

Monthly Air Quality

August 2025

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

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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 (SO₂), 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 the air quality and serve as a valuable tool for 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 August 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	100	100	100	100	100	-
Arboretum	100	99	100	-	-	-	-
Brackenham	100	100	100	-	-	-	-
CBD	100	100	100	100	-	-	-
CBD Rain	100	-	-	-	-	-	100
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):

- None.

2.2. Wind Roses

Monthly wind roses for August 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.

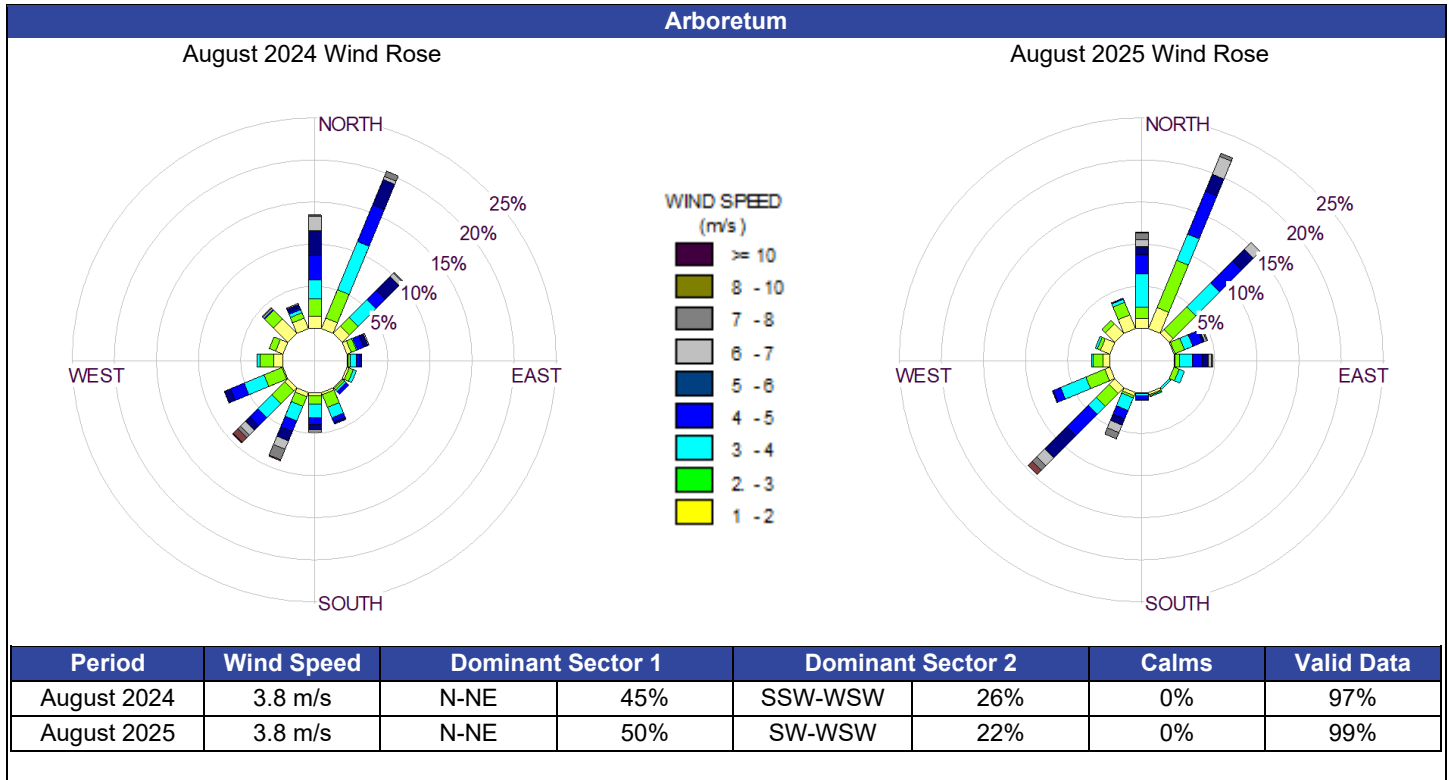


Figure 2.1: Wind roses - monthly.

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, hence the slightly higher proportion of these winds.

Diurnal wind roses for August 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.

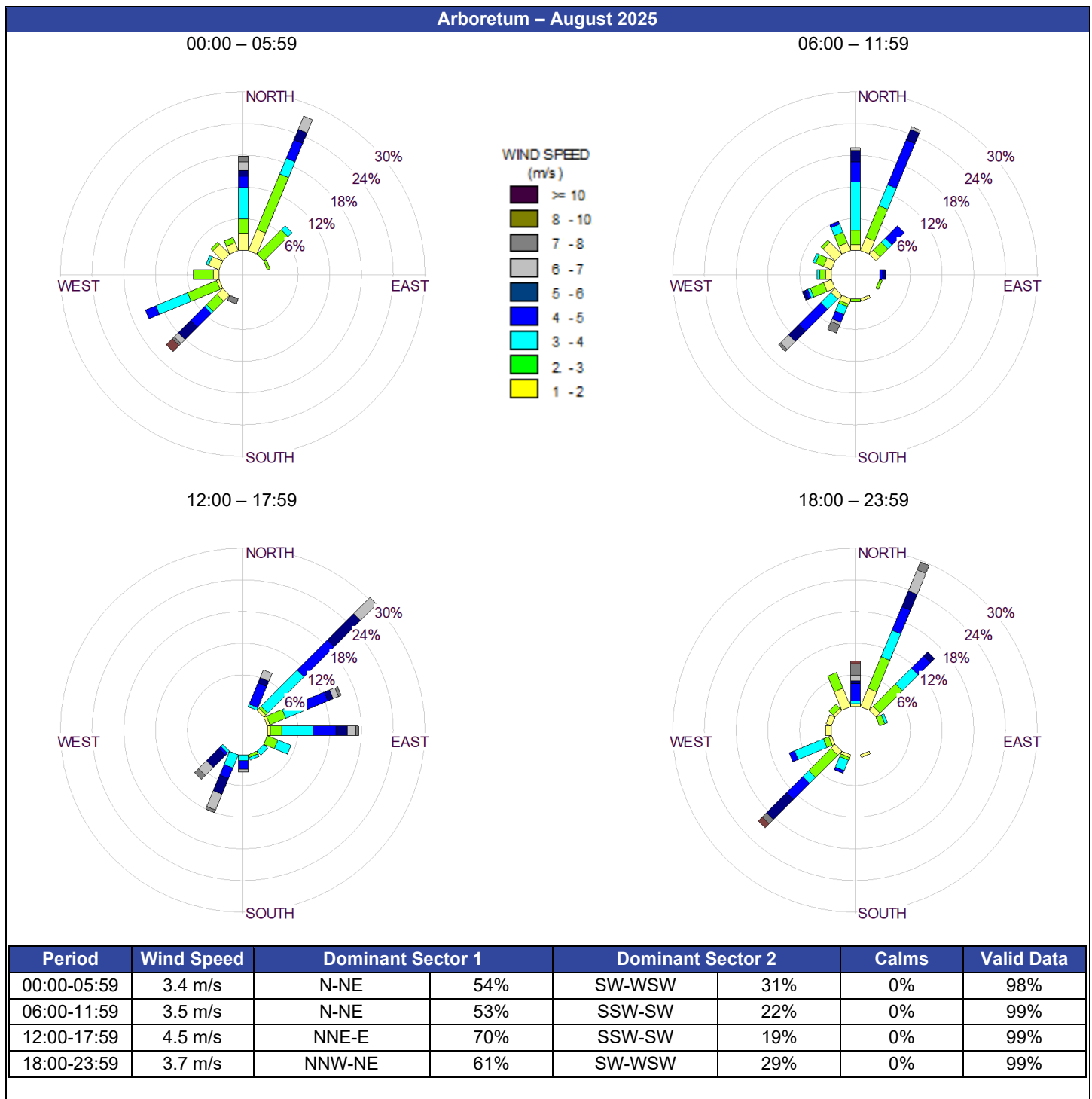


Figure 2.2: Wind roses - diurnal.

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).

