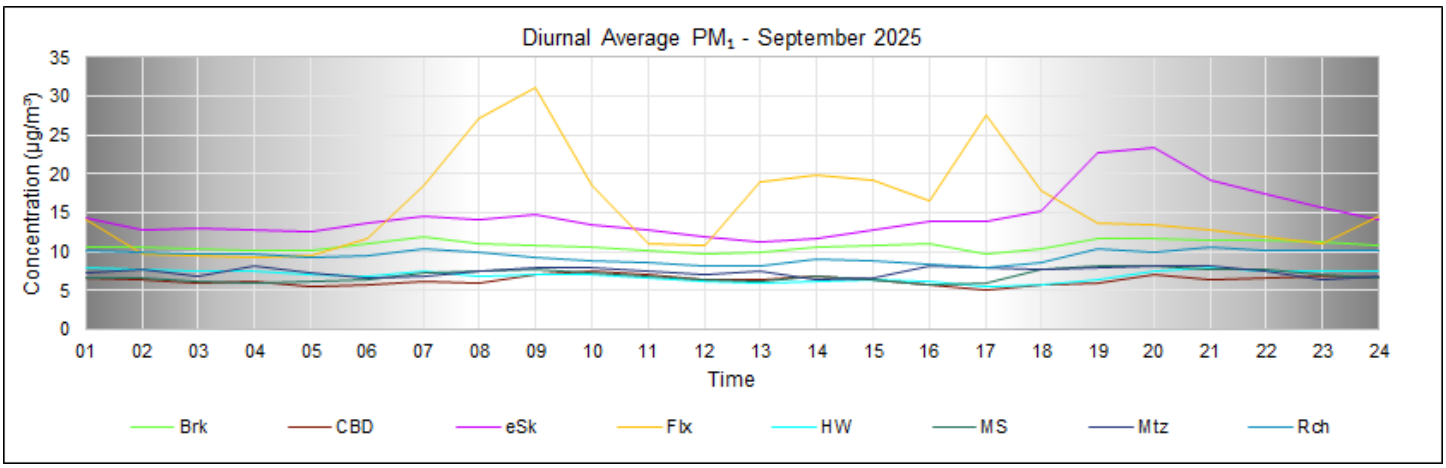


Figure 8.10: PM_1 diurnal concentrations.

8.2.3. Daily

PM daily concentrations are shown below (Figure 8.11, Figure 8.12, and Figure 8.13).

- The PM_{10} RSA daily limit was exceeded at Felixton, and the WHO limit was exceeded at eSikhaleni and Felixton.
- The $PM_{2.5}$ RSA limit was exceeded at Felixton; the WHO limit was exceeded at Brackenham, eSikhaleni, Felixton and Meerensee.

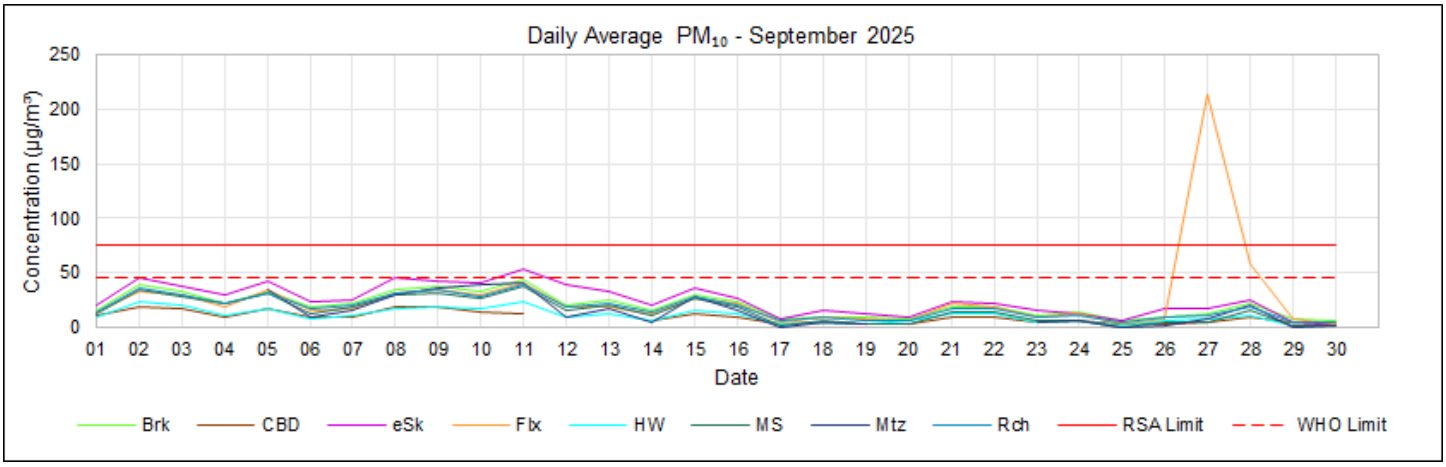


Figure 8.11: PM_{10} daily concentrations.

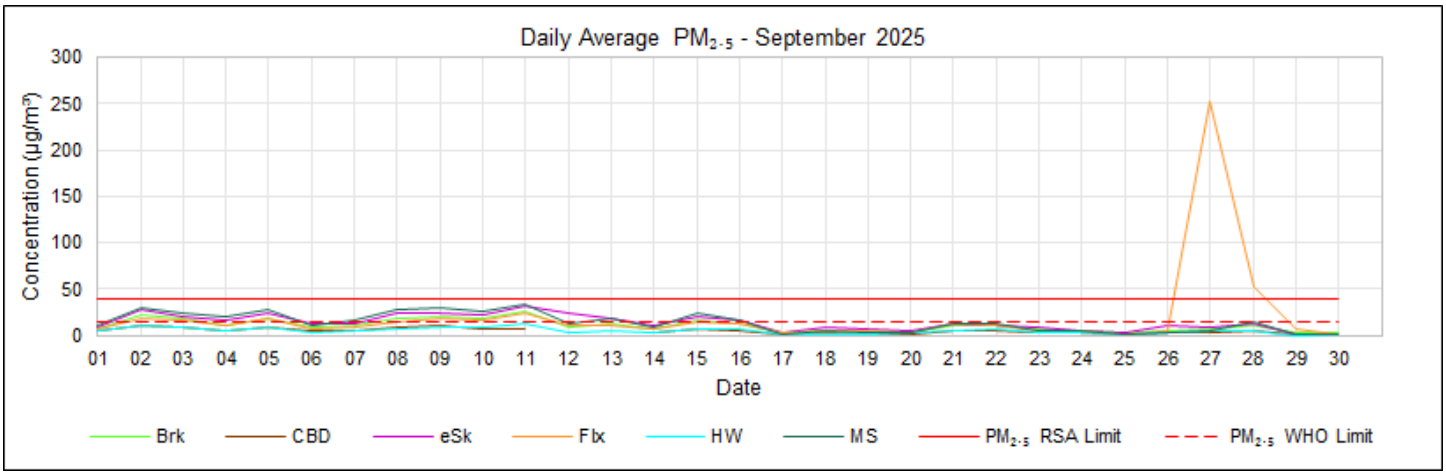


Figure 8.12: $PM_{2.5}$ daily concentrations.

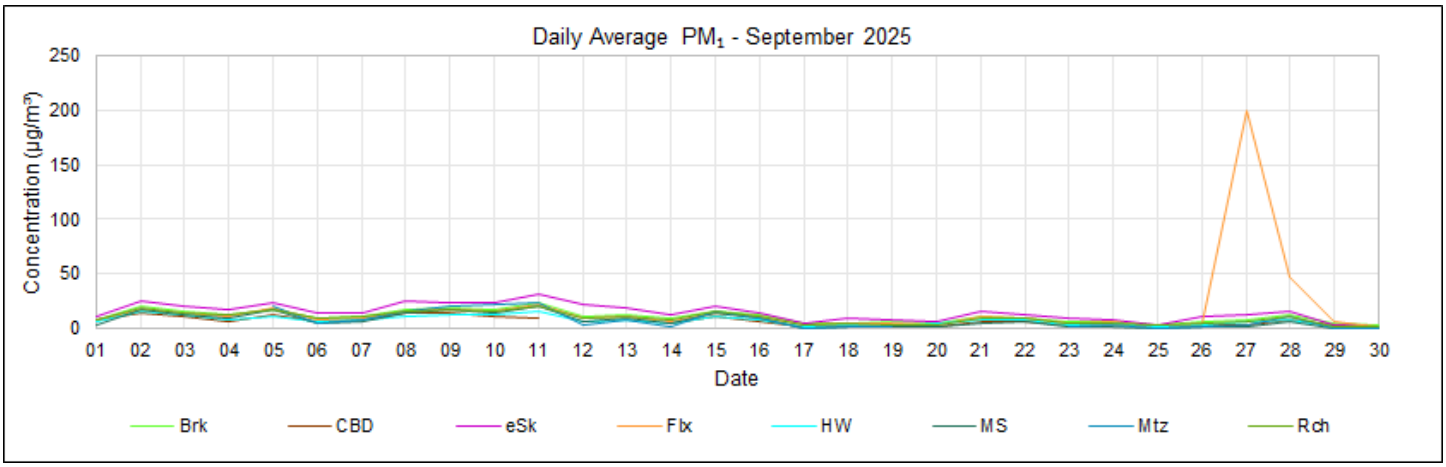


Figure 8.13: PM_1 daily concentrations.

8.3. Total Volatile Organic Compounds Monitoring

Total Volatile Organic Compounds (VOCs) refer to organic chemicals that easily evaporate at ambient temperatures. They are commonly present in outdoor air due to sources like industrial emissions, vehicle exhaust, and the use of chemical products. These compounds can significantly contribute to air pollution and have a negative impact on human health and the environment. Exposure to high concentrations of TVOCs can cause short-term symptoms such as irritation of the eyes, nose, and throat, as well as headaches and dizziness. Prolonged exposure may lead to more severe health issues, including damage to the liver, kidneys, and central nervous system. The AirGradient TVOC sensors cannot distinguish between harmful and harmless substances and don't measure absolute levels but changes in the concentration (index); this can help identify (and avoid) emission events such as rush hours.

8.3.1. Monthly

TVOC monthly average concentrations are shown in Figure 8.14. Comparisons to previous months are also provided (Figure 8.15).

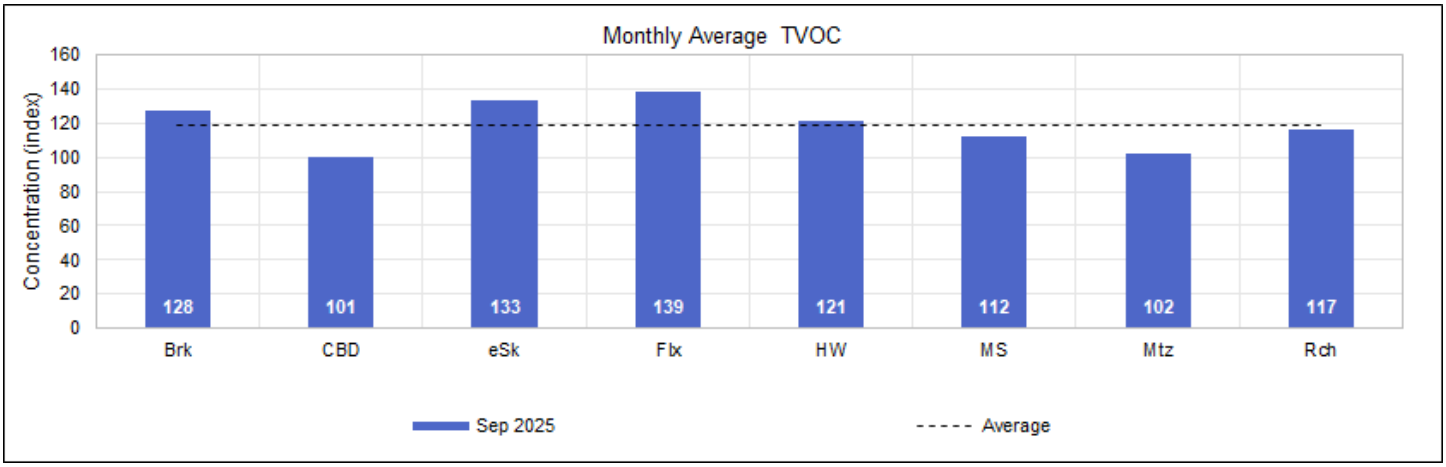


Figure 8.14: TVOC monthly concentration.

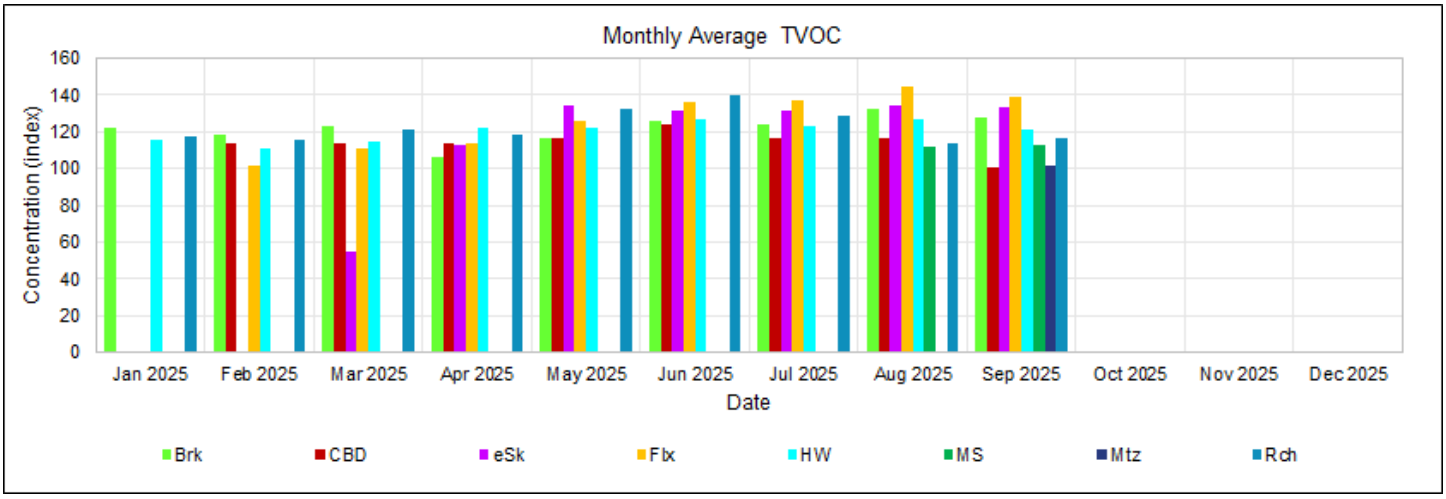


Figure 8.15: TVOC monthly comparison.

8.3.2. Diurnal

TVOC diurnal concentrations are shown below (Figure 8.8, Figure 8.9, and Figure 8.10).

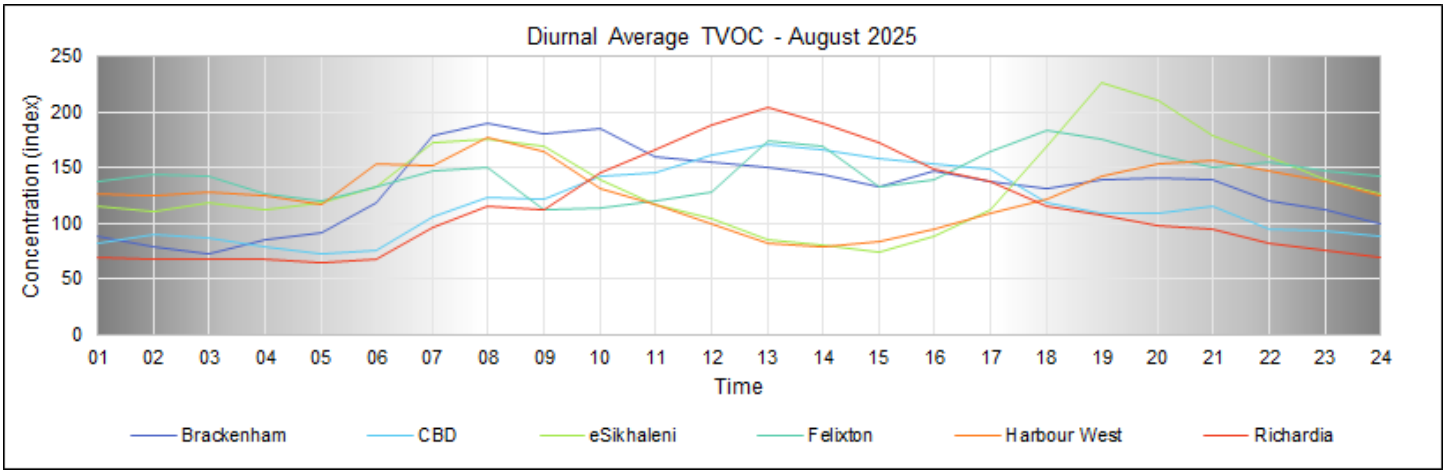


Figure 8.16: TVOC diurnal concentrations.

8.3.3. Daily

TVOC daily concentrations are shown below (Figure 8.17).