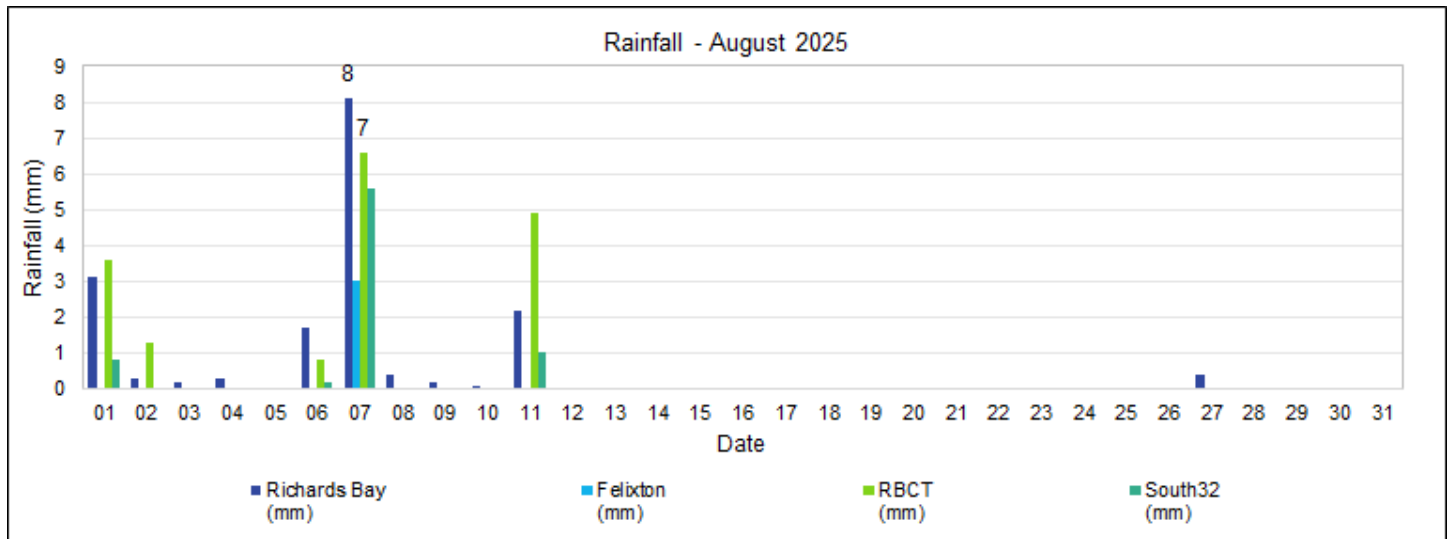


Figure 2.3: Rainfall.

Table 2.2: Rainfall -monthly averages.

Month	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	South32 (mm)	Average (mm)
August 2025	17	3	17	8	11

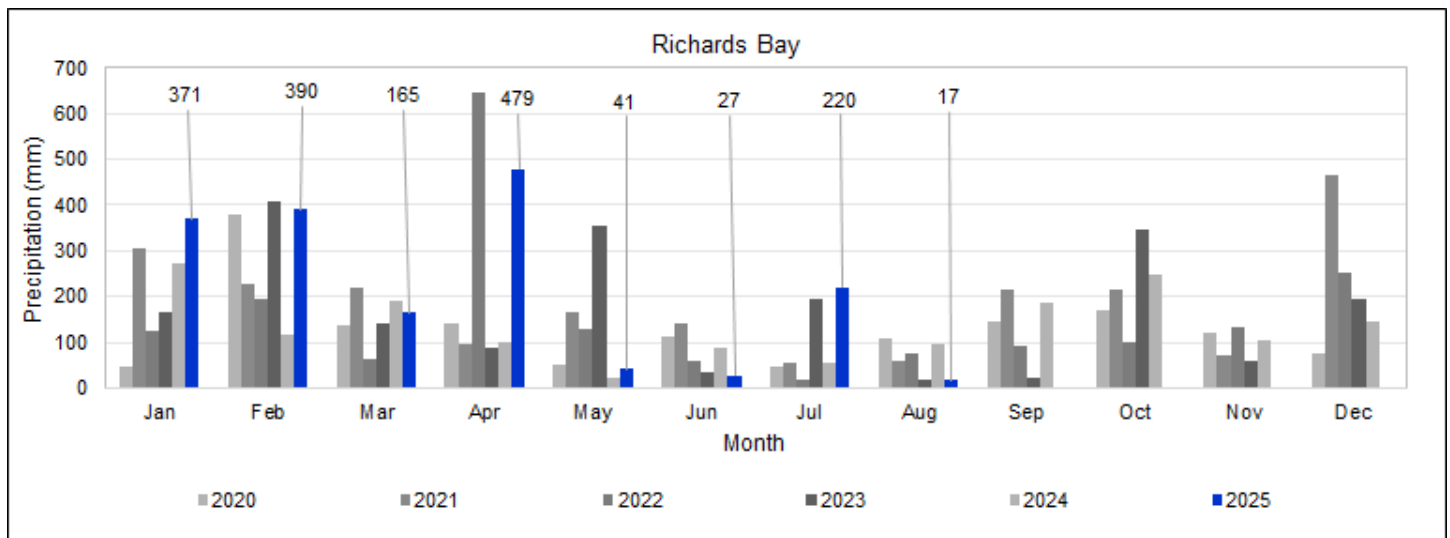


Figure 2.4: Rainfall –Richards Bay.

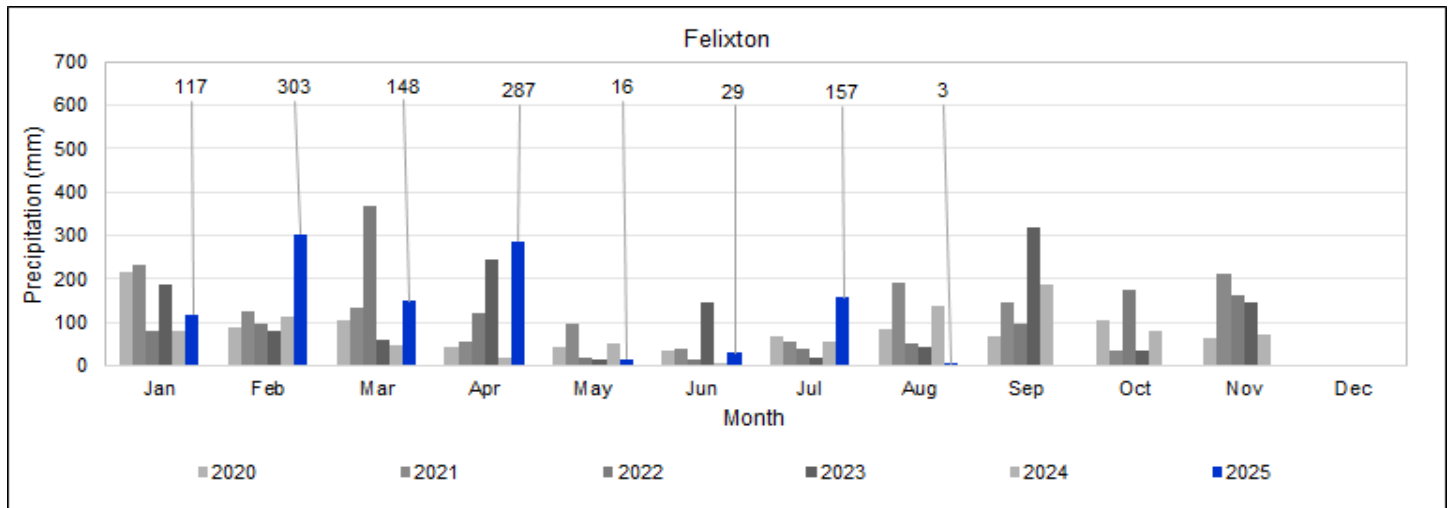


Figure 2.5: Rainfall – Felixton.

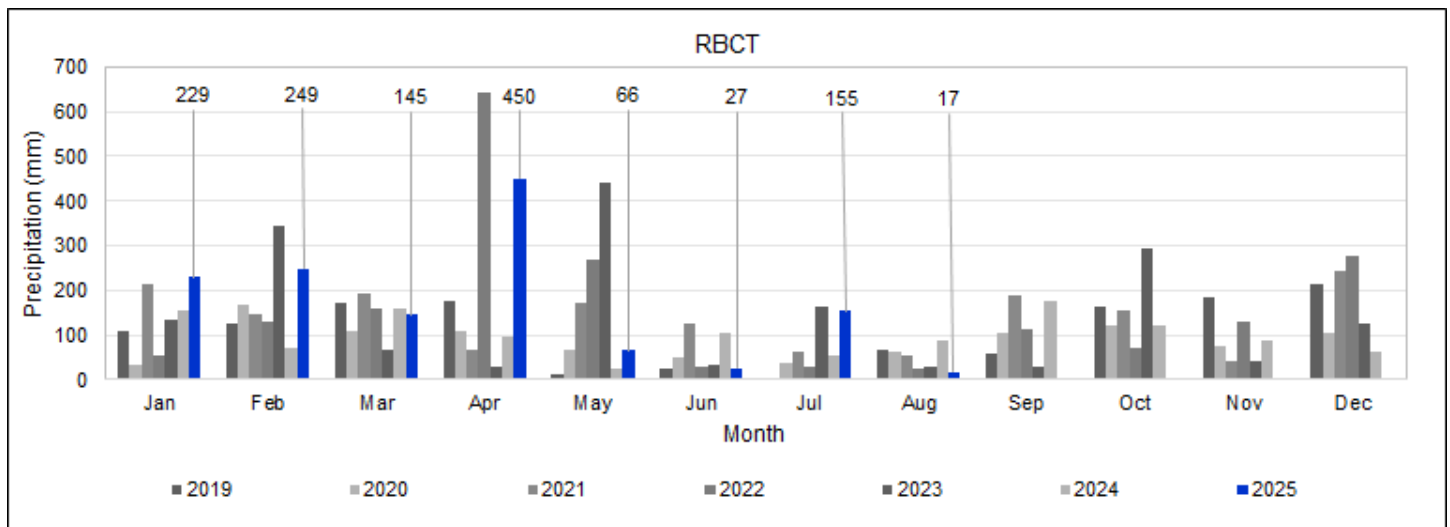


Figure 2.6: Rainfall – RBCT.