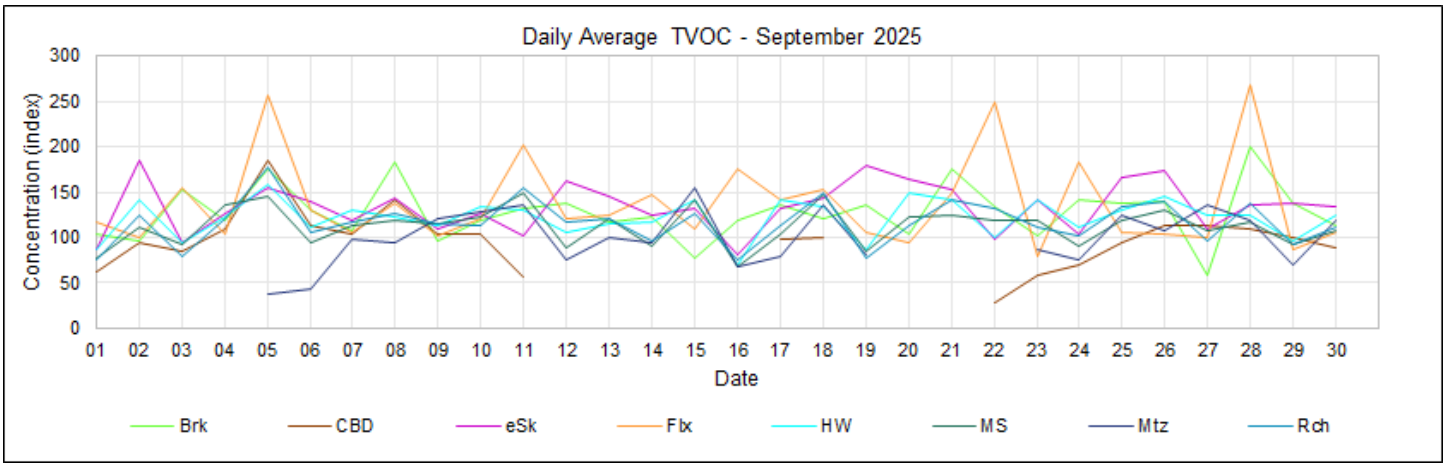


Figure 8.17: TVOC daily concentrations.

8.3.4. Hourly

TVOC hourly concentrations are shown below (Figure 8.18).

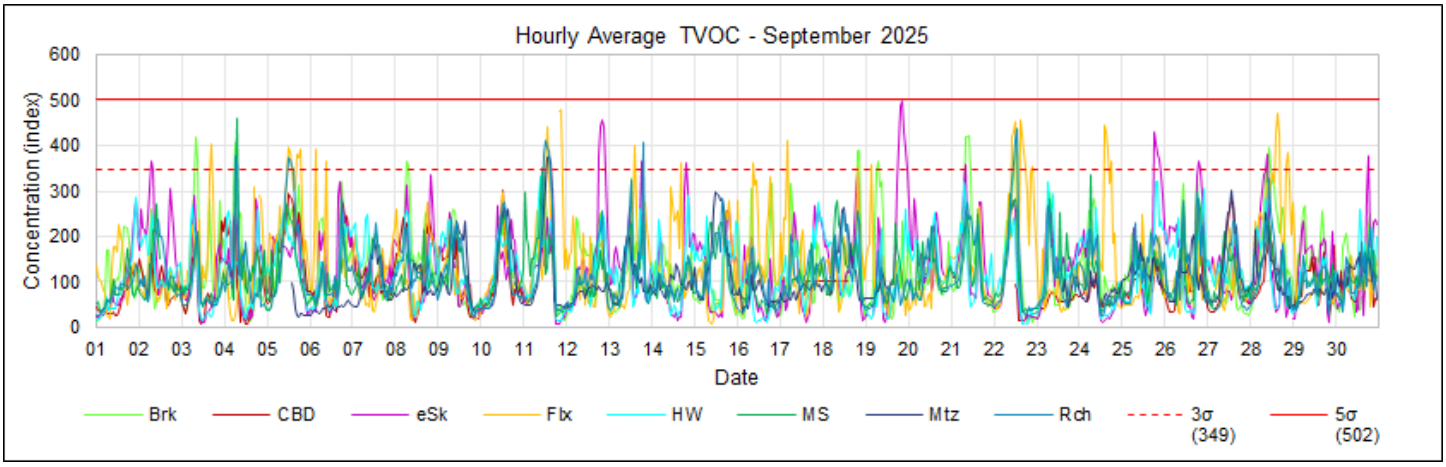


Figure 8.18: TVOC hourly concentrations.

Table 8.2: TVOC exceedances of the 3σ and 5σ limits.

Limit	Brk	CBD	eSk	Flx	HW	MS	Mtz	Rch	Total
3σ	16	0	19	35	0	2	3	13	72
5σ	0	0	0	0	0	0	0	0	0

8.4. Nitrogen Oxides Monitoring

Nitrogen oxides (NO_x) refer to a group of highly reactive gases that are primarily composed of nitrogen dioxide (NO_2) and nitric oxide (NO). These gases are produced through the combustion of fossil fuels in vehicles, power plants, and industrial facilities. NO_x emissions significantly contribute to air pollution, playing a key role in forming ground-level ozone and particulate matter, both of which are harmful to human health and the environment. Exposure to elevated levels of NO_x can lead to respiratory problems, particularly in vulnerable populations such as children, the elderly, and those with pre-existing conditions like asthma. Additionally, NO_x contributes to the formation of acid rain, which can damage ecosystems and infrastructure. Regulatory standards for NO_x vary globally, but efforts to reduce these emissions are critical for improving air quality and mitigating environmental impacts. The AirGradient NO_x sensors don't measure absolute levels but changes in the concentration (index); this can help identify (and avoid) emission events such as rush hours.

8.4.1. Monthly

NO_x monthly average concentrations are shown in Figure 8.19; comparisons to previous months are also provided (Figure 8.20).

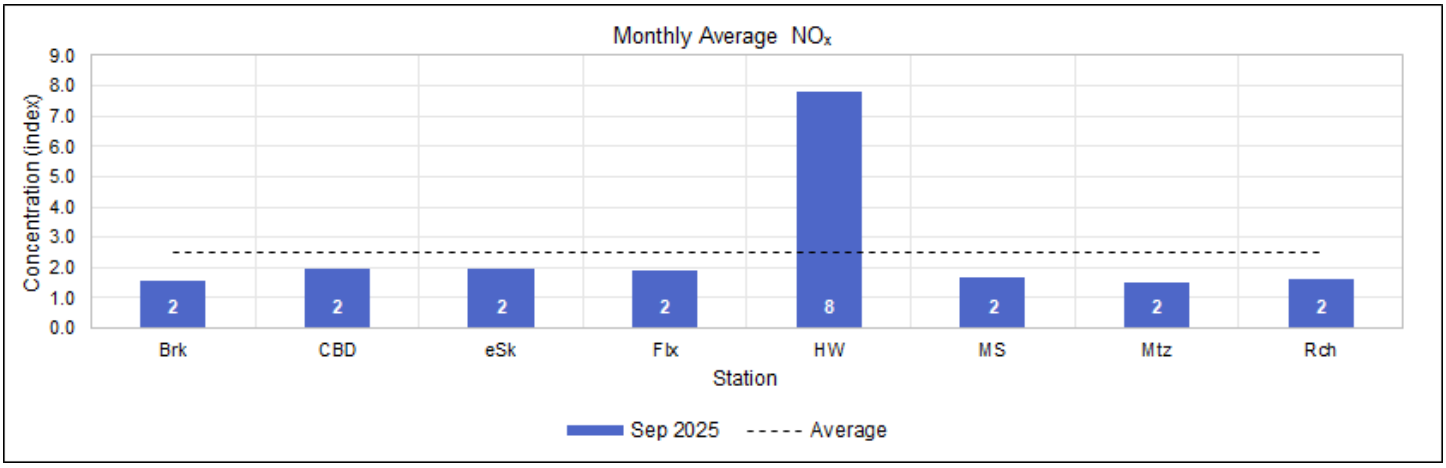


Figure 8.19: NO_x monthly concentration.

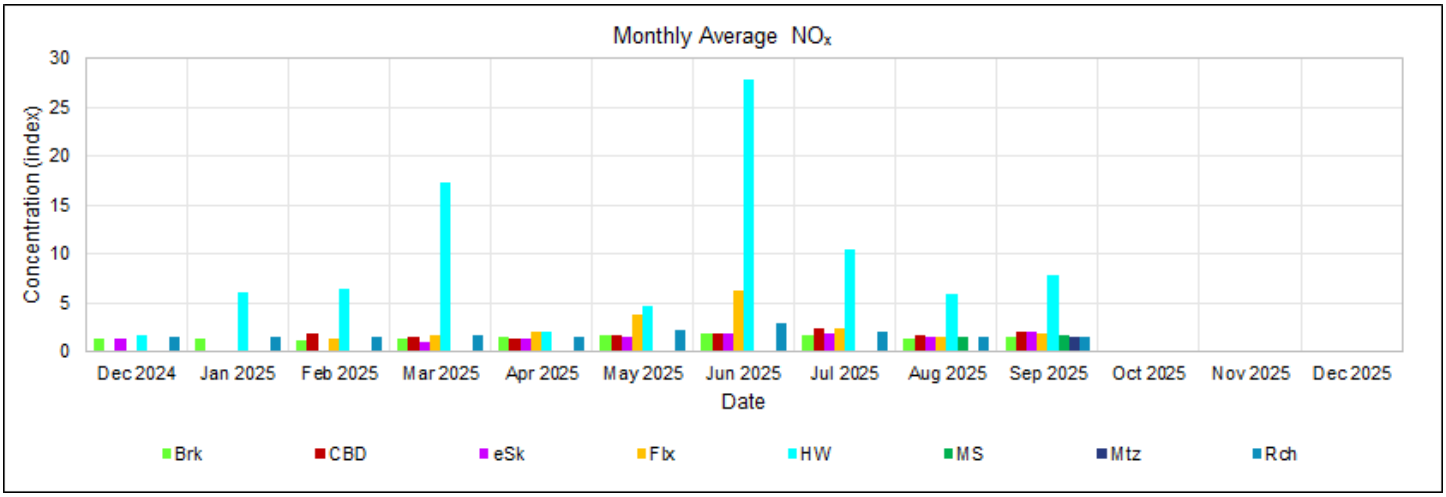


Figure 8.20: NO_x monthly comparison.

8.4.2. Diurnal

NO_x diurnal concentrations are shown below (Figure 8.21).

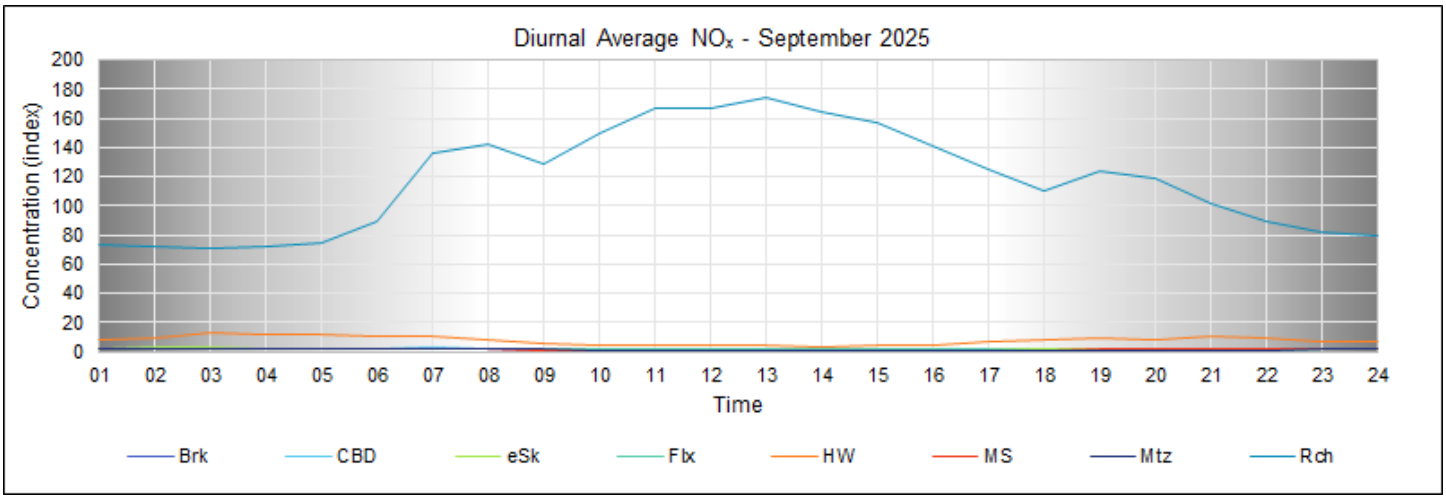


Figure 8.21: NO_x diurnal concentrations.

8.4.3. Daily

NO_x daily concentrations are shown below (Figure 8.22).

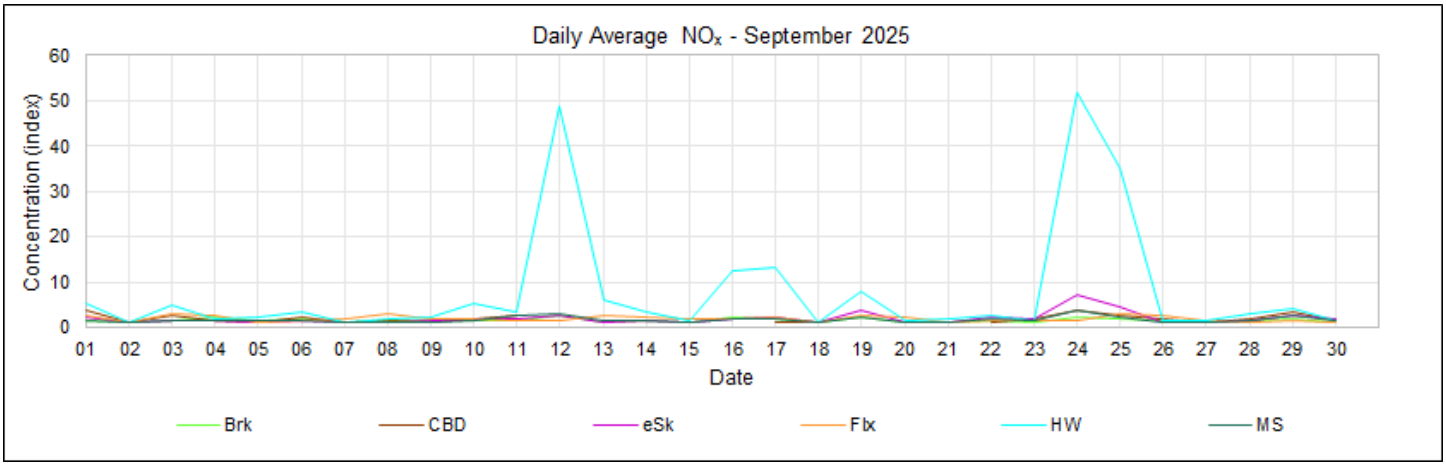


Figure 8.22: NO_x daily concentrations.

8.4.4. Hourly

NO_x hourly concentrations are shown below (Figure 8.23).

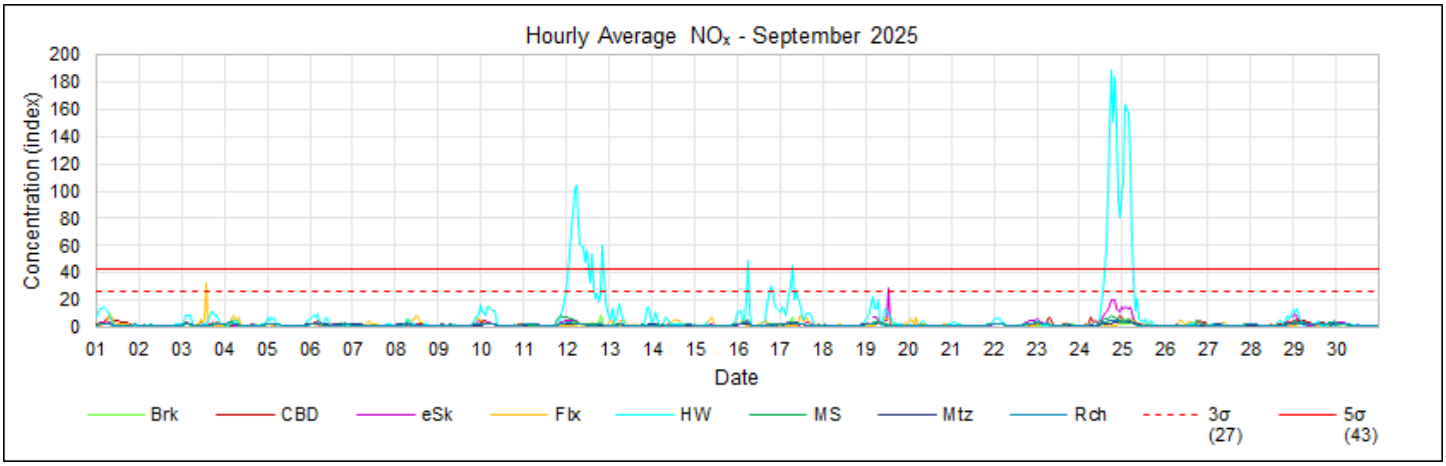


Figure 8.23: NO_x hourly concentrations.

Table 8.3 NO_x exceedances of the 3σ and 5σ limits.

Limit	Brk	CBD	eSk	Flx	HW	MS	Mtz	Rch	Total
3σ	0	0	1	1	40	0	0	0	42
5σ	0	0	0	0	30	0	0	0	30

8.5. Carbon Dioxide Monitoring

In 2000, the global background concentration of carbon dioxide (CO_2) was approximately 370 ppm, marking a significant increase from the pre-industrial level of around 280 ppm. This reflected the continued growth in CO_2 emissions from fossil fuel combustion, deforestation, and other human activities during the 20th century. The rate of increase in atmospheric CO_2 had accelerated during the latter half of the century, with an average rise of about 1.5 to 2 ppm per year by the early 2000s.

8.5.1. Monthly

CO_2 monthly average concentrations are shown in Figure 8.24; comparisons to previous months are also provided (Figure 8.25).

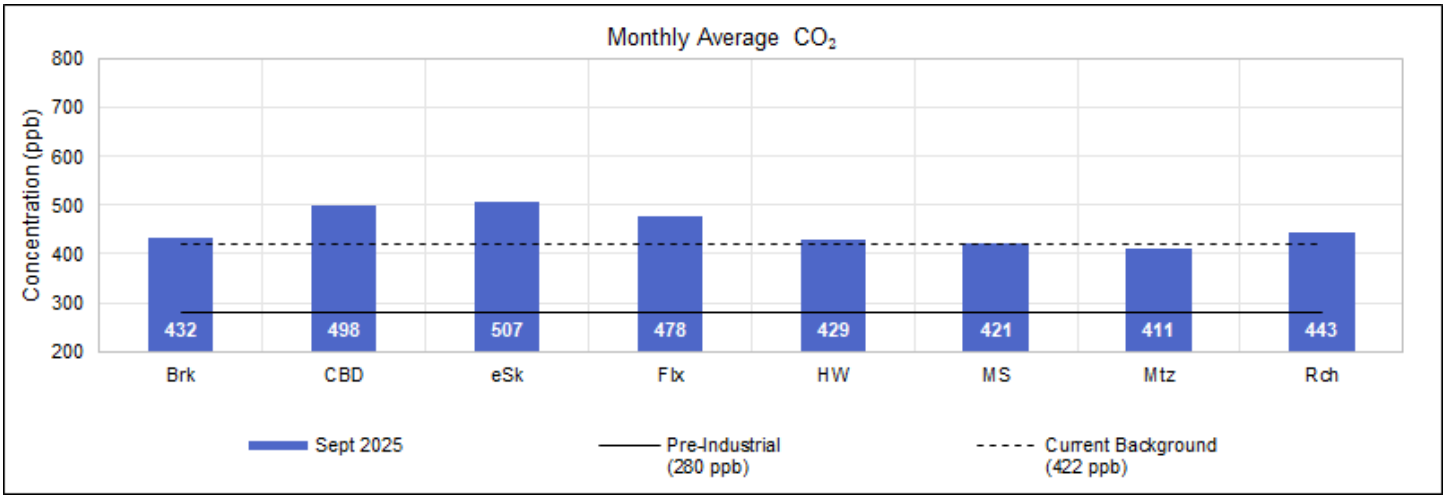


Figure 8.24: CO_2 monthly concentration.

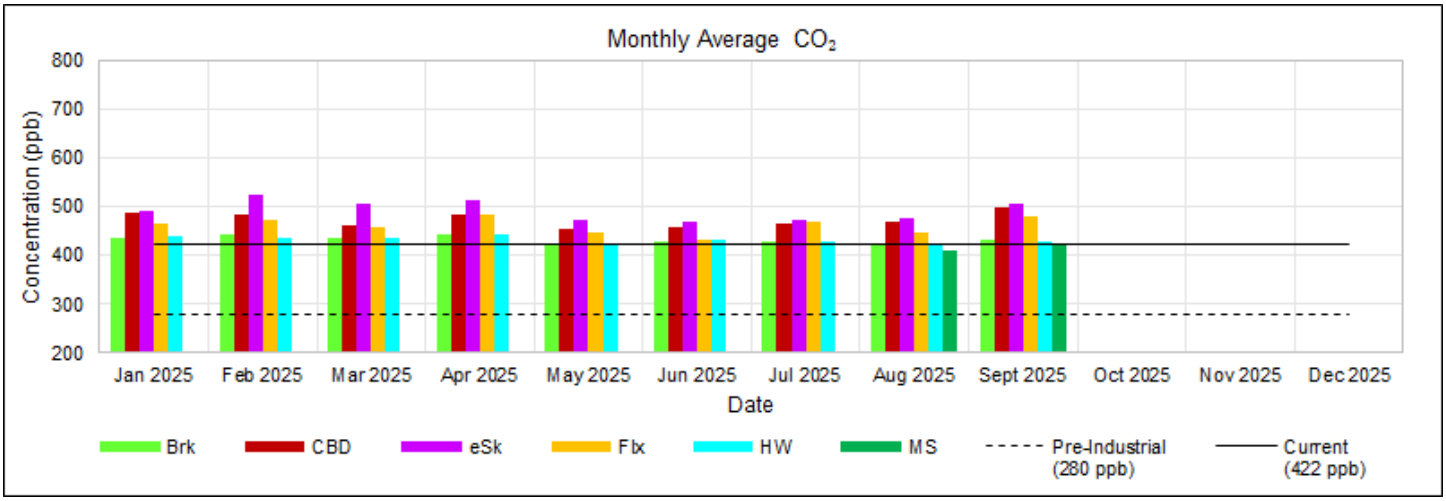


Figure 8.25: CO_2 monthly comparison.

8.5.2. Diurnal

CO_2 diurnal concentrations are shown below (Figure 8.26).

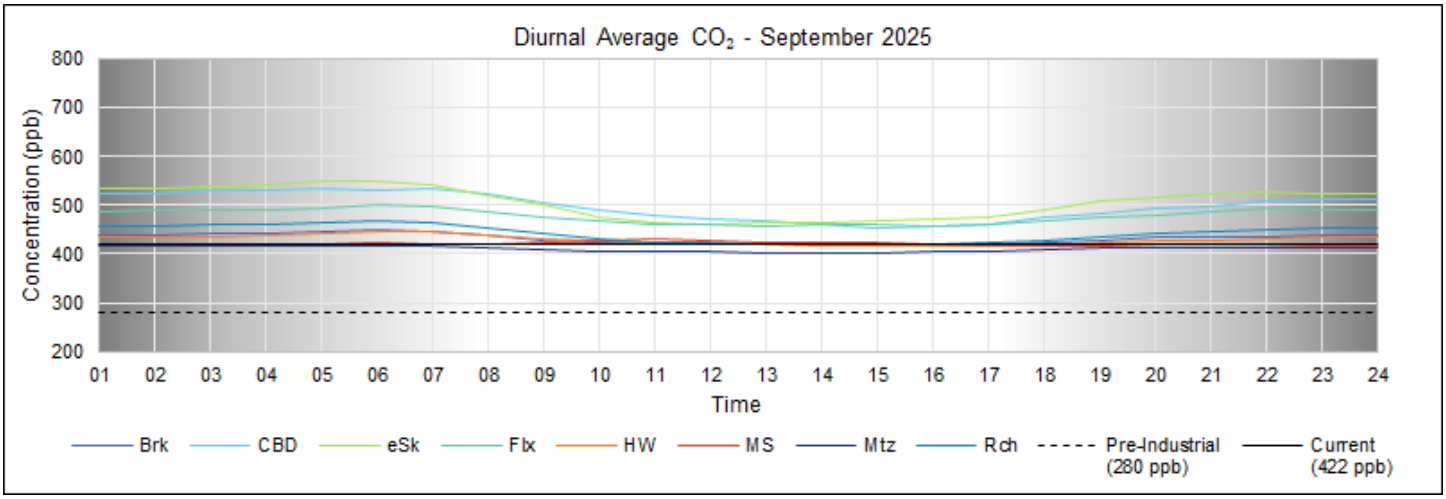


Figure 8.26: CO_2 diurnal concentrations.

8.5.3. Daily

CO_2 daily concentrations are shown below (Figure 8.27).

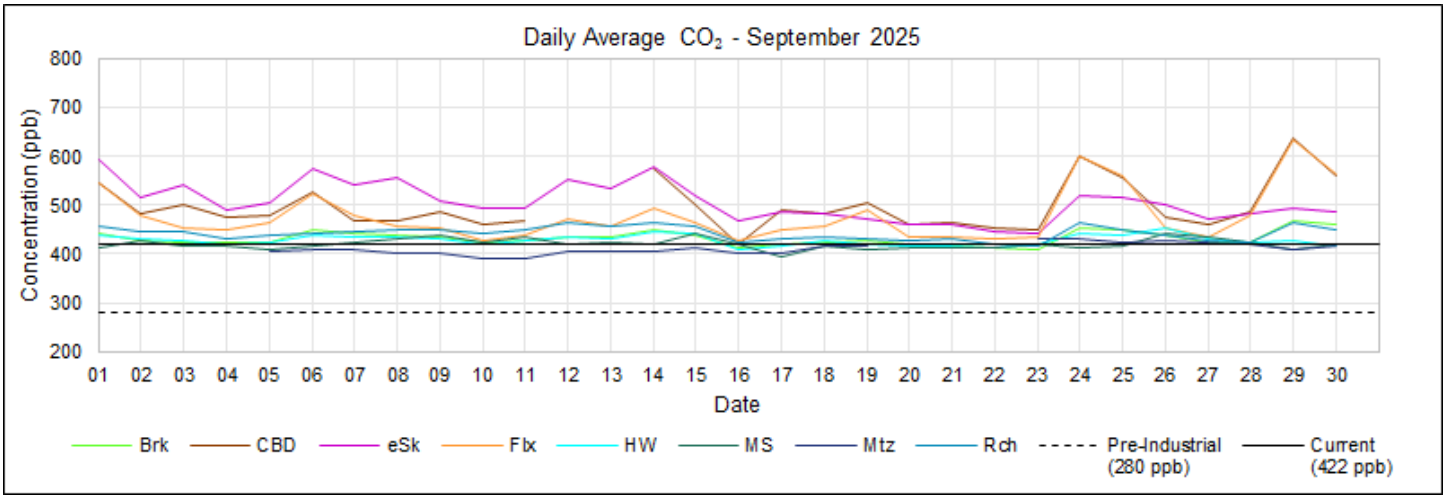


Figure 8.27: CO_2 daily concentrations.

8.5.4. Hourly

CO_2 hourly concentrations are shown below (Figure 8.28).

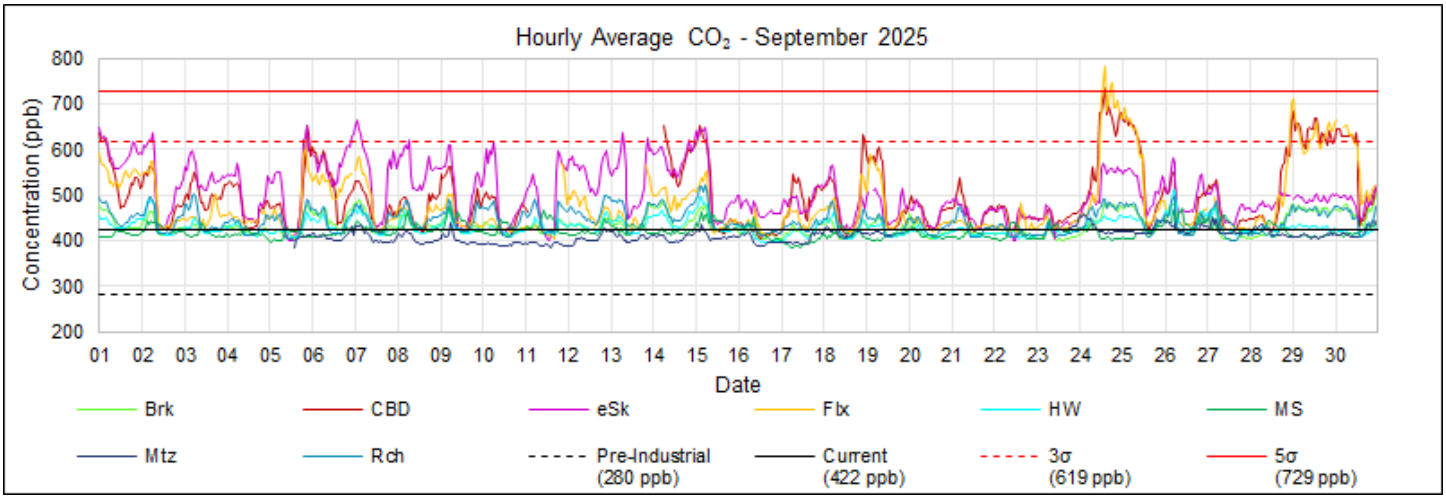


Figure 8.28: CO_2 hourly concentrations.

Table 8.4: CO_2 exceedances of the 3σ and 5σ limits.

Limit	Brk	CBD	eSk	Flx	HW	MS	Mtz	Rch	Total
3σ	0	66	26	47	0	0	0	0	139
5σ	0	1	0	4	0	0	0	0	5

9. ACKNOWLEDGEMENT

Air Impact Measurement Specialists compiled this report for the Richards Bay Clean Air Association; contributors include Alicia Garnica and François Nel.

Signer ID: ABS1DHBUH7...

Lance Coetzee
Director

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APPENDIX A
ABBREVIATIONS AND TERMS

List of Abbreviations and Terms	
Chemical Formulae	
CH_3-S-CH_3	Dimethyl Sulphide
CH_3S-H	Methyl Mercaptan
CH_3-S-S-CH_3	Dimethyl Disulphide
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
FPM	Fine Particulate Matter
H_2S	Hydrogen Sulphide
H_2SO_3	Sulphurous Acid
H_2SO_4	Sulphuric Acid
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_x	Oxides of Nitrogen
O_3	Ozone
PM_{10}	Particulates with an aerodynamic diameter of less than 10 µm
$PM_{2.5}$	Particulates with an aerodynamic diameter of less than 2.5 µm
SO_2	Sulphur Dioxide
SO_3	Sulphur Trioxide
TRS	Total Reduced Sulphur
TSP	Total Suspended Particulates
TVOCs	Total Volatile Organic Compounds

List of Abbreviations and Terms	
Countries	
EU	European Union
RSA	Republic of South Africa
UK	United Kingdom
US	United States

List of Abbreviations and Terms	
Direction	
N	North
NNE	North-North-East
NE	North-East
ENE	East-North-East
E	East
ESE	East-South-East
SE	South-East
SSE	South-South-East
S	South
SSW	South-South-West
SW	South-West
WSW	West-South-West
W	West
WNW	West-North-West
NW	North-West
NNW	North-North-West

List of Abbreviations and Terms	
Measurement	
°	Degrees
°C	Degrees Celsius
µg	Microgram
µg/m³	Micrograms per cubic meter
BMC	Best Measurement Capabilities
g/s	Grams per second
K	Kelvin
km	Kilometre
km/h	Kilometres per hour
m	Metres
m/s	Metres per second
mg	Milligrams
mg/m²/day	Milligrams per meter squared per day
mg/m³	Milligrams per cubic meter
ppb	Parts per billion
ppm	Parts per million
t/day	Tons per day
t/hr	Tons per hour
tpa	Tons per annum

List of Abbreviations and Terms	
Organisations	
AIMS	Air Impact Measurement Specialists
CASCO	Conformity Assessment Committee
DEFF	Department of Environment, Forestry and Fisheries
EA-NPI	Environment Australia - National Pollutant Inventory
EC	European Commission
EU-EA	European Union - Environmental Agency
IEC	International Electrotechnical Commission
IFC	International Finance Corporation
ISO	International Standard Organisation
RBCAA	Richards Bay Clean Air Association
SANAS	South African National Accreditation System
SANS	South African National Standard
UK-EA	United Kingdom - Environmental Agency
US-EPA	United States - Environmental Protection Agency
WHO	World Health Organisation

List of Abbreviations and Terms	
Terms	
Analyser	A mechanical-electrical-optical device used to measure the concentration of trace gas pollutants or particulate concentrations.
Calibration	Calibration is a procedure that compares sensor responses to known standards or reference values. Deviations between the expected and known concentrations are corrected and reported.
Database	The data structures and attendant software that organise, store, and allow users access to data.
Environment	The organisation's surroundings include air, water, land, natural resources, flora, fauna, humans, and their interactions and relations.
Meteorological Station	A monitoring station capable of monitoring wind speed, direction, and temperature.
Model	The model implements dispersion modelling mathematics software that calculates ambient pollution concentrations based on emission figures and meteorological data.
Network	The network comprises hardware (sensors, data loggers, telemetry, and computers) and software (data handling, storage programs, models, and databases).
Precision Check	The precision check is a procedure in which a sensor is challenged with a gas of known concentration within the operating range of the measurement.
Source	A point, line, or area from which pollution would be released
Station	A station is a data capture point used for measuring pollutants, meteorological conditions, or consolidating data.
System	The system represents all network components, including the procedures for marshalling and reporting data.

APPENDIX B
QUALITY ASSURANCE

The SO_2 concentrations reported are determined by the United States Environmental Protection Agency (US EPA) equivalent method, EQSA-0193-092. SO_2 and TRS measurements allow a maximum precision error of 10% of the reported value. A tolerance around the zero-point of plus or minus 5 ppb is permitted. Every effort is made to minimise the error. The minimum threshold for statistical analyses is at least 80% valid data to maintain reliability and minimise bias; the South African National Accreditation Standard requires 90%. (SANAS, 2012)

Table 1: Quality Assurance

Test	Range	Action
Zero	Zero 0 to 2 ppb	Leave it as is.
	Zero value -2 to 0 ppb	Set to zero.
	Zero value -5 to -2 ppb and 2 to 5 ppb	Adjust the data set to reset all data to zero.
	Zero value outside the above limits, invalidate and recalibrate.	Data can be adjusted if a specific reason for the deviation can be identified.
Span	Span value plus or minus a 3% deviation.	Leave it as is.
	Span value -10 to -3% and 3 to 10% deviation.	Scale the data set by the opposite, corresponding percentage.
	Span value outside the above limits, invalidate and recalibrate.	Data can be adjusted if a specific reason for the deviation can be identified.

APPENDIX C
EMISSION INVENTORY

Table 1: Emission Inventory – 2025.

Industry	Description	SO_2 Emission 2025 (t)	SO_2 Emission 2025 (t)	SO_2 Contribution (%)
Foskor	Acid Plant	2390	2401	13%
	Boiler	11		
Tongaat Hulett	Boiler	185	185	1%
Mondi	Flume 1	1417	3080	17%
	Flume 2	836		
	Power Boiler	795		
	Incinerator	8		
	Bleach Plant	24		
Mpact	Babcock	281	805	5%
	JT Boiler	524		
	Oil Burner	0		
RBM	Char Plant	468	542	3%
	Miscellaneous	34		
	MSP (Drier)	38		
	Smokers	1		
South32	FTC	1885	10561	59%
	GTC 1	1955		
	GTC 2	1680		
	GTC 3	1579		
	GTC 4	1579		
	GTC 5	1630		
	Potrooms	254		
Tronox	Tank 1	251	251	1%
Total		17825	17825	100%

Note: Tongaat Hullet shut down during the year's 1st quarter and last month.

APPENDIX D
OPERATIONAL REPORT

Table 1: Maximum concentrations for PM_{10} and $PM_{2.5}$.