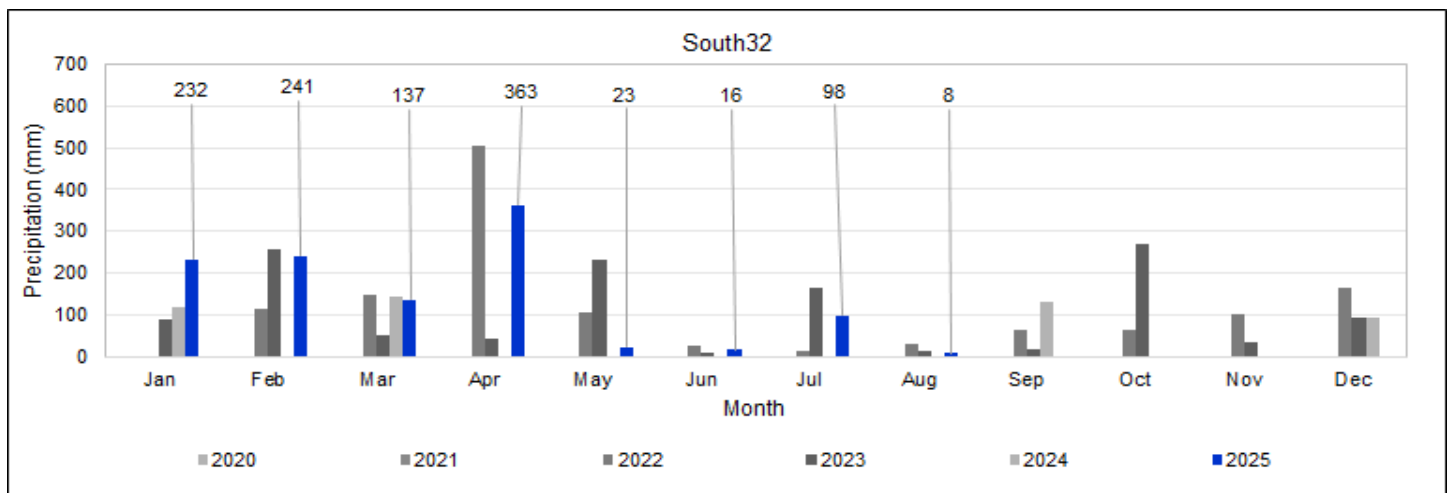


Figure 2.7: Rainfall - South32.

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 August 2025. Please see APPENDIX F for the Complaints Log.

3.1. Field Observations

Thirteen (13) air quality complaints were received during August 2025; Seventy-six (76) were logged in August 2024. The daily complaints and a monthly historical count are reflected below (Figure 3.1 and Figure 3.2).

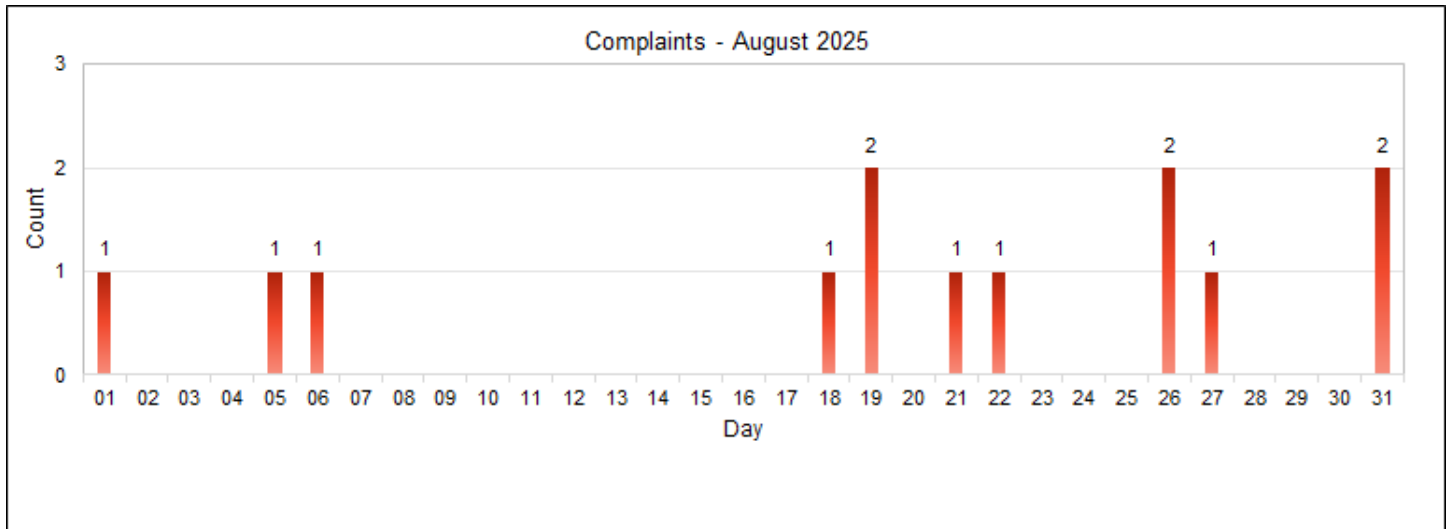


Figure 3.1: Complaints – daily.

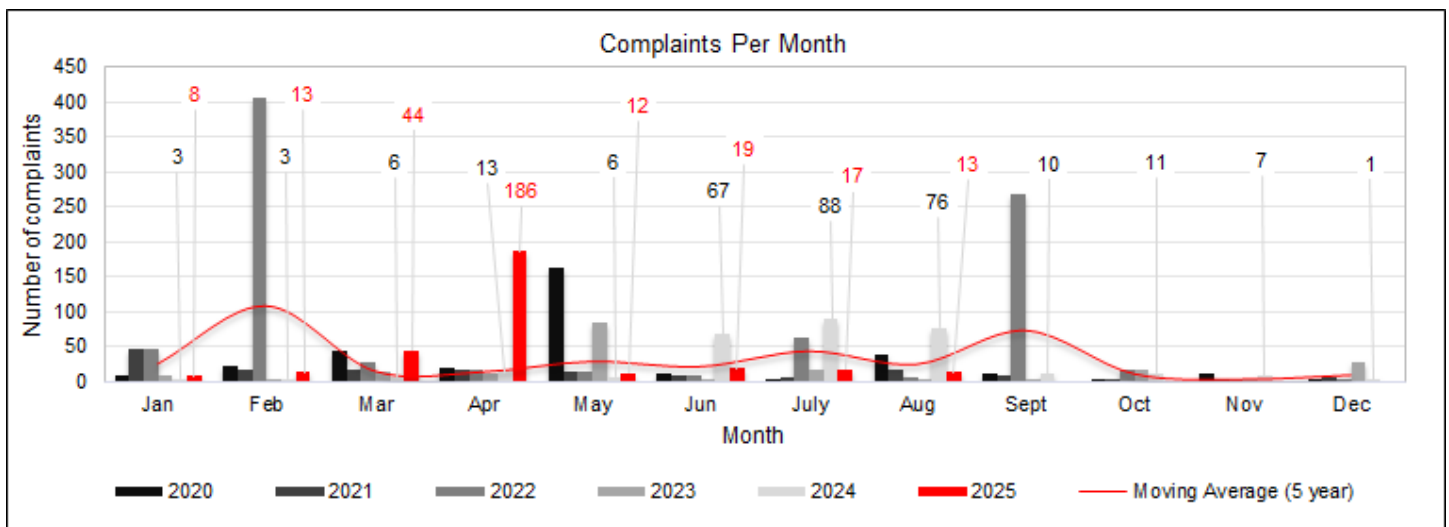


Figure 3.2: Complaints - historical monthly comparison.