RBCAA: Monthly Report						
PM_{10} daily averages						
Station	*Concentration (µg/m³)*	*% of the RSA Standard (75 µg/m³)*	*% of WHO Guideline (45 µg/m³)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
CBD ES1	68.0	91%	**151%**	2025/08/30 00:00	4.1	233
eSikhaleni	49.0	65%	**109%**	2025/08/28 00:00	2.1	29
Felixton ES1	69.0	92%	**153%**	2025/08/23 00:00	2.6	286
Richardia	66.0	88%	**147%**	2025/08/30 00:00	4.2	228
Scorpio ES1	149.0	**199%**	**331%**	2025/08/05 00:00	6.6	24
$PM_{2.5}$ daily averages						
Station	*Concentration (µg/m³)*	*% of the RSA Standard (40 µg/m³)*	*% of WHO Guideline (15 µg/m³)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Brackenham ES2	81.3	**203%**	**542%**	2025/08/30 00:00	3.8	248
Felixton ES2	62.0	**155%**	**413%**	2025/08/30 00:00	3.7	239
Harbour West ES2	48.0	**120%**	**320%**	2025/08/30 00:00	3.8	229
Scorpio ES2	141.0	**353%**	**940%**	2025/08/05 00:00	6.6	24

LEGEND
Yellow: = 50% of the guideline/standard
Red: >= 100% of the guideline/standard (i.e. exceedance)
Turquoise: = 10% of the guideline/standard

NOTES
Dates used for time intervals are the time beginning.
Wind speeds of < 1 m/s are considered calm; wind directions measured under these conditions cannot be used for incident investigations.
This report is an interim report regarding AIMS' quality system classification. The final data will be published in the system's monthly report.

STATUS
Meteorology
Airport, Arboretum, Brackenham, CBD, eSikhaleni, and Harbour West have meteorology.
Scorpio uses meteorology from Harbour West, and Felixton uses meteorology from eSikhaleni.

MISSING DATA
"Data < 80%" - data capture less than 80% (not suitable for statistical analysis)
"No Data" – no data available.

Table 2: Maximum concentrations for SO_2.

RBCAA: Monthly Report						
SO_2 10-minute averages						
Station	*Concentration (ppb)*	*% of RSA Standard & WHO Guideline (500 µg/m³ / 191 ppb)*		*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Arboretum	25.6	13%		2025/08/02 08:20	3.6	247
Brackenham	35.1	18%		2025/08/07 17:50	4.1	220
CBD	73.9	39%		2025/08/08 00:40	2.4	225
eSikhaleni	14.2	7%		2025/08/21 01:50	1.8	16
Felixton	14.0	7%		2025/08/26 13:00	2.5	182
Harbour West	132.4	69%		2025/08/09 08:10	3.2	10
Richardia	14.8	8%		2025/08/11 02:30	1.9	260
Scorpio	142.6	75%		2025/08/08 21:30	2.5	18
SO_2 hourly averages						
Station	*Concentration (ppb)*	*% of the RSA Standard (350 µg/m³ / 134 ppb)*	*No WHO Guideline*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Arboretum	18.2	14%	-	2025/08/02 08:00	4.7	244
Brackenham	28.3	21%	-	2025/08/07 17:00	4.6	219
CBD	58.3	44%	-	2025/08/06 05:00	3.8	238
eSikhaleni	10.0	7%	-	2025/08/05 13:00	5.5	65
Felixton	8.7	6%	-	2025/08/29 12:00	1.6	142
Harbour West	104.2	78%	-	2025/08/10 05:00	5.0	6
Richardia	13.2	10%	-	2025/08/11 02:00	2.0	260
Scorpio	123.8	92%	-	2025/08/04 08:00	4.3	13
SO_2 daily averages						
Station	*Concentration (ppb)*	*% of the RSA Standard (125 µg/m³ / 48 ppb)*	*% of WHO Guideline (40 µg/m³ / 15 ppb)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Arboretum	2.8	6%	19%	2025/08/06 00:00	4.7	235
Brackenham	4.7	10%	31%	2025/08/01 00:00	5.4	240
CBD	22.6	47%	**151%**	2025/08/06 00:00	4.6	240
eSikhaleni	3.5	7%	23%	2025/08/21 00:00	2.7	256
Felixton	3.2	7%	21%	2025/08/31 00:00	2.8	214
Harbour West	21.1	44%	**141%**	2025/08/10 00:00	5.0	299
Richardia	2.5	5%	17%	2025/08/11 00:00	1.9	286
Scorpio	34.5	72%	**230%**	2025/08/04 00:00	5.4	25

Table 3: Maximum concentrations for TRS.

RBCAA: Monthly Report						
TRS 10-minute averages						
Station	*Concentration (ppb)*	*No RSA Standard*	*% of OME TRS Guideline (13.0 µg/m³ / 9.3 ppb)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
CBD	6.9	-	74%	2025/08/19 15:50	2.3	76
eSikhaleni	11.0	-	**118%**	2025/08/31 21:10	0.3	343
Felixton	47.1	-	**506%**	2025/08/09 05:30	0.6	112
Richardia	53.6	-	**576%**	2025/08/31 21:10	1.2	195
TRS 30-minute averages						
Station	*Concentration (ppb)*	*No RSA Standard*	*% of WHO H_2S Guideline (7.0 µg/m³ / 5.0 ppb)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
CBD	6.5	-	**130%**	2025/08/19 16:00	1.9	86
eSikhaleni	8.0	-	**160%**	2025/08/31 21:00	0.3	334
Felixton	36.3	-	**726%**	2025/08/09 05:30	0.5	144
Richardia	34.9	-	**698%**	2025/08/31 21:00	1.2	194
TRS daily averages						
Station	*Concentration (ppb)*	*No RSA Standard*	*% of OME TRS Guideline (14.0 µg/m³ / 10.1 ppb)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
CBD	2.5	-	25%	2025/08/19 00:00	4.1	14
eSikhaleni	2.3	-	23%	2025/08/31 00:00	2.4	13
Felixton	2.2	-	22%	2025/08/01 00:00	5.3	234
Richardia	2.7	-	27%	2025/08/03 00:00	3.5	24

APPENDIX E
RAINFALL

Table 1: Daily Rainfall

Date	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	South32 (mm)
2025/09/01	0	0	0	30.8
2025/09/02	0	0	0	34.2
2025/09/03	9	0	0	0
2025/09/04	0	0	0	0
2025/09/05	0	0	0	3.8
2025/09/06	0	0	0	35
2025/09/07	0	0	1	0
2025/09/08	0	0	0	0
2025/09/09	0	0	0	0
2025/09/10	0	0	0	0
2025/09/11	-	0	0	2.4
2025/09/12	-	0	0	0.2
2025/09/13	-	2	2	16.2
2025/09/14	-	0	0	0
2025/09/15	0	0	0	0
2025/09/16	0	7	4	1.2
2025/09/17	21	16	19	0.4
2025/09/18	2	4	14	0
2025/09/19	3	0	1	0
2025/09/20	0	0	0	0
2025/09/21	0	0	0	0
2025/09/22	0	0	0	0
2025/09/23	1	0	1	0
2025/09/24	52	44	40	0
2025/09/25	10	2	7	0
2025/09/26	0	0	0	0
2025/09/27	0	0	0	0
2025/09/28	48	30	37	0

Date	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	South32 (mm)
2025/09/29	28	14	19	0
2025/09/30	29	10	20	0
Total	203	127	164	35

Table 2: Monthly Rainfall, Richards Bay

Month	Richards Bay							
	2018	2019	2020	2021	2022	2023	2024	2025
Jan	94	182	47	305	127	167	271	371
Feb	232	195	377	229	193	410	118	390
Mar	139	78	139	217	62	141	192	165
Apr	261	214	141	96	647	87	101	479
May	311	9	53	165	130	356	22	41
Jun	70	78	114	140	60	33	89	27
Jul	20	16	48	57	20	196	57	220
Aug	100	160	107	59	77	20	97	17
Sep	85	43	144	216	93	23	186	203
Oct	213	260	171	214	101	345	250	
Nov	119	296	122	72	131	61	103	
Dec	156	320	77	464	253	195	145	
Minimum	20	9	47	57	20	20	22	17
Average	150	154	128	186	158	169	136	213
Maximum	311	320	377	464	647	410	271	479
Total	1798	1850	1540	2234	1893	2034	1630	1913

Table 3: Monthly Felixton

Month	Felixton							
	2018	2019	2020	2021	2022	2023	2024	225
Jan	43	138	71	207	68	57	146	117
Feb	129	138	214	231	78	188	82	303
Mar	89	70	89	126	95	80	113	148
Apr	138	143	106	135	368	58	49	287
May	342	9	42	57	120	245	17	16
Jun	60	53	44	98	20	14	53	29
Jul	22	17	37	39	15	146	2.5	157
Aug	83	39	67	55	37	18	54	3
Sep	53	79	84	191	51	43	137	127
Oct	201	144	67	145	98	318	187	
Nov	84	121	106	35	174	34	78	
Dec	111	311	64	212	163	146	74	
Minimum	22	9	37	35	15	14	3	3
Average	113	105	82	127	107	112	83	132
Maximum	342	311	214	231	368	318	187	303
Total	1354	1261	987	1530	1288	1347	992	1187

Table 4: RBCT

Month	RBCT							
	2018	2019	2020	2021	2022	2023	2024	2025
Jan	42	110	33	215	54	136	154	229
Feb	137	124	166	146	131	344	72	249
Mar	78	172	109	194	161	69	161	145
Apr	161	174	111	69	642	30	98	450
May	175	14	69	171	268	442	23	66
Jun	59	24	52	124	30	34	104	27
Jul	21	5	39	64	30	162	56	155
Aug	35	68	64	56	25	30	86	17
Sep	41	59	104	187	115	30	177	164
Oct	80	164	121	156	71	293	121	
Nov	70	186	77	43	129	42	89	
Dec	104	216	104	245	279	127	65	
Minimum	21	5	33	43	25	30	23	17
Average	84	110	87	139	161	145	100	167
Maximum	175	216	166	245	642	442	177	450
Total	1005	1317	1049	1669	1934	1740	1205	1502

Table 5: South32

Month	South32 (mm)							
	2018	2019	2020	2021	2022	2023	2024	2025
Jan	-	-	-	-	-	91	120	232
Feb	-	-	-	-	115	256	-	241
Mar	-	-	-	-	149	51	144	137
Apr	-	-	-	-	505	43	-	363
May	-	-	-	-	106	230	-	23
Jun	-	-	-	-	25	11	-	16
Jul	-	-	-	-	12	165	-	98
Aug	-	-	-	-	30	13	-	8
Sep	-	-	-	-	64	18	129	35
Oct	-	-	-	-	64	271	-	
Nov	-	-	-	-	101	36	-	
Dec	-	-	-	-	163	95	92	
Minimum	-	-	-	-	12	11	92	8
Average	-	-	-	-	121	107	121	128
Maximum	-	-	-	-	505	271	144	363
Total	-	-	-	-	1336	1280	485	1153

Please note that the South32 missing rain data for 2024 was due to a faulty rain gauge.

APPENDIX F
COMPLAINTS LOG

Table 1: Complaints No	Date	Region	Type	Source	Description	Response
1	2025/09/01 00:00	Veldenvlei	Coal dust	TPT	Coal dust on counters in home.	312, 313, 325
2	2025/09/01 00:00	Veldenvlei	Coal dust	TPT	COAL DUST inside my home. “The almost constant coal dust fallout on residents is unacceptable and a violation of our constitutional right. It is also a violation of the CoU Air Quality By-Laws. Our homes are covered in black dust, inside and out and we are BREATHING this in. This is beyond a “nuisance”. It is seriously affecting our health, causing eye, sinus and throat irritation which includes coughing and constant unexplained fatigue.” (Photo below)	318, 319, 325
3	2025/09/01 08:47	Arboretum Ext	Coal dust	TPT	Coal dust on vehicle overnight.	312, 313, 325
4	2025/09/01 11:03	Wildenweide	White Dust Fallout	South32	“My yard is full of white dust particles. My yard was washed yesterday .” The attached photographs are screenshots from a video (Large file).	315
5	2025/09/01 17:30	Brackenham	Clinical + Odour	Mondi	“Strong H2S smell causing nasal discomfort.”	311
6	2025/09/03 12:49	Alton North	Dust	RBIDZ	Significant dust emanating from cleared site on IDZ 1 F.	317
7	2025/09/03 16:08	Mtunzini	Dust fallout	Tronox	Significant red dust fallout at home from Tronox operations.	325, 1
8	2025/09/04 07:00	Arboretum	Odour	Mondi	“Rotten gas smell” (from 07h00 – 08h00)	314
9	2025/09/04 08:00	Alton	Odour	Mondi	“Rotten gas smell” (from 08h00 worsened by 10h02)	314
10	2025/09/04 09:03	Veldenvlei	Clinical + Odour	Mondi	Mondi guava odour causing nausea and headache.	314
11	2025/09/05 08:00	Alton	Visible + Odour	Clariant	“Strong fishy smell and visible yellowish emissions from stacks to the north blowing towards Bell”. (Based on photograph, the RBCAA identified the stacks as being the Clariant Facility)	325, 1
12	2025/09/05 09:00	Veldenvlei	Alumina fallout	South32	Alumina fallout on vehicle. Would have been deposited between 28 Aug and 4 Sept.	325, 1
13	2025/09/06 15:56	Arboretum	Coal dust	TPT	“Children again covered in black coal dust while playing in and around the home. Health affected. Sore throats. Headaches, congestion and fatigue.”	318, 1, 325
14	2025/09/06 16:00	Arboretum	Sewage odour	CoU	“There has been a bad sewage odour the past few days.”	321, 1, 325

Table 1: Complaints No	Date	Region	Type	Source	Description	Response
15	2025/09/06 19:15	Arboretum	Sewage odour - Clinical	CoU	“Air stinks. Smells like old stinky water and poop. Causing nausea and headache.”	321, 1, 325
16	2025/09/06 21:35	Arboretum	Sewage odour	CoU	“Extremely bad sewage smell.”	321, 1, 325
17	2025/09/07 09:30	Arboretum	Sewage odour - Clinical	CoU	“Very bad smell causing tight chest and couching.”	321, 1, 325
18	2025/09/07 18:40	Arboretum	Sewage odour - Clinical	CoU	“ Very strong sewage smell causing coughing and tight chest.”	321, 1, 325
19	2025/09/08 18:35	Arboretum	Sewage odour	CoU	“we are getting a very bad sewage smell every day in the Arboretum area.”	321, 1, 325
20	2025/09/09 00:00	Veldenvlei	Coal dust	TPT	COAL DUST inside my home. “The almost constant coal dust fallout on residents is unacceptable and a violation of our constitutional right. It is also a violation of the CoU Air Quality By-Laws. Our homes are covered in black dust, inside and out and we are BREATHING this in. This is beyond a “nuisance”. It is seriously affecting our health, causing eye, sinus and throat irritation which includes coughing and constant unexplained fatigue.” (Photo below)	318, 319, 1, 325
21	2025/09/09 00:00	Richards Bay	Coal dust	TPT	ongoing, BLACK DUST covering everything. Causing allergies, sneezing, stuffy nose and tight chest.	318, 319, 1, 325
22	2025/09/09 00:00	Arboretum	Coal dust	TPT	ongoing, COAL DUST on everything.	318, 319, 1, 325
23	2025/09/09 00:00	Arboretum	Coal dust	TPT	COAL DUST on everything.	1, 325
24	2025/09/09 00:00	Arboretum	Coal dust	TPT	COAL DUST on vehicle.	318, 1, 325
25	2025/09/09 08:15	Veldenvlei	Alumina fallout	South32	Vehicle is covered in alumina.	1, 325
26	2025/09/09 08:32	Arboretum	Alumina fallout	South32	WHITE DUST – “My husband has just washed his vehicle and when he went to dry it was covered in white dust.”	1, 325
27	2025/09/09 10:00	Arboretum	Coal dust	TPT	(past week bad), COAL DUST - ‘SERIOUS coal dust problem affecting our health and the health of our pets. Even our plants are suffering, suffocating and dying, House always covered with black coal dust no matter how much you clean. Health affected – headaches, sinus, dizziness, scratchy eyes, dry throat – you can actually feel the coal dust in your mouth. In 55 years of living in Rhus Lanca, this past couple of years were the worst since this coal dust	318, 319, 1, 325

Table 1: Complaints No	Date	Region	Type	Source	Description	Response
					problem started. My grandchildren can't play outside otherwise they are covered in coal dust."	
28	2025/09/09 14:43	Arboretum	Coal dust	TPT	"Children again covered in black coal dust while playing in and around the home. Health affected. Sore throats. Headaches, congestion, and fatigue."	319, 1, 325
29	2025/09/13 21:10	Arboretum	Sewage odour	CoU	"Horrific sulphur\sewage odour"	321, 1, 325
30	2025/09/14 11:00	Veldenvlei	Coal dust	TPT	Vehicle was washed at 15h00 on Friday 12th and by Sunday 14th at 11h00 it was covered in a mix of coal dust and alumina. "The almost constant coal dust fallout on residents is unacceptable and a violation of our constitutional right. It is also a violation of the CoU Air Quality By-Laws. Our homes are covered in black dust, inside and out and we are BREATHING this in. This is beyond a "nuisance". It is seriously affecting our health, causing eye, sinus and throat irritation which includes coughing and constant unexplained fatigue." (Photos below)	319, 1, 325
31	2025/09/14 11:00	Veldenvlei	Alumina fallout	South32	"Once again there is alumina fallout on my vehicle, observed 11h00 on 14th Sept after my vehicle was washed yesterday 13 Sept at 15h00. Alumina fallout also observed on windowsills and pool cover "	1, 325
32	2025/09/16 00:00	Arboretum	Coal dust	TPT	"Everything covered in coal dust again. Floors were swept and washed yesterday. Coal dust on floors by afternoon. Furniture dusted yesterday morning and this morning there is coal dust on the furniture again."	318, 1, 325
33	2025/09/16 13:35	Veldenvlei	Alumina fallout	South32	Once again alumina fallout on vehicle after vehicle was rinsed off on Sunday afternoon after the previous incident.	316
34	2025/09/18 07:30	Arboretum	Sewage odour - Clinical	CoU	Ongoing sewage odour. "I had visitors and the smell was so bad that they were nauseas and on the verge of vomiting."	321, 1, 325
35	2025/09/18 20:35	Arboretum	Sewage odour + Clinical	CoU	"The sewage smell is still here every day. Its making people sick."	320, 321, 1, 325
36	2025/09/18 21:20	Arboretum	Sewage odour	CoU	"At the moment Loerie Park, Olienhoutkoppie, Raasblaarlaagte and San Meer Complex are all experiencing this horrific smell."	320, 321, 1, 325
37	2025/09/23 06:34	Arboretum	Sewage odour	CoU	"Disgusting sewage smell".	321, 1, 325
38	2025/09/25 16:00	Veldenvlei	Coal dust	TPT	"Accumulation of coal dust in swimming pool weir. My home and vehicles are covered in coal dust. More importantly this is what we are being forced to breathe in, a situation that has prevailed since 2022."	323, 324, 1, 325
39	2025/09/25 18:00	Arboretum	Sewage odour	CoU	"Terrible sewage stench again.	322, 1, 325

Table 2: Responses

No.	Industry Feedback
1	Unresolved / No Response
311	Mondi - Candice Webb responded (2025/09/02 15:23): Source of Odour: Secondary Effluent Treatment Plant. RBCAA Brackenham monitoring station Average wind direction at Brackhenham station prior to the complaint =238O Average wind speed = 3.2m/s "...Based on the description of the odour, Mondi suspected the effluent plant may be a contributing factor and requested the Secondary Effluent Treatment Plant (SETP) was taken offline. The Environmental Manager suspected the SETP as a Heat Exchanger used to cool Mondi effluent was offline for maintenance. Although effluent temperature at the time (54 degrees) was within the internal limit of 56 degrees to minimise odour, it was elevated and a potential factor. The shift coordinator also confirmed that in his checks the SETP did have a strong smell. With assistance from the RBCAA, the complainant confirmed at 20:17 that the odour had improved."
312	RBCT - Thobile Nkosi (2025/09/04 13:37): "...The investigation covered detailed check air quality data from the day before, meteorological conditions over the period, and effectiveness of RBCT dust mitigation measures applied during the period. • NB: RBCT and the Richards Bay Area predominant winds are North easterlies and South Westerlies. The following controls were operational before and after the incident reported. • Two overhead water sprays are activated to wet the coal before it gets to a tippler cage. • All tippler water sprays were operational, which automatically release pressurized water to capture dust particles before coming out of a tippler pit. • The rain guns are activated three a day (morning ,afternoon and early evening) to suppress dust. • RBCT conveyors are semi enclosed by wind guards to minimize the dispersion of coal dust from the conveyor by the wind. • Water tankers spray the roads during high traffic movement and in areas where water sprays are not fitted. • A road sweeper cleans affected roads and the quayside according to a planned schedule. • RBCT mist canon was used in the process of cooling hot coal stockpiles. Conclusion: Based on the assessment of wind speed, direction, and Particulate Matter (PM10) monitoring results from 30th August to 01st September 2025, it is concluded that RBCT is not responsible for the complaints. • RBCT's stringent dust mitigation measures are evidenced by a 100% compliance rate with National Dust Fallout Regulations over the past twelve months, highlighting the effectiveness of our environmental management practices. • RBCT is concerned by the nature of these complaints and their potential impact on the community, the environment and is committed to ongoing efforts to mitigate dust levels.
313	TPT - Cher Lawrence (2025/09/04 14:35): In response to the below complaint, TPT has investigated and there were no abnormal activities taking place on site. Based on an assessment of wind speed and direction from 30 August and 01 September 2025, it was concluded that TPT is not responsible for the complaint on 30 August 2025, but there is a small chance TPT may can contributed to the complaint on 01 September 2025. Dust suppression mitigation is in place on site.
314	Mondi - Candice Webb responded (2025/09/09 09:465): Source of Odour 2 sources contributing to the complaints: • Secondary Effluent Treatment Plant; and • Switching of non-condensable gases between burning zones RBCAA Brackenham monitoring station Average wind direction at Brackenham station prior to the complaint = 297O Average wind speed = 0.9 m/s Mondi Monitoring Stations; Prior to the first complaint a TRS peak of 42.4 ppb was recorded at 06:20 at the Mondi Alton monitoring station. An additional peak of 6.1 ppb was recorded at 07:50 The Mondi shift coordinator responded to an ambient TRS alert from the Mondi Alton. Monitoring station and shut the Secondary Effluent Treatment Plant (SETP) off at 04:03 on Thursday morning. The decision was made to shut the SETP as the Alton monitoring station is situated within 500meters of the SETP provides a good indication of SETP related odour. Odour levels began to reduce, however, reports of a strong egg smell coming from effluent

No.	Industry Feedback
	plant were still reported by employees driving into work at 06h00. Based on wind direction and wind speed, this is the most likely source of the complaints numbered 1 and 2. Hardwood gases were in the Recovery Boiler 1 Flare (Secondary burning zone) for incineration, the operator noticed that TRS was escalating, TRS - 9ppm (Limit is 15ppm) and moved the gases into the Recovery Boiler (Tertiary burning zone) at 02:32 switched the gases into the Lime Kiln (Primary burning zone) for incineration. It was later determined that the increasing Flare TRS was because of a drifting analyser baseline. This was rectified on the morning shift. At 08:39 the operator determined that the Lime Kiln (Primary burning zone) was stable and switched the gases from the Recovery Boiler into the Lime Kiln for incineration. Based on wind direction, wind speed and the description of the odour complaint at 09:03, this switch is possibly a contributing source to the Veldenvlei complaint. After in plant investigations, the odour abatement task team convened at 10:30 to discuss potential root cause. It was noted that during the switching event, that no valves or bursting disks opened or failed allowing gases to escape to atmosphere. However, it was identified that there is a potential release to atmosphere, as the system is designed to purged itself of any residual gases before switching to the new burning zone. Mondi is now investigating possible challenges with the system designed to handle the residual gases. This is the most likely source of complaint number 3.Corrective Actions: • The Secondary Effluent Treatment Plant was taken offline between 04:00 and 07:00 and again between 09:17 and 12:07. • Recovery Boiler 1 Flare TRS analyser was checked internally and baseline corrected. Analyser OEM was called to site, and analyser was calibrated on 08 September 2025. • Further investigation in progress on venting during the switching of burning zones.
315	South 32 -Londiwe Molebale responded (2025/09/17 10:38): Event Description The alumina material spilled on top of 55kt silo while the alumina vessel was being offloaded to the silo due to the block chute that was experienced during the offloading of the vessel. Investigation Why? The chute on top of 55kt silo was blocked with Alumina. Why? Inside the air slides that supply the silo with material from the distribution, the alumina was not moving freely. Why? The fluidizing air that is supplied by Fan (NFA-002) had insufficient pressure to fluidize the airslide and spider legs. Why? The fan is faulty. Root Cause There was material blocking the chute on top of the 55-kt silo distribution bin. The material began to pour out of the bin causing spillage on top of the silo Key Contributing Factor The fluidizing system that is supplied by NFA-002 is not giving enough pressure to fluidize the airslide and spider legs systems
316	South 32 -Londiwe Molebale responded (2025/09/17 10:42): Investigation To determine the reason of the dust fallout into the adjacent areas, the logistics production team and the cleaning team performed an investigation in which the incident was discussed, and the subsequent steps were examined.: • Commencement of the long belt cleaning • The wind direction during the cleaning • The amount of material cleaning during that period • The structure condition: openings on the walkways and side cladding INVESTIGATION FINDINGS During the event, the crew was cleaning along Belt 10. It was a routine task to clear dust from the pathway and structure. It was subsequently discovered that the structure had openings along the Belt, resulting in Alumina material leaking through. Furthermore, the strong winds caused the material to be scattered into the surrounding area.
317	RBIDZ - Sethabile Gcume (2025/09/17 15:56): Root Cause(s) Between Sep 2024 and Feb 2025, a civil engineering contractor undertook site clearance work on the northern portions of the Phase 1F property in preparation for the

No.	Industry Feedback
	construction of the Nyanza Metals Pigment Plant (NEMA EIA Ref: DC28/0010/2022 – EA issued in June 2023). Due to the delay in the commencement of construction of the said plant, the exposed soils are vulnerable to erosion from wind as well as excessive dust fallout. On the 3rd of September 2025, Richards Bay experienced strong winds, making dust suppression challenging throughout the day. Corrective Actions A contractor has been appointed to manage the dust problem. An additional water tanker will be sourced. Key Learnings Proactively implement erosion control measures to avoid negative environmental impacts.
318	RBCT - Thobile Nkosi (2025/09/17 15:01): RBCT received external complaints from Richards Bay Clean Air Association regarding coal dust emissions on 1st ,6th ,9th and 12th SEPTEMBER 2025. • RBCT initiated the investigation with an objective to establish whether RBCT operations contributed to the complaints and to confirm compliance with National Environmental Management : Air Quality Act and National Dust Regulations. • The investigation covered detailed check air quality data from the 1st to 13th September, meteorological conditions over the period, and effectiveness of RBCT dust mitigation measures applied during the period. • NB: RBCT and the Richards Bay Area predominant winds are North easterlies and South Westerlies. • The following slides covers the key findings. 1-13 SEPTEMBER 2025 North East PM2.5 1-13 SEPTEMBER SOUTH WEST PM10 Based on the assessment of wind speed, direction, Particulate Matter (PM10) and (PM2.5) monitoring results from 1st to 13th September 2025, it is concluded that RBCT is not responsible for the complaints. • RBCT's stringent dust mitigation measures are evidenced by a 100% compliance rate with National Dust Fallout Regulations over the past twelve months, highlighting the effectiveness of our environmental management practices. • RBCT is concerned by the nature of these complaints and their potential impact on the community, the environment and is committed to ongoing efforts to mitigate dust levels.
319	Grindrod- Sibahle Dladla responded (2025/09/18 16:25): ROOT CAUSE OF INCIDENT Rhus Lancea, Nyalaberry Arboretum Extension is located East-Northeast of Navitrade and North-East of Kusasa. Aquadene, Essenwood and Heideheuwel, Veldenvlei is situated North Northeast of Navitrade and Northeast of Kusasa. These residential areas are likely to be affected by Southerly winds (SW -SSW) from our terminals. On the 1st of September the wind was blowing 4.1m/s Southwest. Even though the wind was South Westley on that day we were within our limit as there were no exceedances recorded for the particulate matter. On the 6th of September the wind was blowing 2.2 m/s South. No exceedances. On the 9th of September the wind was blowing 3.1m/s North Northeast. No exceedances. On the 14thof September the wind was blowing 2.3 m/s Southwest. Even though the wind was South Westley on that day we were within our limit as there were no exceedances recorded for the particulate matter. CONCLUSION Upon conducting investigation, it is unlikely that the coal dust came from the Grindrod coal handling terminals.
320	RBCAA - Sandy Camminga (2025/09/19 07:43): Complaints submitted to CoU.
321	RBCAA - Sandy Camminga (2025/09/23 08:13): Complaints submitted to CoU. "...Below that are communications relating to actions by CoU, which is nothing other than the complaints being forwarded between departments."
322	RBCAA - Sandy Camminga (2025/09/26 13:57): Complaints submitted to CoU.
323	RBCT - Thobile Nkosi (2025/09/29 15:19): RBCT received external complaints from Richards Bay Clean Air Association regarding coal dust emissions on 25th September 2025. • RBCT initiated the investigation with an objective to establish whether RBCT operations contributed to the complaints and to confirm compliance with National Environmental Management : Air Quality Act and National Dust Regulations. • The investigation covered detailed check air quality data from the 24th to 26th September, meteorological conditions over the period, and effectiveness of RBCT dust mitigation measures applied during the period. • NB: RBCT and the Richards Bay Area predominant winds are North easterlies and South Westerlies. 24th -26th SEPTEMBER 2025 North East PM10, no exceedances. 24th – 26th SEPTEMBER 2025 North East PM2.5, no exceedances. 25th – 26th SEPTEMBER SOUTH

No.	Industry Feedback
	WEST PM10, no exceedances. 24th – 26th SEPTEMBER SOUTH WEST PM2.5, no exceedances. RBCT CURRENT DUST MITIGATION MEASURES: The following controls were operational before and after the incident reported. • Two overhead water sprays are activated to wet the coal before it gets to a tippler cage. • All tippler water sprays were operational, which automatically release pressurized water to capture dust particles before coming out of a tippler pit. • The rain guns are activated three a day (morning ,afternoon and early evening) to suppress dust. • RBCT conveyors are semi enclosed by wind guards to minimize the dispersion of coal dust from the conveyor by the wind. • Water tankers spray the roads during high traffic movement and in areas where water sprays are not fitted. • A road sweeper cleans affected roads and the quayside according to a planned schedule. • RBCT mist canon was used in the process of cooling hot coal stockpiles. CONCLUSION Based on the assessment of wind speed, direction, Particulate Matter (PM10) and (PM2.5) monitoring results from 24th to 26th September 2025, it is concluded that RBCT is not responsible for the complaints. • RBCT's stringent dust mitigation measures are evidenced by a 100% compliance rate with National Dust Fallout Regulations over the past twelve months, highlighting the effectiveness of our environmental management practices. • RBCT is concerned by the nature of these complaints and their potential impact on the community, the environment and is committed to ongoing efforts to mitigate dust levels.
324	Grindrod- Sibahle Dladla responded (2025/09/29 16:15): ROOT CAUSE OF INCIDENT Heideheuwel, Veldenvlei is situated North Northeast of Navitrade and Northeast of Kusasa. These residential areas are likely to be affected by Southerly winds (SW -SSW) from our terminals. On the 25th of September the wind was blowing 2.5 m/s Southwest. On that day in which the complaint was logged we were within our limit as there were no exceedances recorded for the particulate matter CONCLUSION Upon conducting investigation, it is unlikely that the coal dust came from the Grindrod coal handling terminals. Grindrod Terminals is regularly ensuring dust suppression on site to minimise dust dispersion.
325	Department of Water and Sanitation – KZN- Ziyanda Malibiji responded (2025/09/29 16:22): The Department of Water and Sanitation is still awaiting the City's response on this matter. The overflow of untreated effluent from the sewer reticulation infrastructure pollutes or poses a threat to surface and underground water resources within the vicinity. Your attention is drawn to Section 19 of the National Water Act, 1998 (Act No.36 of 1998) which states: "(1) An owner of land, a person in control of land or a person who occupies or uses the land on which- (a) any activity or process is or was performed or undertaken; or (b) any other situation exists, which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring." As such, the responsibility rests with the City of uMhlathuze Local Municipality to identify the source of pollution from its undertaking and to take appropriate measures to prevent pollution of the environment and water resources. Failure to comply with the requirements of the National Water Act, 1998 (Act No. 36 of 1998) could lead to legal action being instituted against the municipality. This Department wishes to make it clear that the instructions contained in my email dated 19 September 2025 are made in the interest of responsible water resource management and with a view to co-operative resolution of the issue. Looking forward to your response in this regard. CoU-DWS -Jackie Lourens responded (2025/09/29 16:22): Investigation and findings: The Electro-Mechanical maintenance team has conducted the investigation at the pump station for possible fault and diagnose the possible cause/s. The pump station is currently not operational, there is sewerage inside the pump station yard and the manhole at the entrance to the pump station is overflowing. Both pumps failed after the power supply interruption around the area. The following possibilities, that lead to pump failure, were not ruled out as part of the brainstorming methodology: - Sludge build up inside the pump station sump, - Type of pump installation used o Life span of the pumps version flygt 3300, new version flygt 3301 o MCC Panel condition, o Motor protection, - Overcurrent and inrush current in power supplies

No.	Industry Feedback
	- Foreign and heavy objects entering into the sewerage system, - Load shedding by Eskom **NOTE:** Full report available RBCAA Allocation- Sandy Camminga (2025/10/05 18:32)

APPENDIX G
PM_{10} EXCEEDANCE LOG

Table 1: PM_{10} exceedances.

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
1	PM_{10} Daily WHO Limit (45 µg/m³)	eSikhaleni	2025/09/05 0:00	46.0	59	2.8	No response required	None	2
2	PM_{10} Daily WHO Limit (45 µg/m³)	eSikhaleni	2025/09/11 0:00	55.0	39	4.6	No response required	None	2
3	PM_{10} Daily WHO Limit (45 µg/m³)	Richardia	2025/09/01 0:00	63.0	223	5.3	No response required	None	2
4	PM_{10} Daily WHO Limit (45 µg/m³)	Richardia	2025/09/03 0:00	74.0	247	4.8	No response required	None	2
5	PM_{10} Daily WHO Limit (45 µg/m³)	Richardia	2025/09/05 0:00	49.0	35	3.4	No response required	None	2
6	PM_{10} Daily WHO Limit (45 µg/m³)	Richardia	2025/09/08 0:00	52.0	236	3.1	No response required	None	2
7	**PM_{10} Daily RSA Limit (75 µg/m³)**	**Richardia**	**2025/09/11 0:00**	**76.0**	**16**	**4.3**	**Regional Fires**	**RBCAA allocation**	**15, 17**
8	PM_{10} Daily WHO Limit (45 µg/m³)	Richardia	2025/09/11 0:00	76.0	16	4.3	No response required	None	2
9	PM_{10} Daily WHO Limit (45 µg/m³)	Richardia	2025/09/16 0:00	48.0	195	4.1	No response required	None	2
10	PM_{10} Daily WHO Limit (45 µg/m³)	Richardia	2025/09/22 0:00	63.0	65	5.4	No response required	None	2
11	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2025/09/02 0:00	49.0	31	2.4	No response required	None	2
12	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2025/09/03 0:00	46.0	237	4.7	No response required	None	2
13	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2025/09/08 0:00	46.0	240	2.5	No response required	None	2
14	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2025/09/11 0:00	58.0	28	5.3	No response required	None	2
15	**PM_{10} Daily RSA Limit (75 µg/m³)**	**Scorpio**	**2025/09/16 0:00**	**89.0**	**192**	**3.5**	**South32**	**Planned maintenance. Furnaces venting.**	16, **18**
16	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2025/09/16 0:00	89.0	192	3.5	No response required	None	2
17	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2025/09/09 0:00	47.0	21	3.1	No response required	None	2
18	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2025/09/22 0:00	49.0	74	5.5	No response required	None	2

Table 2: PM_{10} responses.