3.2. Complaints Distribution

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

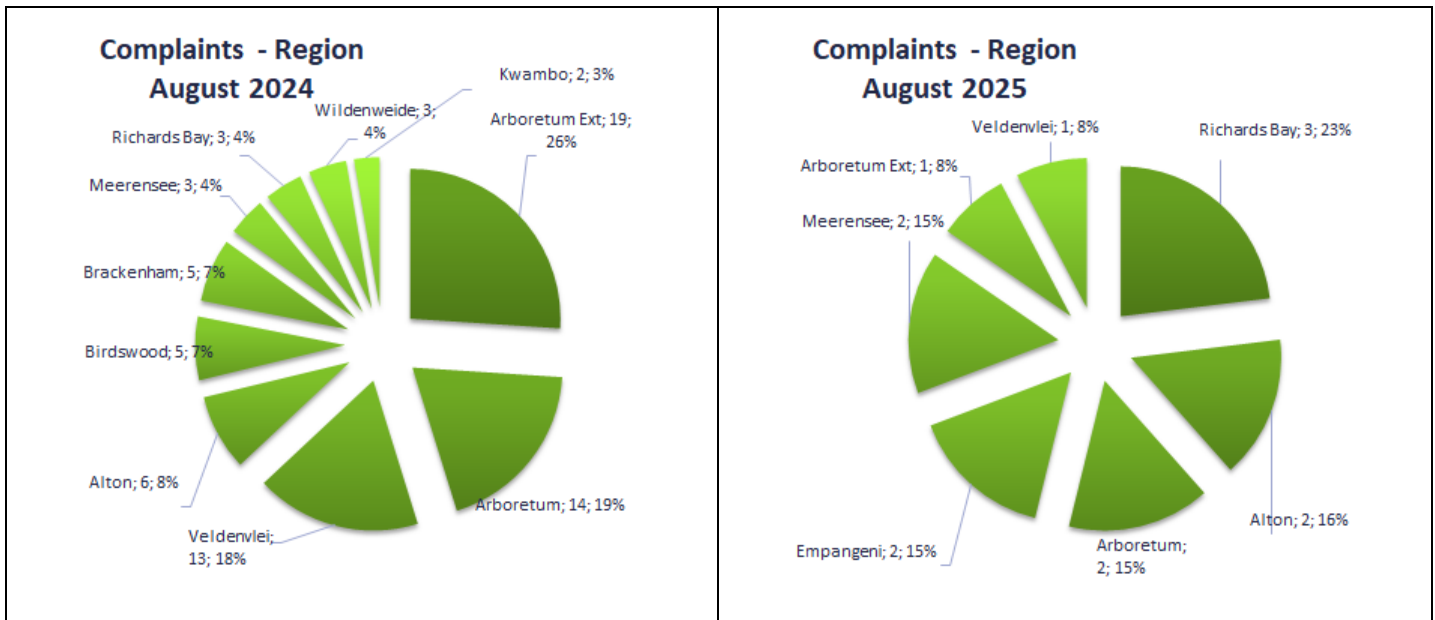


Figure 3.3: Complaints - region.

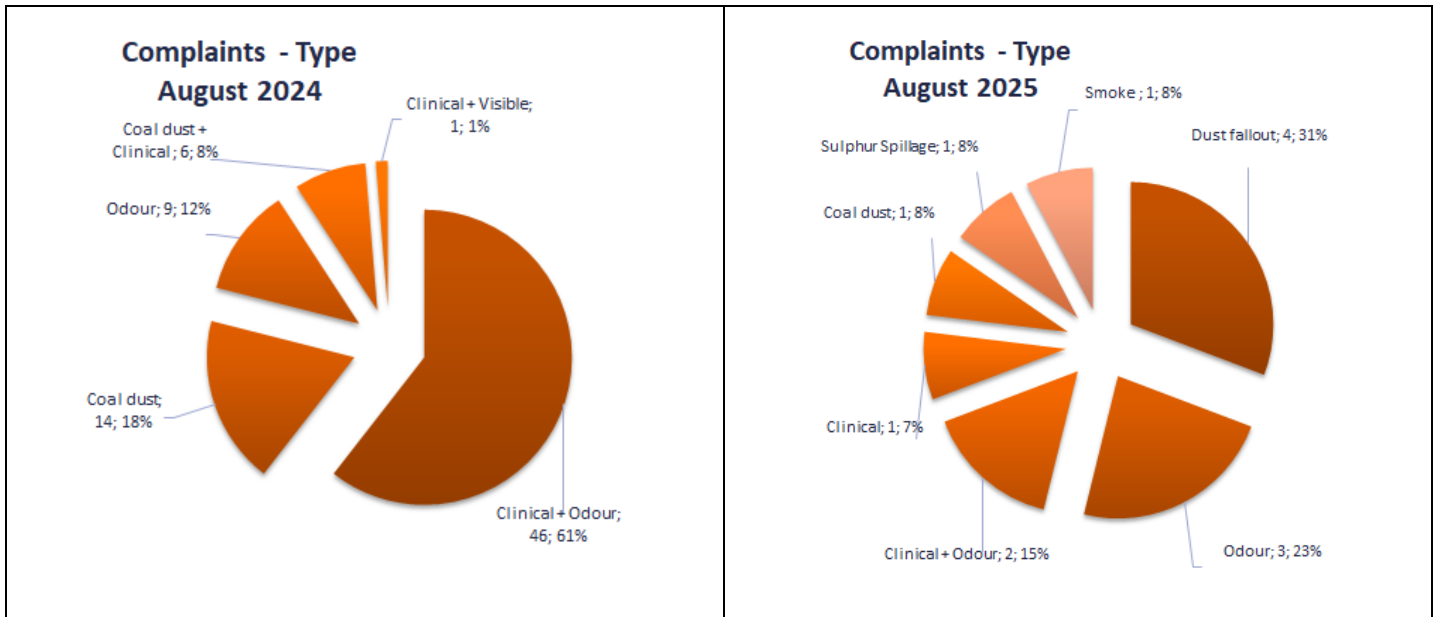


Figure 3.4: Complaints - type.

The complaints received were allocated as follows: Authorities response required (6, 46%), Mondi (3, 23%), Grindrod (1, 8%), RBIDZ (1, 8%), Gundo Logistics (1, 8%), and Industry response required (1, 8%).

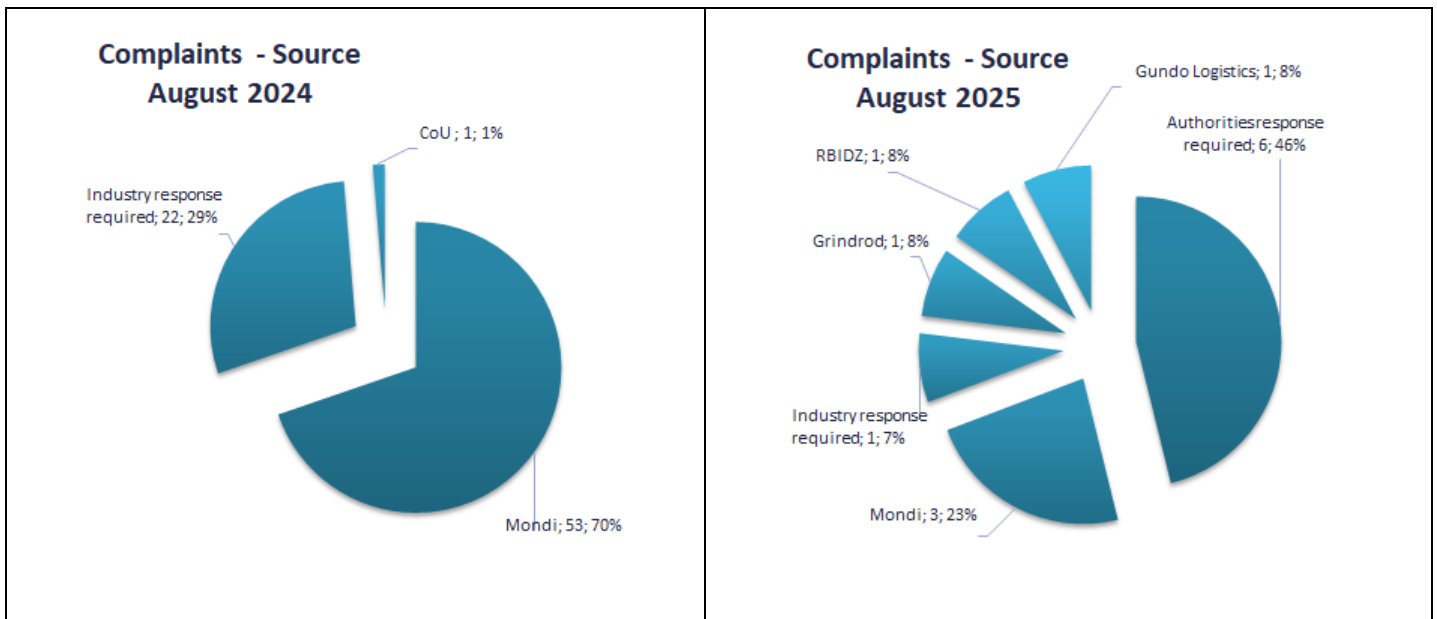


Figure 3.5: Complaints - source.

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

Complaint - allocation, region, and type	13
Authorities' response required	6
Meerensee	1
Odour	1
Arboretum	1
Odour	1
Empangeni	2
Dust fallout	2
Richards Bay	2
Clinical	1
Smoke	1
Grindrod	1
Richards Bay	1
Sulphur Spillage	1
Gundo Logistics	1
Alton	1
Dust fallout	1
Industry response required	1
Arboretum Ext	1
Coal dust	1
Mondi	3
Meerensee	1
Clinical + Odour	1
Arboretum	1
Clinical + Odour	1
Veldenvlei	1
Odour	1
RBIDZ	1
Alton	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 $\text{PM}_{2.5}$.

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. 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 ($\mu\text{g}/\text{m}^3$)	PM_{10} Annual Average ($\mu\text{g}/\text{m}^3$)	$\text{PM}_{2.5}$ Daily Average ($\mu\text{g}/\text{m}^3$)	$\text{PM}_{2.5}$ Annual Average ($\mu\text{g}/\text{m}^3$)
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 August 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	100	100	-
eSikhaleni	100	100	-
Felixton ES1	99	99	-
Felixton ES2	99	-	99
Harbour West ES2	100	-	100
Richardia	100	100	-
Scorpio ES1	100	100	-
Scorpio ES2	100	-	100
Missing Data (PM₁₀):			
<ul style="list-style-type: none"> None. 			
Missing Data (PM_{2.5}):			
<ul style="list-style-type: none"> None. 			