Response	Industry Feedback
2	No response required
15	Mondi - Kira Cobbold responded, (2025/09/16 08:18): Mondi has investigated the PM10 exceedance at Richardia on 11/09 and based stable mill operations, stack emissions within specification, and the high wind speeds observed, Mondi is unlikely the source.
16	Mondi - Kira Cobbold responded, (2025/09/22 09:42): Mondi has investigated the PM10 exceedance at Scorpio and, given the planned mill shutdown from 15–17 September as communicated with the authorities, Mondi is unlikely to have been the source.
17	RBCAA Allocation -Sandy Camminga (2025/10/06 15:20)
18	South32 - Molebale, Londiwe responded, (2025/10/09 17:07): Hillside Aluminium had a planned maintenance scheduled on FTC 1 for 24 hours on 16 September 2025, FTC 1 was on complete shutdown. As the furnaces were venting there was no treatment, the wind direction on the day was NNE as depicted in the Windrose. This resulted in the PM exceedance noted at Scorpio station on 16 September 2025.

APPENDIX H
$PM_{2.5}$ EXCEEDANCE LOG

Table 1:$PM_{2.5}$ Exceedances

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
1	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/01 00:00	31.5	243	4.5	No response required	None	2
2	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2025/09/02 00:00**	**45.6**	**41**	**2.4**	**Fires**	**RBCAA allocation**	55, 1, **63**
3	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/02 00:00	45.6	41	2.4	No response required	None	2
4	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2025/09/03 00:00**	**50.6**	**268**	**4.8**	**RBIDZ**	**RBCAA allocation**	59, 1, **64**
5	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/03 00:00	50.6	268	4.8	No response required	None	2
6	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/04 00:00	28.6	13	1.9	No response required	None	2
7	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2025/09/05 00:00**	**41.0**	**45**	**3.4**	**Fires**	**RBCAA allocation**	60, 1, **65**
8	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/05 00:00	41.0	45	3.4	No response required	None	2
9	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/06 00:00	24.4	212	2.1	No response required	None	2
10	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/07 00:00	25.2	30	2.6	No response required	None	2
11	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2025/09/08 00:00**	**46.0**	**263**	**2.3**	**RBIDZ -1F**	**RBCAA allocation**	58, 1, **66**
12	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/08 00:00	46.0	263	2.3	No response required	None	2
13	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2025/09/09 00:00**	**46.3**	**28**	**2.7**	**Fires**	**RBCAA allocation**	56, 1, **63**
14	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/09 00:00	46.3	28	2.7	No response required	None	2
15	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2025/09/11 00:00**	**53.2**	**25**	**4.7**	**Fires**	**RBCAA allocation**	57, 1, 62, **67**
16	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/11 00:00	53.2	25	4.7	No response required	None	2
17	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/12 00:00	28.2	230	2.8	No response required	None	2
18	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/13 00:00	32.0	17	2.9	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
19	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/14 00:00	20.7	249	2	No response required	None	2
20	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/15 00:00	34.1	34	3.1	No response required	None	2
21	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/16 00:00	37.7	224	4	No response required	None	2
22	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/17 00:00	16.4	231	1.9	No response required	None	2
23	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/18 00:00	17.3	57	2.6	No response required	None	2
24	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/19 00:00	18.8	191	2.6	No response required	None	2
25	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/21 00:00	31.4	48	4.1	No response required	None	2
26	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/22 00:00	38.8	64	5.8	No response required	None	2
27	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/23 00:00	31.3	101	2.3	No response required	None	2
28	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/24 00:00	22.8	237	3.4	No response required	None	2
29	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2025/09/28 00:00	28.4	267	3.6	No response required	None	2
30	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/01 00:00	24.0	236	4.4	No response required	None	2
31	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/02 00:00	35.0	72	2.9	No response required	None	2
32	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/03 00:00	35.0	252	4.1	No response required	None	2
33	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/04 00:00	22.0	129	2.7	No response required	None	2
34	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/05 00:00	38.0	71	2.9	No response required	None	2
35	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/06 00:00	18.0	231	2.2	No response required	None	2
36	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/07 00:00	18.0	45	3.5	No response required	None	2
37	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/08 00:00	32.0	242	2.7	No response required	None	2
38	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/09 00:00	39.0	32	3.8	No response required	None	2
39	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/11 00:00	40.0	54	4.5	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
40	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/12 00:00	25.0	205	2.6	No response required	None	2
41	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/13 00:00	24.0	124	2.8	No response required	None	2
42	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/15 00:00	26.0	66	3.2	No response required	None	2
43	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/16 00:00	31.0	209	2.7	No response required	None	2
44	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/18 00:00	17.0	76	3.1	No response required	None	2
45	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/21 00:00	30.0	57	3.9	No response required	None	2
46	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/22 00:00	33.0	93	4.9	No response required	None	2
47	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/23 00:00	21.0	58	2.5	No response required	None	2
48	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/24 00:00	16.0	228	3.2	No response required	None	2
49	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2025/09/28 00:00	23.0	210	2.8	No response required	None	2
50	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/02 00:00	28.0	31	2.4	No response required	None	2
51	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/03 00:00	28.0	237	4.7	No response required	None	2
52	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/04 00:00	16.0	356	2.5	No response required	None	2
53	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/05 00:00	24.0	48	3.5	No response required	None	2
54	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/07 00:00	17.0	10	2.8	No response required	None	2
55	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/08 00:00	24.0	240	2.5	No response required	None	2
56	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/09 00:00	28.0	21	3.1	No response required	None	2
57	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/11 00:00	33.0	28	5.3	No response required	None	2
58	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/13 00:00	16.0	69	3.1	No response required	None	2
59	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/15 00:00	22.0	18	3.5	No response required	None	2
60	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/16 00:00	20.0	192	3.5	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
61	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/21 00:00	20.0	37	4.7	No response required	None	2
62	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2025/09/22 00:00	21.0	74	5.5	No response required	None	2
63	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/01 00:00	20.0	221	4.9	No response required	None	2
64	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/02 00:00	36.0	31	2.4	No response required	None	2
65	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/03 00:00	33.0	237	4.7	No response required	None	2
66	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/04 00:00	28.0	356	2.5	No response required	None	2
67	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/05 00:00	30.0	48	3.5	No response required	None	2
68	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/06 00:00	20.0	186	2.2	No response required	None	2
69	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/07 00:00	24.0	10	2.8	No response required	None	2
70	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/08 00:00	33.0	240	2.5	No response required	None	2
71	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/09 00:00	36.0	21	3.1	No response required	None	2
72	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Scorpio**	**2025/09/11 00:00**	**44.0**	**28**	**5.3**	**Regional Fires**	**RBCAA allocation**	57, 1, **62**
73	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/11 00:00	44.0	28	5.3	No response required	None	2
74	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/12 00:00	19.0	208	2.3	No response required	None	2
75	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/13 00:00	24.0	69	3.1	No response required	None	2
76	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/15 00:00	28.0	18	3.5	No response required	None	2
77	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Scorpio**	**2025/09/16 00:00**	**68.0**	**192**	**3.5**	**South32**	**Planned maintenance. Furnaces venting.**	61, 1, **68**
78	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/16 00:00	68.0	192	3.5	No response required	None	2
79	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/21 00:00	27.0	37	4.7	No response required	None	2
80	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/22 00:00	29.0	74	5.5	No response required	None	2
81	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/23 00:00	26.0	99	2.6	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
82	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/26 00:00	20.0	243	1.3	No response required	None	2
83	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2025/09/28 00:00	22.0	233	3.1	No response required	None	2

Table 2: PM $_{2.5}$ Responses

Response	Industry Feedback
1	Unresolved / No Response
2	No response required / Allocated by wind direction
55	Mondi - Kira Cobbold responded, (2025/09/04 08:47): Mondi has investigated the following PM2.5 exceedance and based on prevailing north easterly to easterly wind direction, Mondi is unlikely the source.
56	Mondi - Kira Cobbold responded, (2025/09/11 15:26): Mondi has investigated the following PM2.5 exceedance at Brackenham and based on the north easterly wind direction and all stack emissions within their compliance limits, Mondi is unlikely the source.
57	Mondi - Kira Cobbold responded, (2025/09/16 08:44): Mondi has investigated the PM2.5 exceedances at Brackenham and Scorpio on 11/09. Mill operations remained stable, all stack emissions were within specification, and wind speeds were high (increasing the overall amount of dust and particulates suspended in the air). Furthermore, wind direction during much of the period does not indicate Mondi as the likely source.
58	Mondi - Kira Cobbold responded, (2025/09/16 08:46): Mondi has investigated the PM2.5 exceedance at Brackenham on 08/09 and based stable mill operations, stack emissions within specification, and elevated wind speeds observed, Mondi is unlikely the source.
59	Mondi - Kira Cobbold responded, (2025/09/16 09:56): Mondi has investigated the PM2.5 exceedance at Brackenham on 03/09 and based on wind direction and mill startup conditions, Mondi may have been a contributing source to the exceedance. Stack emissions were within their compliance limits 24hrs from startup.
60	Mondi - Kira Cobbold responded, (2025/09/22 08:24): Based on stable mill operations, stack emissions within specification, and a wind direction that does not entirely favour Mondi as source, Mondi is unlikely the source of the PM2.5 exceedance at Brackenham on 05/09.
61	Mondi - Kira Cobbold responded, (2025/09/22 09:34): Mondi has investigated the PM2.5 exceedance at Scorpio and, given the planned mill shutdown from 15–17 September as communicated with the authorities, Mondi is unlikely to have been the source.
62	RBCAA Allocation -Sandy Camminga (2025/10/06 11:00)
63	RBCAA Allocation -Sandy Camminga (2025/10/06 15:20) WD: ENE
64	RBCAA Allocation -Sandy Camminga (2025/10/06 15:20) WD: SW-WSW
65	RBCAA Allocation -Sandy Camminga (2025/10/06 15:20) WD: E-ENE
66	RBCAA Allocation -Sandy Camminga (2025/10/06 15:20) WD: SW-WSW
67	RBCAA Allocation -Sandy Camminga (2025/10/06 15:20) WD: NE-ENE
68	South32 - Molebale, Londiwe responded, (2025/10/09 17:07): Hillside Aluminium had a planned maintenance scheduled on FTC 1 for 24 hours on 16 September 2025, FTC 1 was on complete shutdown. As the furnaces were venting, there was no treatment, the wind direction on the day was NNE as depicted in the Windrose. This resulted in the PM exceedance noted at Scorpio station on 16 September 2025.

APPENDIX I
SO_2 EXCEEDANCE LOG

Table 1: SO_2 Exceedances.

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
1	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2025/09/05 00:00	16.7	48	3.5	No response required	None	2
2	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2025/09/11 00:00	18.3	28	5.3	No response required	None	2
3	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2025/09/15 00:00	20.1	18	3.5	No response required	None	2
4	**SO_2 Hourly RSA Limit (134 ppb)**	**Scorpio**	**2025/09/15 23:00**	**141.0**	**15**	**6.1**	**South32**	**Planned maintenance.**	168, 171, **173**
5	**SO_2 Daily RSA Limit (48 ppb)**	**Scorpio**	**2025/09/16 00:00**	**65.2**	**192**	**3.5**	**South32**	**Planned maintenance.**	169, 172, **173**
6	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2025/09/16 00:00	65.2	192	3.5	No response required	None	2
7	**SO_2 Hourly RSA Limit (134 ppb)**	**Scorpio**	**2025/09/16 06:00**	**140.9**	**322**	**1**	**South32**	**Planned maintenance.**	170, 172, **173**
8	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2025/09/23 00:00	15.7	99	2.6	No response required	None	2
9	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2025/09/26 00:00	18.3	243	1.3	No response required	None	2
10	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2025/09/28 00:00	21.0	233	3.1	No response required	None	2

Table 2: SO_2 Responses.

Response	Industry Feedback
168	Mondi - Kira Cobbold responded, (2025/09/16 14:04): Mondi has investigated the SO2 exceedance at Scorpio and based on north easterly wind direction Mondi is unlikely the root cause.
169	Mondi - Kira Cobbold responded, (2025/09/12 09:36): Mondi has investigated the SO2 exceedance at Scorpio and, given the planned mill shutdown from 15–17 September as communicated with the authorities, Mondi is unlikely to have been the source.
170	Mondi - Kira Cobbold responded, (2025/09/12 09:40): Mondi has investigated the SO2 exceedance at Scorpio and, given the planned mill shutdown from 15–17 September as communicated with the authorities, Mondi is unlikely to have been the source.
171	Foskor - Silungile Msane responded (Tue 2025/09/30 16:12): Immediate Actions Taken: The Sulphuric Acid Plant engineers were informed and an investigation was conducted thereafter. Meteorological records further indicate that the wind direction at the time in question, as displayed below in Figure1 & Figure 2, was predominantly blowing from the north at an average speed ranging from 0.5- 8 m/s (Arboretum) and 0.5- 8 m/s (Harbour West). Additional Information: Upon investigation, it was identified that Foskor experienced no operational disturbances during the time of the recorded exceedance. The prevailing wind direction and the state of the operations at that period suggest that Foskor did not contribute to the exceedance. Incident Root cause: There was no root cause identified as there were no abnormalities in the plant.
172	Foskor - Silungile Msane responded (Tue 2025/09/30 16:14): Immediate Actions Taken: The Sulphuric Acid Plant engineers were informed and an investigation was conducted thereafter. Meteorological records further indicate that the wind direction at the time in question, as displayed below in Figure1& Figure 2, was predominantly blowing from the south (towards CBD) at an average speed ranging from 0.5-8 m/s (Harbour West) and 0.5- 6 m/s (Arboretum). Additional Information: Upon investigation, it was identified that no abnormal operating conditions were experienced at Foskor during the reporting period, the prevailing wind direction at the time suggests Foskor may have influenced the recorded exceedance at the monitoring point. Incident Root cause: There was no root cause identified as there were no abnormalities in the plant.
173	South32 - Molebale, Londiwe responded, (2025/10/09 16:30): Hillside Aluminium had a planned maintenance scheduled on FTC 1 for 24 hours on 16 September 2025, FTC 1 was on complete shutdown. As the furnaces were venting there was no treatment, the wind direction on the day was NNE as depicted in the Windrose. This resulted in the SO2 exceedance noted at Scorpio station on 15-16 September 2025.

APPENDIX J
TRS EXCEEDANCE LOG

Table 1: TRS Exceedances

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
1	TRS 30-minute WHO H_2S Limit (5.0 ppb)	CBD	2025/09/04 03:00	6.9	262	2.4	Mondi	STP & Condensable gas	772
2	TRS 10-minute OME Limit (9.3 ppb)	CBD	2025/09/04 03:30	9.4	272	1.5	Mondi	STP & Condensable gas	772
3	TRS 30-minute WHO H_2S Limit (5.0 ppb)	CBD	2025/09/04 03:30	6.0	285	1.2	Mondi	STP & Condensable gas	772
4	TRS 30-minute WHO H_2S Limit (5.0 ppb)	CBD	2025/09/24 07:00	5.1	269	3.2	Mondi	NCG system	798, 810
5	TRS 10-minute OME Limit (9.3 ppb)	CBD	2025/09/24 07:20	10.9	252	3.3	Mondi	NCG system	798, 810
6	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/02 02:00	5.7	336	0.2	Mondi	SETP	759, 770, 795
7	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/02 02:30	6.5	319	0.1	Mondi	SETP	759, 770, 795
8	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/02 07:00	8.4	26	0.3	Mondi	SETP	759, 770, 795
9	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/02 07:30	9.5	44	0.7	Mondi	SETP	759, 770, 795
10	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/02 07:30	6.8	43	0.9	Mondi	SETP	759, 770, 795
11	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/07 00:30	5.9	46	1.0	THS	Smuts Plant	765, 766
12	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/12 21:00	5.8	67	0.4	THS + Mondi	Smuts Plant + Mondi NCG system	778, 795, 800
13	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/12 21:30	11.6	45	0.8	THS + Mondi	Smuts Plant + Mondi NCG system	778, 795, 800
14	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/12 21:40	14.6	33	0.9	THS + Mondi	Smuts Plant + Mondi NCG system	778, 795, 800
15	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/12 21:50	11.5	68	0.8	THS + Mondi	Smuts Plant + Mondi NCG system	778, 795, 800

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
16	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/12 22:00	10.1	65	0.9	THS + Mondi	Smuts Plant + Mondi NCG system	778, 795, 800
17	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/12 22:00	6.0	69	1.0	THS + Mondi	Smuts Plant + Mondi NCG system	778, 795, 800
18	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/12 22:30	6.0	51	1.2	THS + Mondi	Smuts Plant + Mondi NCG system	778, 795, 800
19	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 03:00	5.7	64	0.6	Mondi	SETP	780, 790
20	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/15 03:30	10.0	63	0.4	Mondi	SETP	780, 790
21	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 03:30	9.6	37	0.5	Mondi	SETP	780, 790
22	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/15 03:50	9.6	28	0.7	Mondi	SETP	780, 790
23	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/15 04:00	9.5	45	1.2	Mondi	SETP	780, 790
24	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 04:00	6.8	51	1.1	Mondi	SETP	780, 790
25	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 05:00	6.9	339	0.5	Mondi	SETP	780, 790
26	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 18:00	5.3	57	4.2	Mondi	SETP	780, 790
27	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 18:30	5.5	53	3.9	Mondi	SETP	780, 790
28	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 19:00	5.6	48	3.9	Mondi	SETP	780, 790
29	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 19:30	5.8	48	3.1	Mondi	SETP	780, 790
30	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 20:00	8.4	40	3.3	Mondi	SETP	780, 790
31	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/15 20:10	9.4	42	3.4	Mondi	SETP	780, 790
32	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 20:30	5.6	31	4.2	Mondi	SETP	780, 790
33	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 21:00	5.2	23	3.3	Mondi	SETP	780, 790