4.3. Monthly

PM₁₀ 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).

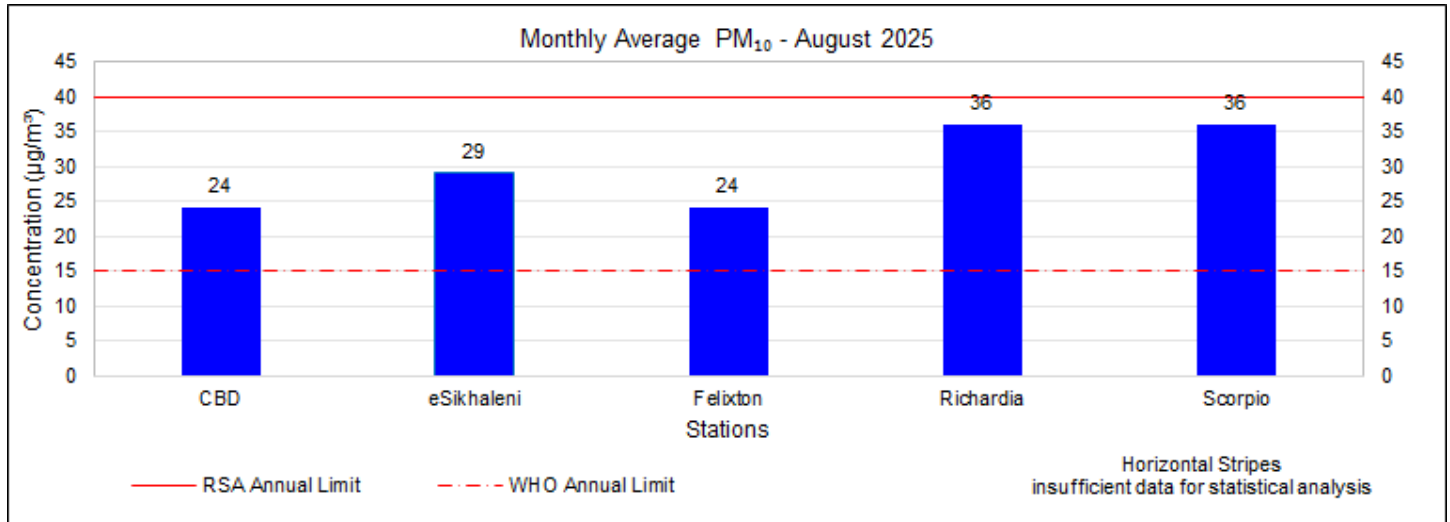


Figure 4.1: PM₁₀ monthly concentrations.

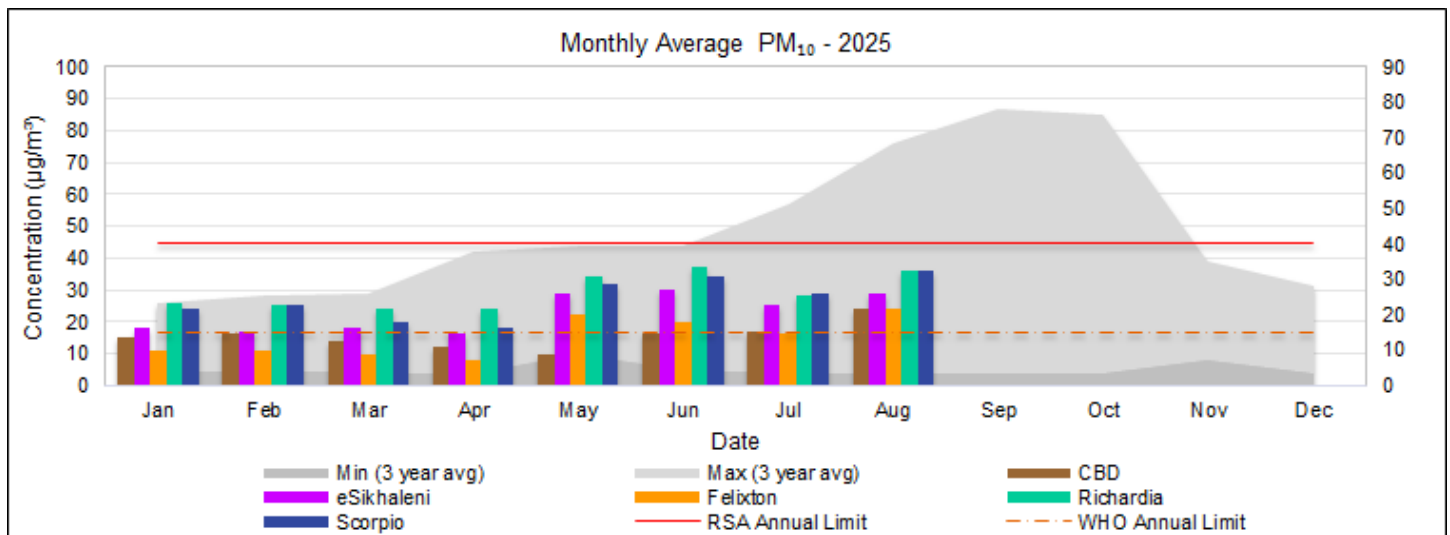


Figure 4.2: PM₁₀ monthly comparison.

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

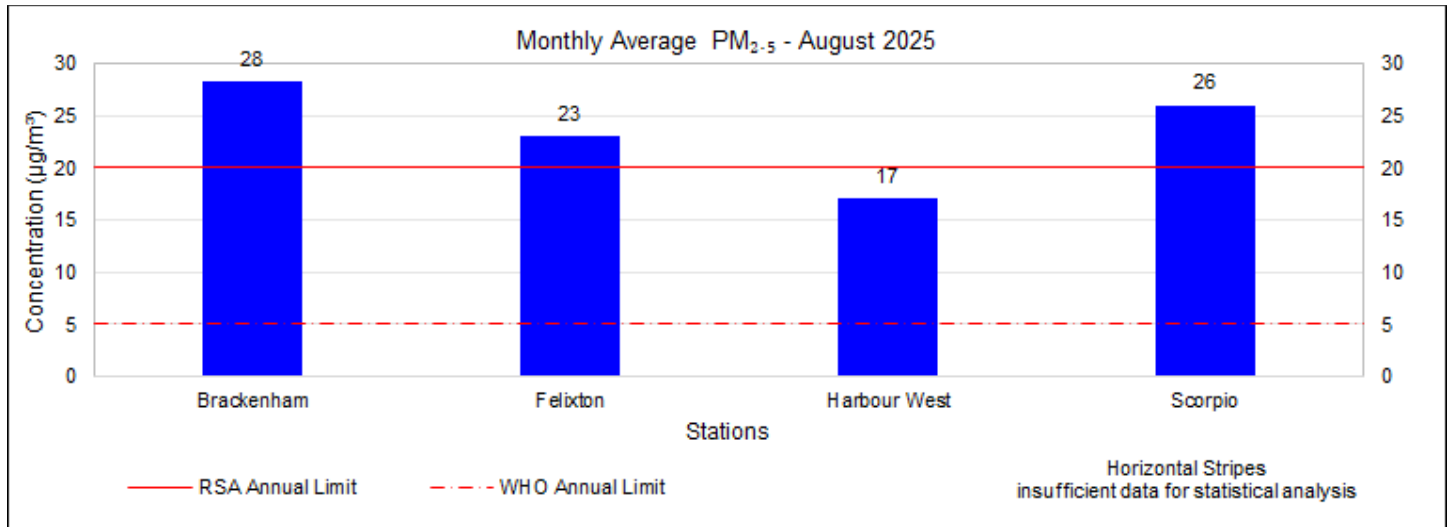


Figure 4.3: PM_{2.5} monthly concentrations.

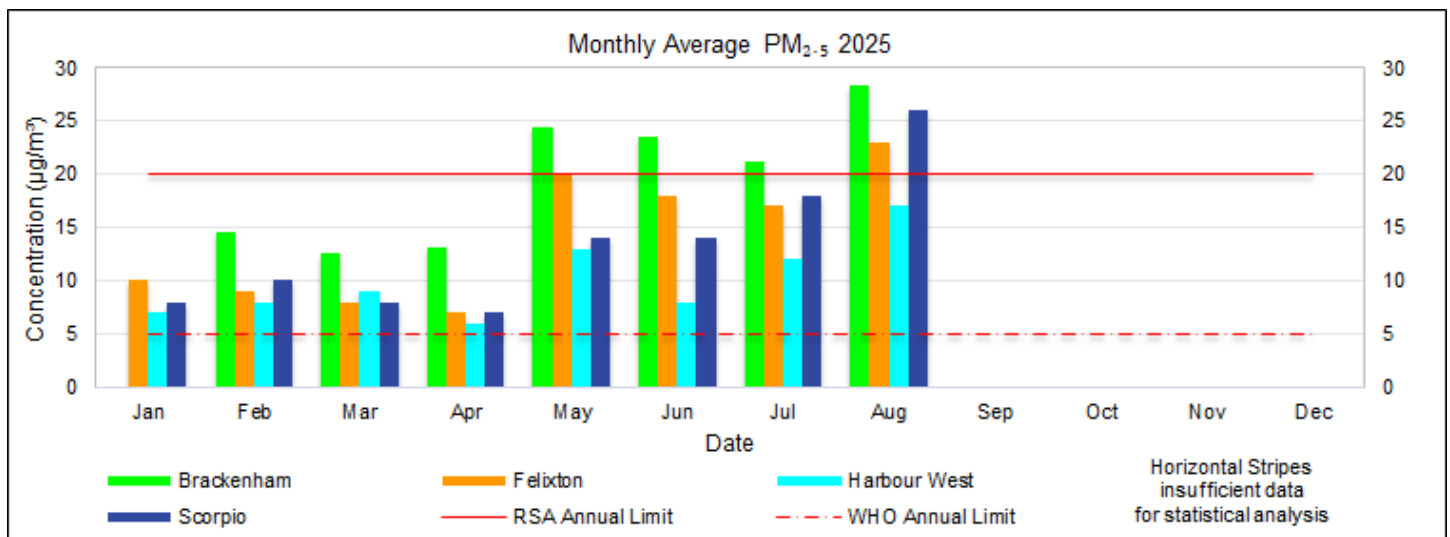


Figure 4.4: PM_{2.5} monthly comparison.

4.4. Diurnal

PM diurnal concentrations are shown below (Figure 4.5 and Figure 4.6). Diurnal concentrations of PM₁₀ 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.

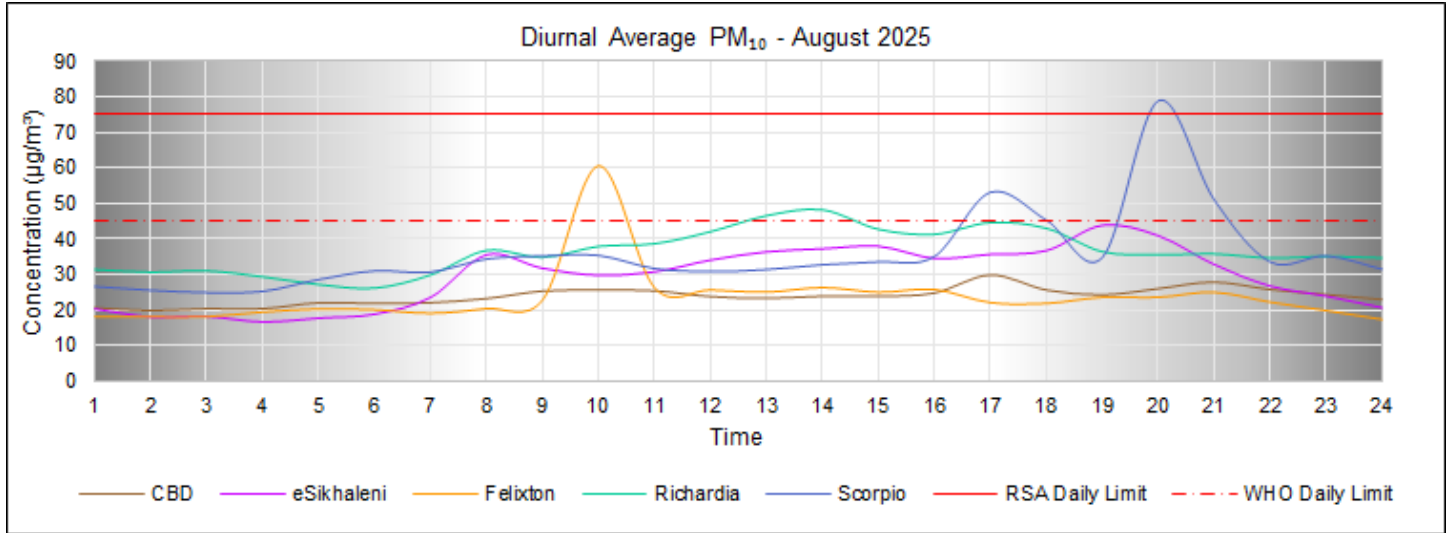


Figure 4.5: PM₁₀ diurnal concentrations.

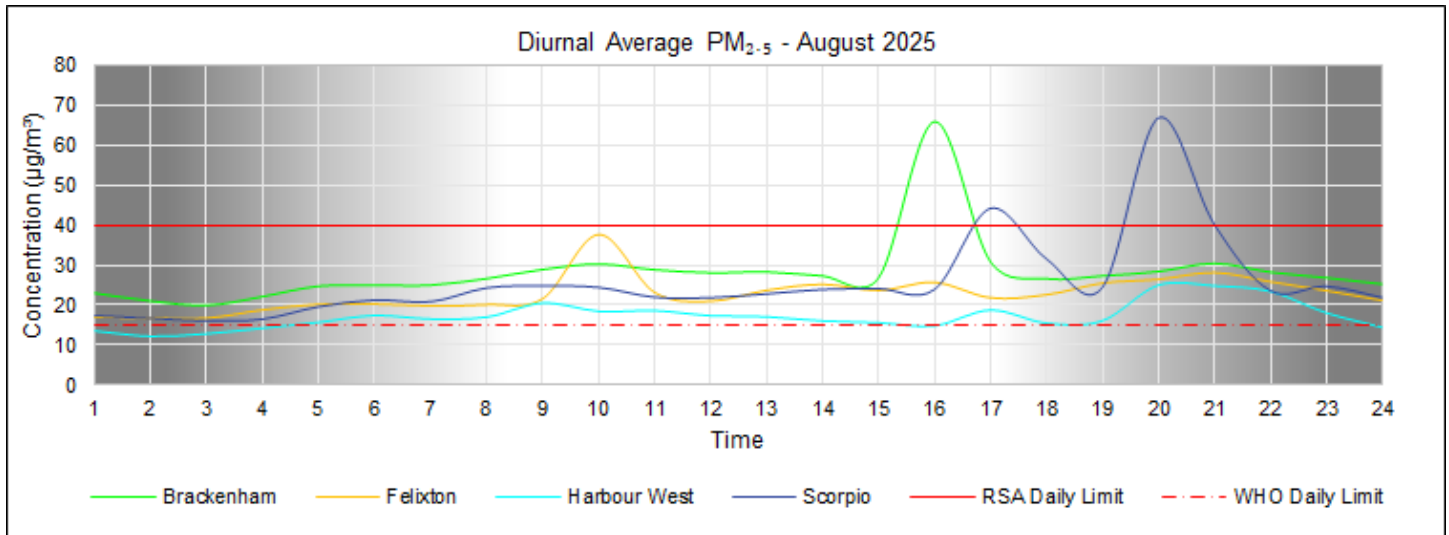


Figure 4.6: PM_{2.5} diurnal concentrations.

4.5. Daily

PM₁₀ daily concentrations are shown in Figure 4.7, and exceedances are in Table 4.3. There were:

- ▶ One (1) measured exceedance of the RSA Limit (75 µg/m³); and,
- ▶ Twenty-five (25) measured exceedances of the WHO Limit (45 µg/m³).

Table 4.3: PM₁₀ 24-hour exceedances

PM ₁₀ Daily RSA Limit (75 µg/m ³)		1
Bush Fire		1
Scorpio		1
Bush Fire		1
PM ₁₀ Daily WHO Limit (45 µg/m ³)		25
No response required		25
CBD		3
None		3
eSikhaleni		3
None		3
Felixton		5
None		5
Richardia		9
None		9
Scorpio		5
None		5

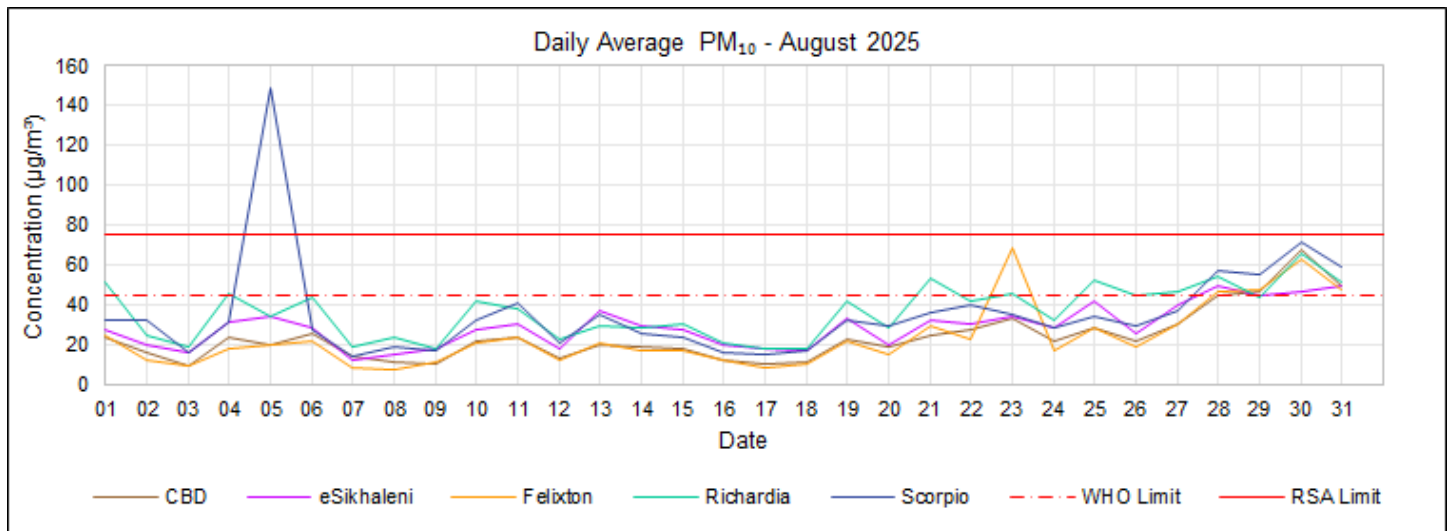


Figure 4.7: PM₁₀ 24-hour average concentrations.