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
34	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 23:00	5.2	53	1.5	Mondi	SETP	780, 790
35	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/15 23:30	8.9	60	1.6	Mondi	SETP	780, 790
36	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/15 23:50	10.8	54	1.8	Mondi	SETP	780, 790
37	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/09/16 00:00	11.3	48	1.8	Mondi	SETP	787
38	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/16 00:00	8.4	31	1.6	THS	Smuts Plant	787, 794, 795
39	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/16 09:00	5.8	222	5.9	THS	Smuts Plant	787, 794, 795
40	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/16 09:30	6.0	223	5.3	THS	Smuts Plant	787, 794, 795
41	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/16 10:00	5.4	224	6.8	THS	Smuts Plant	787, 794, 795
42	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/25 21:30	5.9	0	0.4	Mondi	SETP	796, 801
43	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/26 04:00	6.1	43	0.1	Mondi	SETP	804, 811
44	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2025/09/27 04:30	5.4	45	1.1	Mondi	SETP	805, 812
45	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/02 05:00	10.3	101	0.6	THS	RBCAA allocation	759, 762, 770, 809
46	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/02 05:00	8.3	89	0.8	THS	RBCAA allocation	759, 762, 770, 809
47	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/02 08:00	16.2	160	0.6	THS	RBCAA allocation	759, 762, 770, 809
48	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/02 08:00	18.2	134	0.7	THS	RBCAA allocation	759, 762, 770, 809
49	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/02 08:10	18.6	119	0.6	THS	RBCAA allocation	759, 762, 770, 809
50	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/02 08:20	19.7	121	0.8	THS	RBCAA allocation	759, 762, 770, 809
51	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/02 08:30	12.7	68	1.4	THS	RBCAA allocation	759, 762, 770, 809

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
52	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/02 08:30	7.1	70	1.8	THS	RBCAA allocation	759, 762, 770, 809
53	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/03 16:30	7.1	224	4.5	THS	Smuts systems	760, 763, 771
54	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/03 17:00	11.0	221	4.3	THS	Smuts systems	760, 763, 771
55	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/03 17:00	10.2	221	4.2	THS	Smuts systems	760, 763, 771
56	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/03 17:10	9.9	220	4.3	THS	Smuts systems	760, 763, 771
57	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/03 17:20	9.6	223	4.1	THS	Smuts systems	760, 763, 771
58	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/03 17:30	10.1	227	4.3	THS	Smuts systems	760, 763, 771
59	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/03 17:30	9.7	226	4.0	THS	Smuts systems	760, 763, 771
60	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/03 17:40	10.2	227	4.0	THS	Smuts systems	760, 763, 771
61	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/03 18:00	5.7	227	3.6	THS	Smuts systems	760, 763, 771
62	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/03 18:30	6.8	230	3.0	THS	Smuts systems	760, 763, 771
63	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/04 18:30	6.5	50	2.0	THS % Mondi	Smuts Plant + Mondi STP and condensable gases	761, 764, 772
64	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/05 17:30	5.8	225	1.7	THS	Smuts Plant + Use of coal	782, 785, 795
65	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/05 18:30	5.4	223	4.3	THS	Smuts Plant + Use of coal	782, 785, 795
66	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/05 18:50	10.3	224	4.6	THS	Smuts Plant + Use of coal	782, 785, 795
67	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/05 19:00	8.7	220	5.0	THS	Smuts Plant + Use of coal	782, 785, 795
68	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/05 19:10	9.9	221	4.8	THS	Smuts Plant + Use of coal	782, 785, 795
69	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/05 19:30	6.1	224	5.2	THS	Smuts Plant + Use of coal	782, 785, 795

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
70	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/05 20:00	9.5	224	4.6	THS	Smuts Plant + Use of coal	782, 785, 795
71	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/05 20:00	10.8	223	4.8	THS	Smuts Plant + Use of coal	782, 785, 795
72	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/05 20:10	9.7	220	4.4	THS	Smuts Plant + Use of coal	782, 785, 795
73	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/05 20:20	13.1	224	5.4	THS	Smuts Plant + Use of coal	782, 785, 795
74	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/05 23:00	11.0	230	4.4	THS	Smuts Plant + Use of coal	782, 785, 795
75	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/05 23:00	7.1	229	4.2	THS	Smuts Plant + Use of coal	782, 785, 795
76	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/06 03:30	5.2	225	1.8	THS	Smuts Plant	783, 795
77	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/07 00:00	6.6	67	1.2	THS	Smuts Plant	765, 766
78	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/07 01:30	16.5	178	0.9	THS	Smuts Plant	765, 766
79	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/07 01:50	43.0	183	0.8	THS	Smuts Plant	765, 766
80	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/07 02:00	51.7	47	0.7	THS	Smuts Plant	765, 766
81	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/07 02:00	32.5	233	1.1	THS	Smuts Plant	765, 766
82	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/07 02:10	30.5	215	1.1	THS	Smuts Plant	765, 766
83	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/07 02:20	15.3	246	1.5	THS	Smuts Plant	765, 766
84	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/09 06:00	11.7	264	0.8	THS	Smuts Plant + boilers	767, 774, 795
85	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/09 06:00	8.0	43	1.2	THS	Smuts Plant + boilers	767, 774, 795
86	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/09 07:00	5.2	252	1.7	THS	Smuts Plant + boilers	767, 774, 795
87	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/09 07:20	11.3	262	1.7	THS	Smuts Plant + boilers	767, 774, 795

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
88	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/11 19:30	5.3	227	6.2	THS	Smuts Plant + boilers	773, 775, 795
89	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/11 20:00	7.0	223	6.2	THS	Smuts Plant + boilers	773, 775, 795
90	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/11 20:30	8.6	224	5.2	THS	Smuts Plant + boilers	773, 775, 795
91	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 20:50	10.9	226	5.1	THS	Smuts Plant + boilers	773, 775, 795
92	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 21:00	10.9	224	5.2	THS	Smuts Plant + boilers	773, 775, 795
93	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/11 21:00	10.0	225	5.0	THS	Smuts Plant + boilers	773, 775, 795
94	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 21:10	9.5	225	5.1	THS	Smuts Plant + boilers	773, 775, 795
95	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 21:20	9.8	226	4.8	THS	Smuts Plant + boilers	773, 775, 795
96	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 21:30	11.7	221	4.6	THS	Smuts Plant + boilers	773, 775, 795
97	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/11 21:30	10.6	220	4.3	THS	Smuts Plant + boilers	773, 775, 795
98	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 21:40	10.5	219	4.1	THS	Smuts Plant + boilers	773, 775, 795
99	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 21:50	9.5	220	4.1	THS	Smuts Plant + boilers	773, 775, 795
100	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 22:00	10.1	227	4.2	THS	Smuts Plant + boilers	773, 775, 795
101	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/11 22:00	9.3	227	4.4	THS	Smuts Plant + boilers	773, 775, 795
102	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/11 22:10	9.8	228	4.3	THS	Smuts Plant + boilers	773, 775, 795
103	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/11 22:30	5.7	226	4.6	THS	Smuts Plant + boilers	773, 775, 795
104	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/12 04:30	5.7	228	5.0	THS	Smuts Plant + boilers	778, 795, 800
105	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/13 14:00	5.2	216	3.5	THS	Smuts Plant + boilers	779, 784, 795

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
106	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/16 09:30	5.2	223	7.1	THS	Smuts Plant + boilers	787, 794, 795
107	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/16 10:00	5.1	227	6.4	THS	Smuts Plant + boilers	787, 794, 795
108	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/16 11:30	5.1	211	5.3	THS	Smuts Plant + boilers	787, 794, 795
109	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/16 20:00	6.2	206	0.9	THS	Smuts Plant + boilers	787, 794, 795
110	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/16 20:20	13.2	190	1.0	THS	Smuts Plant + boilers	787, 794, 795
111	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/16 20:30	11.9	181	1.0	THS	Smuts Plant + boilers	787, 794, 795
112	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/16 20:30	5.7	180	1.1	THS	Smuts Plant + boilers	787, 794, 795
113	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/17 04:00	5.4	218	2.5	THS	Smuts Plant + boilers	781, 791, 795
114	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/18 23:20	10.4	225	5.0	THS	Smuts Plant + boilers	786, 789, 795
115	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/18 23:30	9.6	224	4.6	THS	Smuts Plant + boilers	786, 789, 795
116	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/18 23:50	10.8	223	5.1	THS	Smuts Plant + boilers	786, 789, 795
117	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/19 00:00	11.9	223	5.8	THS	Smuts Plant + boilers	788, 792, 795
118	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/19 00:00	9.2	225	5.4	THS	Smuts Plant + boilers	788, 792, 795
119	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/19 00:30	5.3	230	4.6	THS	Smuts Plant + boilers	788, 792, 795
120	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/19 03:00	5.5	214	4.0	THS	Smuts Plant + boilers	788, 792, 795
121	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/23 02:30	5.1	208	1.0	THS	Smuts Plant + boilers	793, 795, 797
122	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/24 00:30	8.1	59	1.3	THS	Smuts Plant + boilers	795, 798
123	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/24 00:40	15.5	49	1.5	THS	Smuts Plant + boilers	795, 798

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
124	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/24 14:30	5.1	215	5.6	THS	Smuts Plant + boilers	795, 798, 810
125	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/24 18:30	5.3	225	4.2	THS	Smuts Plant + boilers	795, 798, 810
126	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 02:30	24.4	211	0.4	THS	Boilers-coal operated.	805, 809, 813
127	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/27 02:30	23.4	215	0.6	THS	Boilers-coal operated.	805, 809, 813
128	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 02:40	26.3	220	0.8	THS	Boilers-coal operated.	805, 809, 813
129	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 02:50	19.6	215	0.8	THS	Boilers-coal operated.	805, 809, 813
130	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 03:00	15.9	238	1.3	THS	Boilers-coal operated.	805, 809, 813
131	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/27 03:00	20.9	219	0.8	THS	Boilers-coal operated.	805, 809, 813
132	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 03:10	19.8	169	0.6	THS	Boilers-coal operated.	805, 809, 813
133	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 03:20	27.0	240	0.5	THS	Boilers-coal operated.	805, 809, 813
134	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 03:30	22.9	245	1.1	THS	Boilers-coal operated.	805, 809, 813
135	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/27 03:30	16.9	221	0.9	THS	Boilers-coal operated.	805, 809, 813
136	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 03:40	17.4	221	0.8	THS	Boilers-coal operated.	805, 809, 813
137	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/09/27 03:50	10.6	192	0.7	THS	Boilers-coal operated.	805, 809, 813
138	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/27 04:00	5.5	118	0.5	THS	Boilers-coal operated.	805, 809, 813
139	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/28 16:30	5.3	221	4.5	THS	Boilers-coal operated.	803, 806, 813
140	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/29 00:00	6.3	220	4.0	THS	Boilers-coal operated.	802, 807,813
141	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2025/09/29 00:30	8.0	224	4.6	THS	Boilers-coal operated.	802, 807, 813

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
142	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/03 20:00	5.9	204	3.7	THS & Mondi	Smuts systems + Mondi unidentified cause	760, 763, 771
143	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/06 18:30	60.3	212	1.1	CoU	RBCAA allocation - sewage discharge	1, 809
144	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/06 18:40	106.1	194	1.0	CoU	RBCAA allocation - sewage discharge	1, 809
145	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/06 18:50	68.3	203	1.3	CoU	RBCAA allocation - sewage discharge	1, 809
146	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/06 23:30	8.6	No data	1.1	CoU	RBCAA allocation - sewage discharge	1, 809
147	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/06 23:40	13.1	No data	1.3	CoU	RBCAA allocation - sewage discharge	1, 809
148	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/06 23:50	10.1	8	1.3	CoU	RBCAA allocation - sewage discharge	1, 809
149	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/08 18:00	5.2	170	1.3	CoU	RBCAA allocation - sewage discharge	799, 809
150	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/12 17:30	5.2	No data	1.1	CoU	RBCAA allocation - sewage discharge	800, 1, 809
151	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/12 18:00	9.6	No data	0.1	CoU	RBCAA allocation - sewage discharge	800, 1, 809
152	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/12 18:00	7.7	No data	0.2	CoU	RBCAA allocation - sewage discharge	800, 1, 809
153	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/13 19:00	23.0	190	1.7	CoU	RBCAA allocation - sewage discharge	784, 1, 809
154	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/13 19:10	36.1	200	1.9	CoU	RBCAA allocation - sewage discharge	784, 1, 809
155	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/13 19:20	32.0	196	2.1	CoU	RBCAA allocation - sewage discharge	784, 1, 809
156	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/13 19:30	6.2	199	2.3	CoU	RBCAA allocation - sewage discharge	784, 1, 809
157	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 19:00	10.6	No data	No data	CoU	RBCAA allocation - sewage discharge	786, 1, 809
158	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/18 19:00	14.1	182	1.1	CoU	RBCAA allocation - sewage discharge	786, 1, 809
159	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 19:20	25.2	190	1.1	CoU	RBCAA allocation - sewage discharge	786, 1, 809

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
160	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 19:30	13.8	182	1.6	CoU	RBCAA allocation - sewage discharge	786, 1, 809
161	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/18 19:30	8.5	181	1.6	CoU	RBCAA allocation - sewage discharge	786, 1, 809
162	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 20:30	15.6	167	1.8	CoU	RBCAA allocation - sewage discharge	786, 1, 809
163	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/18 20:30	17.0	174	1.5	CoU	RBCAA allocation - sewage discharge	786, 1, 809
164	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 20:40	15.4	180	1.4	CoU	RBCAA allocation - sewage discharge	786, 1, 809
165	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 20:50	20.1	175	1.3	CoU	RBCAA allocation - sewage discharge	786, 1, 809
166	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 21:00	13.1	192	1.1	CoU	RBCAA allocation - sewage discharge	786, 1, 809
167	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/18 21:00	8.3	195	1.4	CoU	RBCAA allocation - sewage discharge	786, 1, 809
168	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/18 21:10	10.1	197	1.4	CoU	RBCAA allocation - sewage discharge	786, 1, 809
169	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/26 00:00	8.4	318	0.9	CoU	RBCAA allocation - sewage discharge	1, 809, 811
170	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 00:20	23.7	No Data	0.2	CoU	RBCAA allocation - sewage discharge	1, 809, 811
171	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 00:30	48.5	No Data	0.1	CoU	RBCAA allocation - sewage discharge	1, 809, 811
172	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/26 00:30	25.0	No Data	0.4	CoU	RBCAA allocation - sewage discharge	1, 809, 811
173	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 00:40	23.1	No Data	0.4	CoU	RBCAA allocation - sewage discharge	1, 809, 811
174	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/26 17:00	5.5	175	1.9	CoU	RBCAA allocation - sewage discharge	1, 809, 811
175	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 17:20	12.5	183	2.1	CoU	RBCAA allocation - sewage discharge	1, 809, 811
176	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 17:30	12.6	174	2.2	CoU	RBCAA allocation - sewage discharge	1, 809, 811
177	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/26 17:30	10.6	174	2.0	CoU	RBCAA allocation - sewage discharge	1, 809, 811

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
178	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 17:40	9.6	175	2.0	CoU	RBCAA allocation - sewage discharge	1, 809, 811
179	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 17:50	9.5	174	1.8	CoU	RBCAA allocation - sewage discharge	1, 809, 811
180	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/26 18:00	10.9	188	1.3	CoU	RBCAA allocation - sewage discharge	1, 809, 811
181	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 18:10	9.4	189	1.4	CoU	RBCAA allocation - sewage discharge	1, 809, 811
182	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/09/26 18:20	14.4	196	1.1	CoU	RBCAA allocation - sewage discharge	1, 809, 811
183	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/28 22:00	5.2	190	2.2	CoU	RBCAA allocation - sewage discharge	1, 809, 811
184	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Richardia	2025/09/28 22:30	5.4	203	2.4	CoU	RBCAA allocation - sewage discharge	1, 809, 811

Table 2: TRS Responses

Response	Industry Feedback
1	Unresolved / No Response
759	Mpact -Traven Chetty responded, (2025/09/05 10:02): Mpact has investigate the exceedances on the 2nd of September 2025. All process plant reports indicate our operations were stable. There were no abnormal activities reported for the processes. Based on this, it is unlikely that Mpact is the source of these exceedances.
760	Mpact -Traven Chetty responded, (2025/09/05 10:05): Mpact has investigate the exceedances on the 3rd of September 2025. All process plant reports indicate our operations were stable, with no abnormalities. Based on this as well as the indicated wind direction (SW), it is unlikely that Mpact is the source of these exceedances.
761	Mpact -Traven Chetty responded, (2025/09/08 11:35): Mpact has investigated the exceedance at the Felixton station on the 04th of September 2025. All process plant reports indicates stable operations with no abnormal conditions to report. The wind direction (NE) does not support emissions from Mpact. Based on this, it is unlikely that Mpact is the source of this exceedance.
762	Tongaat Hulett - Nicolas Govender responded (2025/09/08 14:13 & 14:14): Investigations indicate that the plant was running steadily with no abnormal occurrences that could have triggered the TRS exceedances. Effluent plant pH's and dam levels were also normal, the desludging processes have been concluded by the 22 August 2025.
763	Tongaat Hulett - Nicolas Govender responded (2025/09/08 14:47 & 14:48): Investigations did indicate that the smuts systems reported slightly elevated calcium and TSS levels, this may have contributed to the TRS exceedances.
764	Tongaat Hulett - Nicolas Govender responded (2025/09/08 15:01): Due to the smuts plant elevated calcium and TSS on the 3 September 2025, the ops team purged and flushed the clarifiers to the effluent plant. This may have caused an exceedance on the TRS.
765	Tongaat Hulett - Nicolas Govender responded (2025/09/08 15:18 & 15:21): We have scheduled a steam stop for the 08 September 2025, due to the abnormal operations in preparations to shut down higher levels of calcium was observed. This may have caused the TRS exceedances. Also note that we are still in the process of monitoring the experimental trials for the smuts water quality.
766	Mpact -Traven Chetty responded, (2025/09/09 13:12): Mpact has conducted an investigation into the exceedances on the 7th of September 2025. All plant process reports indicate that operations were stable and no abnormal conditions reported. Based on this, it is unlikely that Mpact is the source of these exceedances at both Felixton and eSikhaleni.
767	Mpact -Traven Chetty responded, (2025/09/12 07:41): We have conducted an investigation into the exceedances on 9th September 2025. All process plant reports indicate that our operations were stable and no abnormal conditions were reported. Furthermore, the wind direction for these exceedances do not support emissions from Mpact. Based on this, it is unlikely that Mpact is the source of these exceedances.
770	~~Mondi - Kira Cobbold responded, (2025/09/12 10:40): Mondi has investigated the following TRS exceedances and based on extremely low wind speeds, and a varying wind direction that does not favour Mondi as the source, Mondi can be considered an unlikely source. Additionally, Mondi monitoring stations remained on low levels and all stack emissions were within specification.~~ Mondi - Kira Cobbold responded, (2025/10/07 15:21): Mondi has reviewed the TRS exceedances that occurred at eSikhaleni on 02/09. Based on the very low wind speeds recorded, Mondi can be considered a potential source. Minor H_2S peaks were observed at the effluent plant the evening of 01/09 and early hours of 02/09 morning, which, with the low wind speeds may have accumulated and contributed to a lingering plume. Mondi therefore acknowledges that H_2S release from the Secondary Effluent Treatment Plant (SETP) was a possible contributor to the exceedance. The SETP was switched off from 04:00-07:00 as per daily procedure.
771	Mondi - Kira Cobbold responded, (2025/09/12 11:18): Mondi has investigated the following TRS exceedances and based on south westerly wind direction, Mondi is unlikely the source for exceedances at Felixton. Mondi can, based on wind direction, be a considered a potential source for the TRS exceedance at Richardia. Stack emissions were within specification, however Mondi portable and Hytec stations showed elevated TRS levels indicating Mondi as a potential source. No exact root cause could be identified, however, switching of non-condensable gas burning zones was observed at 13:48 and 18:17 which from recent learnings Mondi has discovered the line may be