Missing Data (PM₁₀)

- None.

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

- ▶ Eighteen (18) 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/m ³)		18
Fires		1
Brackenham		1
Fires		1
Cane fires		3
Brackenham		3
Cane fires		3
Bush Fire		2
Scorpio		1
Bush Fire		1
Harbour West		1
Bush Fire		1
Local source		1
Felixton		1
Sports/ festival event close to the monitoring station.		1
Regional fires		11
Brackenham		1
Controlled cane burning		1
Felixton		4
Controlled cane burning		4
Scorpio		4
Controlled cane burning		4
Harbour West		2
Controlled cane burning		2
PM _{2.5} Daily WHO Limit (15 µg/m ³)		75
No response required		75
Brackenham		22
None		22
Felixton		20
None		20
Scorpio		22
None		22
Harbour West		11
None		11

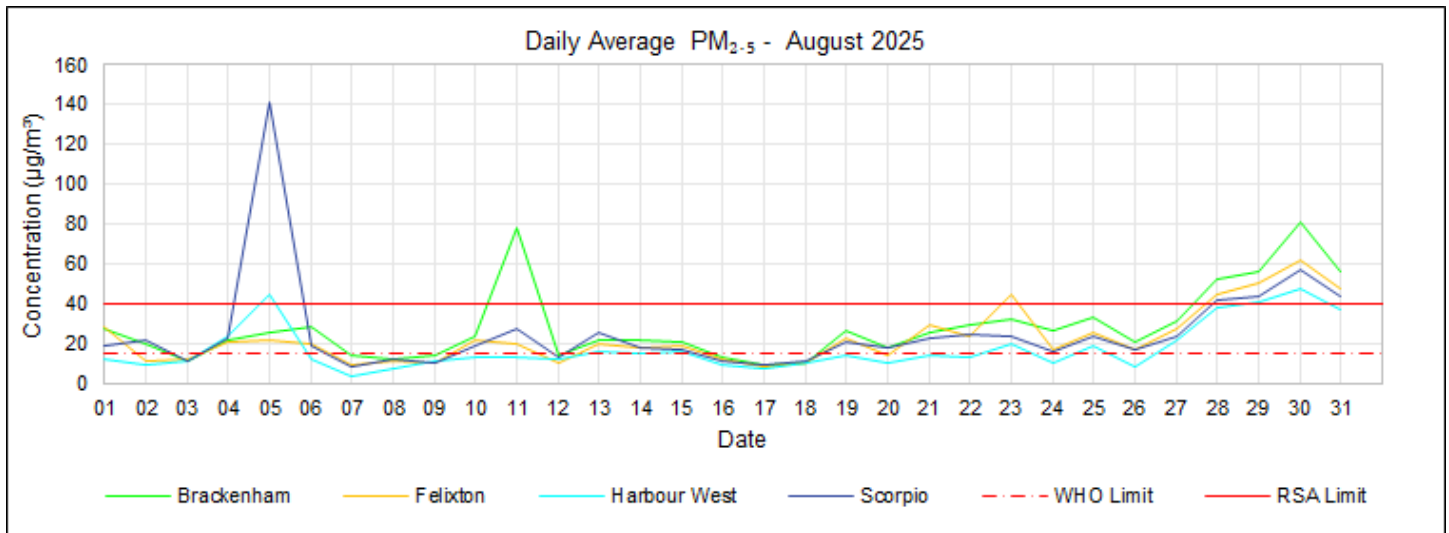


Figure 4.8: PM_{2.5} daily average concentrations.

Missing Data (PM_{2.5}):

- None.

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.

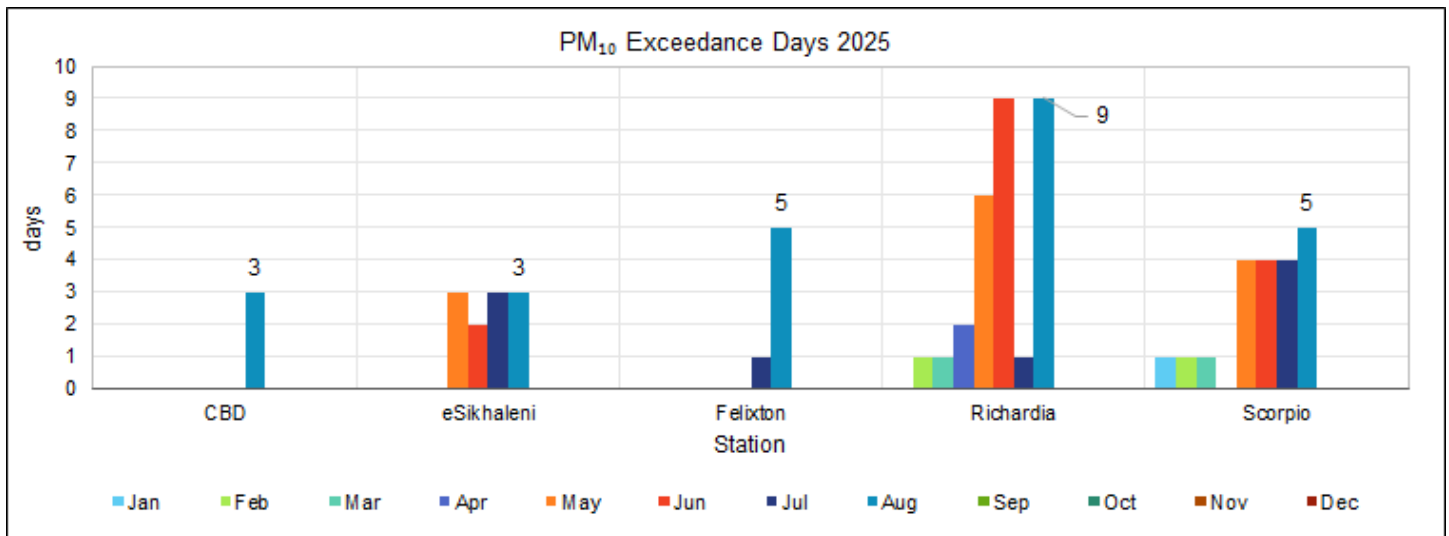


Figure 4.9: PM₁₀ exceedance days.

Table 4.5: PM₁₀ exceedance summary.

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PM₁₀ Daily RSA Limit (75 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	1	-	-	-	-	-	-	1
Scorpio	-	-	-	-	-	-	-	1	-	-	-	-	1
PM₁₀ Daily WHO Limit (45 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	-	-	3	-	-	-	-	3
eSikhaleni	-	-	-	-	3	2	3	3	-	-	-	-	11
Felixton	-	-	-	-	-	-	1	5	-	-	-	-	6
Richardia	-	1	1	2	6	9	1	9	-	-	-	-	29
Scorpio	1	1	1	-	4	4	4	5	-	-	-	-	20