Response	Industry Feedback
	purging itself of residual gases when doing so. This may have contributed to a higher background odour and therefore the elevated TRS levels observed. Preventative measures for the possible odour released during switching burning zones will be determined once comprehensive investigation is complete.
772	Mondi - Kira Cobbold responded, (2025/09/12 11:45): Mondi has investigated the following TRS exceedances and based on wind direction, and the alignment with three odour complaints received between 07:00-10:00, Mondi can be considered the source for TRS exceedances seen at CBD station. Contributing factors include odour from the Secondary Effluent Treatment Plant (SETP) as well as switching of non-condensable gases between burning zones. It was identified that during switching events there is a potential release to atmosphere, as the system is designed to purge itself of any residual gases before switching to the new burning zone. Mondi is now investigating possible challenges with the system designed to handle the residual gases. The full investigation report has been submitted to the RBCAA. Mondi can be considered a potential source for the exceedance at Felixton based on wind direction and elevated TRS levels seen at Mondi UVS station. However, at this time gases were stable during incineration and no root cause could be identified.
773	Mondi - Kira Cobbold responded, (2025/09/12 13:25): Based on south westerly wind direction at time of exceedance Mondi is unlikely the source for TRS exceedances at Felixton on 11/09/2025.
774	Mondi - Kira Cobbold responded, (2025/09/12 13:59): Mondi has investigated the TRS exceedances at Felixton on 09/09 and based on wind direction is unlikely the source. All stack emissions were within their compliance limits and TRS levels at Mondi monitoring stations remained on low levels. Gases were stable for incineration.
775	Mpact -Traven Chetty responded, (2025/09/15 10:59): Mpact has conducted an investigation into these exceedances for 11th September 2025. All process plant reports indicate operations were stable with no abnormal conditions reported. To further this, the wind direction does not support emissions from Mpact. Based on this, it is unlikely that Mpact is the source of these exceedances at the Felixton station.
778	Mpact -Traven Chetty responded, (2025/09/16 10:39): Mpact has investigated these exceedances on the 12th of September at eSikhaleni and Felixton stations. All process plant reports show operations were stable and no abnormal operations were reported. To further this, the wind direction does not support emissions from Mpact for both these stations. Based on this, it is unlikely that Mpact is the source of these exceedances.
779	Mpact -Traven Chetty responded, (2025/09/16 10:47): Mpact has investigated this exceedance on the 13th of September at the Felixton station. All process plant reports show operations were stable and no abnormal operations were reported. To further this, the wind direction does not support emissions from Mpact. Based on this, it is unlikely that Mpact is the source of this exceedance.
780	Mpact -Traven Chetty responded, (2025/09/17 10:49):Mpact has investigated these exceedances at eSikhaleni on the 15th of September 2025. All plant process reports indicate that operations were stable during this time. There were no abnormal conditions reported. The wind direction results also do not support emissions from Mpact. Based on this, it is unlikely that Mpact is the source of these exceedances.
781	Mpact -Traven Chetty responded, (2025/09/19 10:39):Mpact has investigated the exceedance on the 17th of September. Our process plant reports indicate that operations were stable with no abnormal conditions reported. To further this, the wind direction for this exceedance does not support emissions from Mpact. Therefore, it is unlikely that Mpact is the source of this exceedance at Felixton.
782	Mpact -Traven Chetty responded, (2025/09/19 10:43): Mpact has investigate the exceedances on the 5th of September 2025. All process plant reports indicate our operations were stable, with no abnormalities reported. Furthermore, the indicated wind direction (SW) does not support emissions from Mpact. Therefore, it is unlikely that Mpact is the source of these exceedances.
783	Mpact -Traven Chetty responded, (2025/09/19 10:49): We have investigated the exceedance on 6th September 2025 at Felixton. All process plant reports indicate that our operations were stable and no abnormal conditions were reported. Furthermore, the wind direction (SW) for this exceedance do not support emissions from Mpact. Therefore, it is unlikely that Mpact is the source of this exceedance.
784	Mondi - Kira Cobbold responded, (2025/09/19 12:13): Mondi has investigated the following exceedances. Based on the south-westerly wind direction at the time, Mondi is unlikely to be the source of the exceedance recorded at Felixton. Similarly, the wind direction prior to and during the exceedances at Richardia does not clearly indicate Mondi as the source. The mill was operating under stable conditions, with both HW and SW gases stable for incineration. The RBCAA did however notify Mondi of localised sewage issues near the Richardia station, which were likely contributors to the elevated TRS levels observed.
785	Mondi - Kira Cobbold responded, (2025/09/19 14:50): Based on south westerly wind direction Mondi is unlikely the source for TRS exceedances at Felixton on 05/09.

Response	Industry Feedback
786	Mondi - Kira Cobbold responded, (2025/09/19 15:00): As communicated by the RBCAA, Mondi is unlikely the source of exceedances at Richardia based on wind direction and sewage odour complaints received by the RBCAA. Additionally, based on south westerly wind direction Mondi is unlikely the source for the exceedance at Felixton.
787	Mondi - Kira Cobbold responded, (2025/09/19 15:08): Mondi has investigated the following exceedances. Based on the wind shift to a south-westerly direction, Mondi is unlikely to be the source of the exceedances at eSikhaleni and Felixton from 09:00 onwards. However, Mondi may be considered a potential source of the TRS exceedances recorded at eSikhaleni at 00:00 (10- and 30-minute averages), given the north-easterly wind direction and elevated H_2S levels measured at the Mondi effluent plant stack. During this period, the mill was in shut conditions and lower effluent quality (higher conductivities) was observed, which may have contributed to an increased release of TRS from the SETP.
788	Mondi - Kira Cobbold responded, (2025/09/22 10:01): Based on the south westerly wind direction Mondi is unlikely the source of TRS exceedances at Felixton on 19/09.
789	Mpact -Traven Chetty responded, (2025/09/22 10:17): Mpact has investigated the exceedance on 18th September 2025 at the Felixton Station. All plant process reports indicate that operations were stable with no abnormalities reported. The indicated wind direction also does not support emissions from Mpact. Based on this, it is unlikely that Mpact is the source of this exceedance.
790	Mondi - Kira Cobbold responded, (2025/09/22 10:47): Mondi has investigated the TRS exceedances at eSikhaleni on 15/09 and, based on wind direction and mill shutdown conditions, acknowledges it may have been a contributing source. Elevated H_2S levels were recorded at the effluent plant stack, suggesting that lower quality effluent produced during the shutdown (15th-17th September 2025) may have led to additional H_2S release from the Secondary Effluent Treatment Plant (SETP). To manage both effluent compliance and the associated odour risks, Drain Management Plans (DMPs) are implemented by each business unit with approval of the Environmental Officer and the Production Manager of the effluent plant.
791	Mondi - Kira Cobbold responded, (2025/09/22 10:50): Based on south westerly wind direction Mondi is unlikely the source of the exceedance at Felixton on 17/09.
792	Mpact -Traven Chetty responded, (2025/09/25 07:36): Mpact conducted an investigation into these exceedances on the 19th of September. All process plant reports indicated that operations were stable and no abnormal activities were reported. Based on the report below, the wind direction (SW) is also not in favour of emissions from Mpact. Therefore, it is unlikely that Mpact is the source of these exceedances at the Felixton.
793	Mondi - Kira Cobbold responded, (2025/09/25 08:00): Based on the southerly wind direction, Mondi is unlikely the source for the TRS exceedance at Felixton on 23/09.
794	Mpact -Traven Chetty responded, (2025/09/25 12:09): Mpact has conducted an investigation into these exceedances at Felixton and eSikhaleni on 16th of September. All process plant reports indicate operations were stable with no abnormalities. Based on this as well as the wind direction, it is unlike that Mpact is the source of these exceedances at both stations.
795	Tongaat Hulett - Nicolas Govender responded (2025/09/25 14:59): Lines 3036 to 3040 (eSikhaleni) - Investigations indicate that the plant was running steadily with no abnormal occurrences that could have triggered the TRS exceedances. Effluent plant pH's and dam levels were also normal. Lines 3042 to 3048 (eSikhaleni) - Higher levels of calcium and TSS was observed in the Smuts clarifier water. This was due to the unstable operations in the plant. This may have caused the TRS exceedances. Lines 3068 to 3071 (eSikhaleni) - Higher levels of calcium and TSS was observed in the Smuts clarifier water. This was due to the unstable operations in the plant. This may have caused the TRS Lines 3091 to 3103 (Felixton) - Higher levels of calcium and TSS was observed in the Smuts clarifier water. Usage of coal may also contributed to this. This may have caused the TRS exceedances. Lines 3111 to 3152 (Felixton) - During this period we had experienced multiple set backs in the operations, inconsistent operations leads to the boilers using coals, starting and stopping also contributes negatively to the smuts operations. Therefore it is likely that we did cause these exceedances.
796	~~Mondi - Kira Cobbold responded, (2025/09/26 09:25): Mondi has investigated the following TRS exceedance at eSikhaleni on 25/09 and based on wind speed and direction, stable operations with both HW and SW NCGs stable for incineration, and all Mondi monitoring stations on low levels, Mondi is unlikely the source.~~ Mondi - Kira Cobbold responded, (2025/10/07 15:24): Mondi has reviewed the TRS exceedance that occurred at eSikhaleni on 25/09. Based on the very low wind speeds recorded, Mondi can be considered a potential source. Smaller H_2S peaks observed at the effluent plant may have accumulated in the presence of low wind speeds and contributed to a lingering plume. While the exact root cause remains unclear, Mondi acknowledges that H_2S release from the Secondary Effluent Treatment Plant (SETP) was a possible contributor to the observed exceedance.

Response	Industry Feedback
797	Mpact -Traven Chetty responded, (2025/09/26 09:29): Mpact has investigated this exceedance on 23rd September 2025. All process plant reports indicate that operations were stable with no abnormal activities reported. It is further noted that the wind direction is not in favour of emissions from Mpact. Based on this, it is unlikely that Mpact is the source of this exceedance.
798	Mpact -Traven Chetty responded, (2025/09/26 09:34): Mpact has conducted an investigation into these exceedances on 24th September 2025. All process plant reports indicate that operations were stable with no abnormal activities reported. Furthermore, the wind directions indicated is not in favour of emissions from Mpact. Based on this, it is unlikely that Mpact is the source of these exceedances.
799	Mondi - Kira Cobbold responded, (2025/09/29 08:50): Mondi has investigated the TRS exceedance at Richardia on 08/09 and based on the shift in wind direction prior to the exceedance, stable operating conditions, and Mondi monitoring stations remaining on low TRS levels, Mondi is unlikely the source.
800	Mondi - Kira Cobbold responded, (2025/09/29 09:53): Mondi has investigated the following exceedances. Based on the south-westerly wind direction at the time, Mondi is unlikely to be the source of the exceedance recorded at Felixton. Similarly, the wind direction prior to and during the exceedances at Richardia does not clearly indicate Mondi as the source. The mill was operating under stable conditions, with both HW and SW gases stable for incineration. The RBCAA did however notify Mondi of localised sewage issues near the Richardia station, which were likely contributors to the elevated TRS levels observed. The exceedances recorded at eSikhaleni station were recorded during a period of very low wind speeds while the mill was operating under stable conditions. Mondi monitoring stations and the effluent plant stack remained on low levels, however it was noted that NCG burning zone was switched at 18:10 which potentially released some odour to atmosphere. This, combined with the low wind speeds may have been a contributing factor to the eSikhaleni exceedances. The odour abatement task team continues to investigate the NCG system and the switching of gases.
801	Mpact -Traven Chetty responded, (2025/09/29 15:51): Mpact has investigated this exceedance at Esikhaleni station on 25th September 2025. All process plant reports indicate that operations were stable and there was no abnormal activities reported. Based on this, it is unlikely that Mpact is the source of this exceedance.
802	Mondi - Kira Cobbold responded, (2025/09/30 08:20): Mondi has investigated the TRS exceedances at Felixton on 29/09 and based on wind direction is unlikely the source.
803	Mondi - Kira Cobbold responded, (2025/09/30 09:46): Mondi has investigated the exceedance at Felixton and based on the more southerly wind direction, Mondi is unlikely the source. Similarly, the wind direction prior to the exceedances at Richardia does not clearly indicate Mondi as a potential source. Additionally, Mondi monitoring stations remained on low TRS levels, stack emissions were within compliance limits, and both HW and SW gases were stable for incineration at the time of and prior to the exceedances.
804	Mpact -Traven Chetty responded, (2025/09/30 14:44): Mpact has investigated this exceedance on the 26th of September 2025. All process plant reports were reviewed and indicated that operations were stable and no abnormal conditions were reported. Based on this, it is unlikely that Mpact is the source of this exceedance at eSikhaleni.
805	Mpact -Traven Chetty responded, (2025/09/30 14:59): Mpact has investigated these exceedances at Esikhaleni and Felixton stations on 27th September 2025. All process plant reports were reviewed and indicated that operations were stable with no abnormal conditions reported. Based on this, it is unlikely that Mpact is the source of these exceedances.
806	Mpact -Traven Chetty responded, (2025/09/30 15:11): We have investigated the exceedance on 28th September 2025 at Felixton station. All process plant reports were reviewed and indicated that our operations were stable and no abnormal conditions were reported. Furthermore, the wind direction (SW) for this exceedance do not support emissions from Mpact. Therefore, it is unlikely that Mpact is the source of this exceedance.
807	Mpact -Traven Chetty responded, (2025/10/01 12:32): Mpact has conducted an investigation into the exceedances on 29th September 2025 at Felixton station. All process plant reports were reviewed and indicated that our operations were stable and no abnormal conditions were reported. Furthermore, the wind direction (SW) for these exceedances do not support emissions from Mpact. Therefore, it is unlikely that Mpact is the source of these exceedances.
809	RBCAA Allocation -Sandy Camminga (2025/10/06 11:00)
810	Mondi - Kira Cobbold responded, (2025/10/06 12:14): Mondi has investigated the following exceedances and based on wind direction Mondi is unlikely the source of TRS exceedances at Felixton at 14:30 and 18:30. The exceedance at 00:30 was unlikely Mondi due to stable operating conditions with both HW and SW gases stable for incineration. Mondi monitoring stations remained on low levels and stack emissions were within their compliance limits.

Response	Industry Feedback
	Based on wind direction, Mondi can be considered a potential source for the exceedances at CBD. At 04:38 NCG gases were switched between burning zones which may, with the low wind speeds at the time, have lingered for a period before eventually reaching CBD station as wind speed picked up around 06:45. It has been noted that during switching events there is the potential for some odour to be released as the line purges itself of residual gases. Mondi's odour abatement task team continues to investigate the NCG system with emphasis on stabilizing burning zones.
811	Mondi - Kira Cobbold responded, (2025/10/06 13:20): Mondi has investigated the TRS exceedances at Richardia and based on wind direction and the known sewage problem near Richardia station, Mondi is unlikely the source. Mondi can be considered a potential source for the exceedance at eSikhaleni based on wind direction and elevated TRS levels recorded at the Mondi UVS station. Gases were stable for incineration during this period and stack emissions were within compliance limits. Mondi's portable station also recorded slightly elevated TRS levels during this period which is situated near the effluent plant indicating odour may have been released from the SETP. This, combined with very low wind speeds may have contributed to the TRS exceedance observed at eSikhaleni. The SETP was switched off as per daily procedure between 04:00-07:00.
812	Mondi - Kira Cobbold responded, (2025/10/06 14:10): Mondi has investigated the following exceedances and based on wind direction, low wind speeds and elevated H2S levels recorded at the effluent plant, Mondi can be considered a potential contributing source. Mondi monitoring stations remained on low levels, with gases stable for incineration and stack emissions within specification. This indicates that the most likely source would be TRS released from the SETP due to lower quality effluent, although no exact root cause of what caused the elevated TRS could be identified (particularly for the magnitude of the exceedance). The SETP was switched off as per daily procedure between 04:00-07:00.
813	Tongaat Hulett - Nicolas Govender responded (2025/10/07 08:25): Kindly allocate to Felixton. The boilers experienced downtime on the scratcher during the period form 27 to 29th of September which affected supply of bagasse to the boilers. This resulted in burning of coal to maintain fires in the boilers. THS might have contributed to the TRS exceedances. The scratcher requires a steam off to be worked on and is being maintained today


AIMS