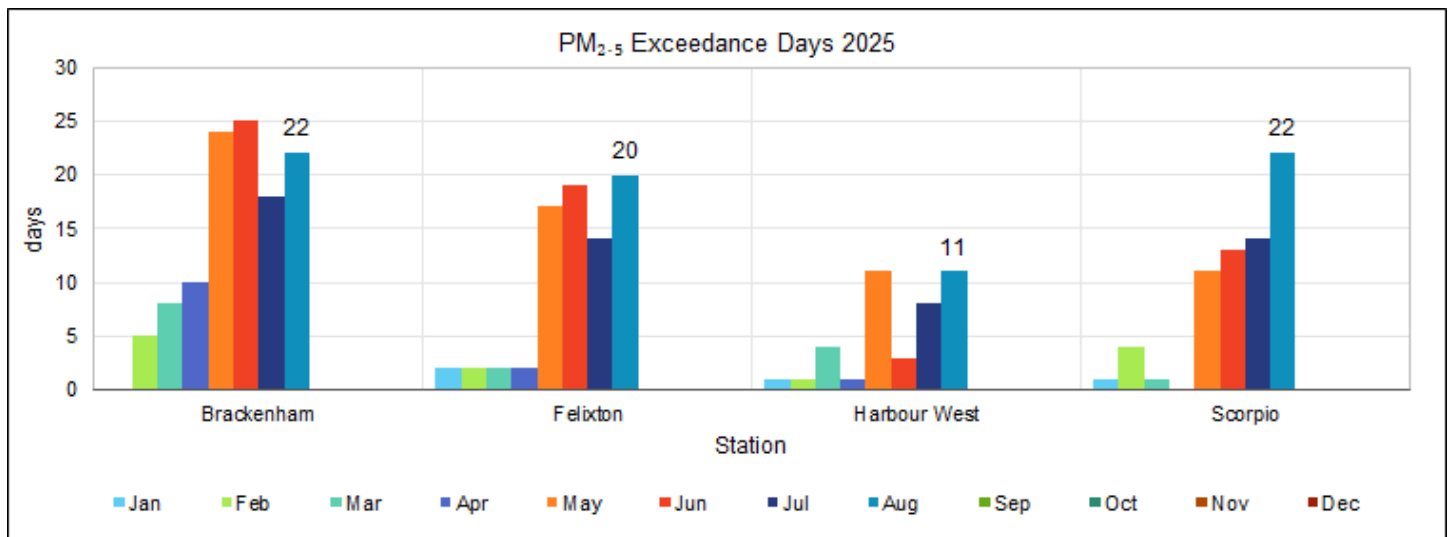


Figure 4.10: PM_{2.5} exceedance days.

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	-	-	-	-	10
Felixton	-	-	-	-	-	-	1	5	-	-	-	-	6
Harbour West	-	-	-	-	-	-	-	3	-	-	-	-	3
Scorpio	-	-	-	-	-	-	1	5	-	-	-	-	6
PM_{2.5} Daily WHO Limit (15 µg/m³)													
Brackenham	-	5	8	10	24	25	18	22	-	-	-	-	114
Felixton	2	2	2	2	17	19	14	20	-	-	-	-	80
Harbour West	1	1	4	1	11	3	7	11	-	-	-	-	41
Scorpio	1	4	1	-	11	14	14	22	-	-	-	-	67

5. SULPHUR DIOXIDE MONITORING

Sulphur dioxide (SO₂) 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 manufacture, petroleum and metal refining, and metal smelting (particularly from sulphide-containing ores, e.g., lead, silver, and zinc ores) and vehicle tailpipe emissions. Natural sources of SO₂ emissions include geothermal activity (including hot springs and volcanic activity) and the natural decay of vegetation on land, in wetlands, and oceans.

SO₂ 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 SO₂ are listed below (Table 5.1).

Table 5.1: SO₂ ambient air quality limits.

Organisation	Limit	10-min Average	Hourly Average	Daily Average	Annual Average
RSA [a]	SO ₂ Standard	500 µg/m ³ [b]	350 µg/m ³ [c]	125 µg/m ³ [d]	50 µg/m ³ [e]
		191ppb [b]	134 ppb [c]	48 ppb [d]	19 ppb [e]
WHO [f]	SO ₂ Guideline	500 µg/m ³	-	40 µg/m ³	-
		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 SO₂ analysers for August 2025 is shown in Table 5.2.

Table 5.2: SO₂ data capture.

Station	Availability (%)	SO ₂ (%)
Arboretum	100	100
Brackenham	100	100
CBD	100	100
eSikhaleni	100	100
Felixton	100	100
Harbour West	100	100
Richardia	99	99
Scorpio	99	99

Notes:

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

Missing Data (SO₂):

- None.

5.3. Monthly

Monthly average SO₂ concentrations did not exceed the RSA Annual Limit (Figure 5.1). Comparisons to previous months are also provided (Figure 5.2).

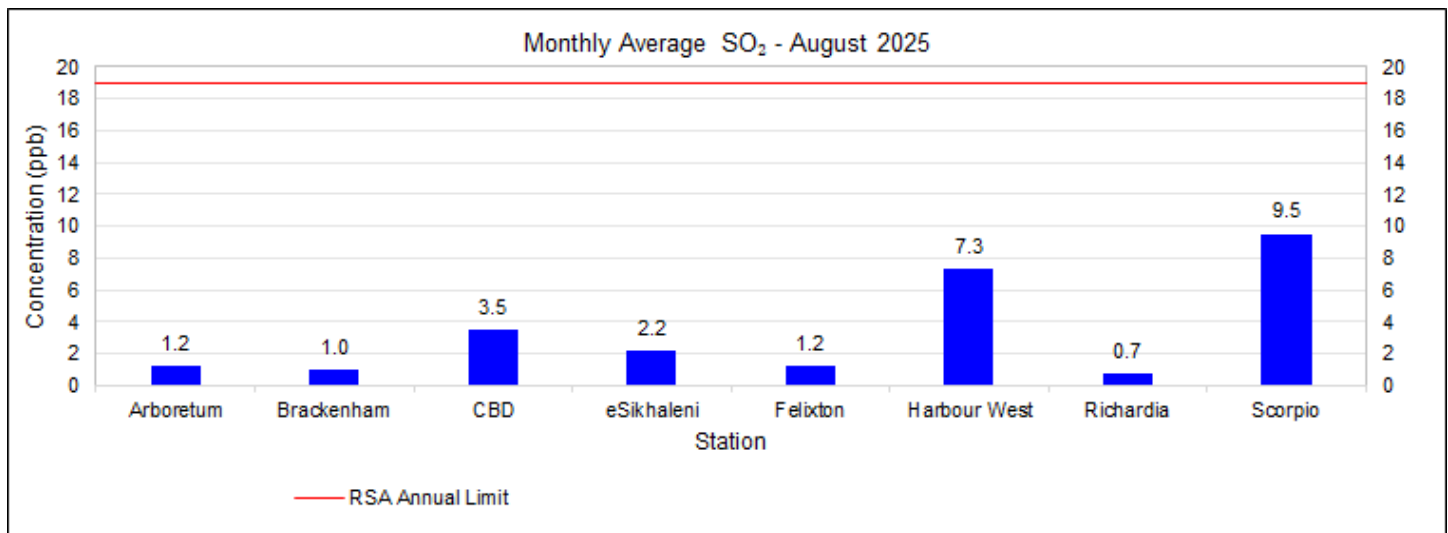


Figure 5.1: SO₂ monthly concentrations.

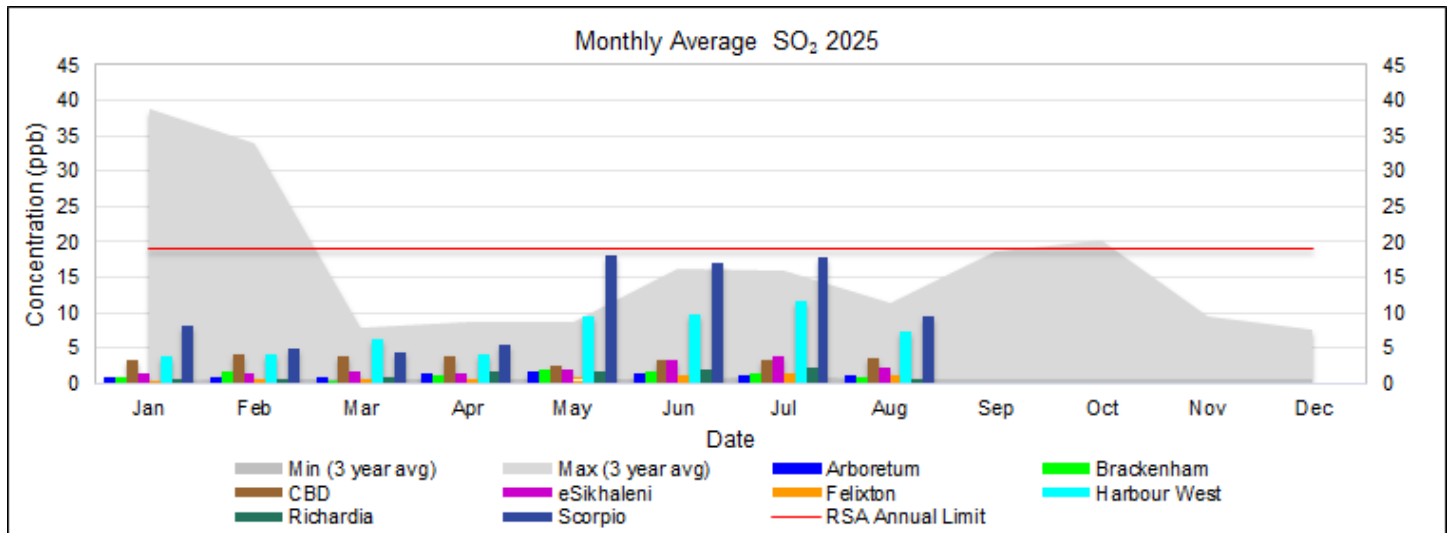


Figure 5.2: SO₂ monthly comparison.

5.4. Diurnal

Diurnal SO₂ concentrations are shown below (Figure 5.3). Diurnal concentrations of SO₂ did not exceed the RSA Daily Limit (48 ppb); the WHO Daily Limit (15 ppb) was exceeded at Harbour West and Scorpio.

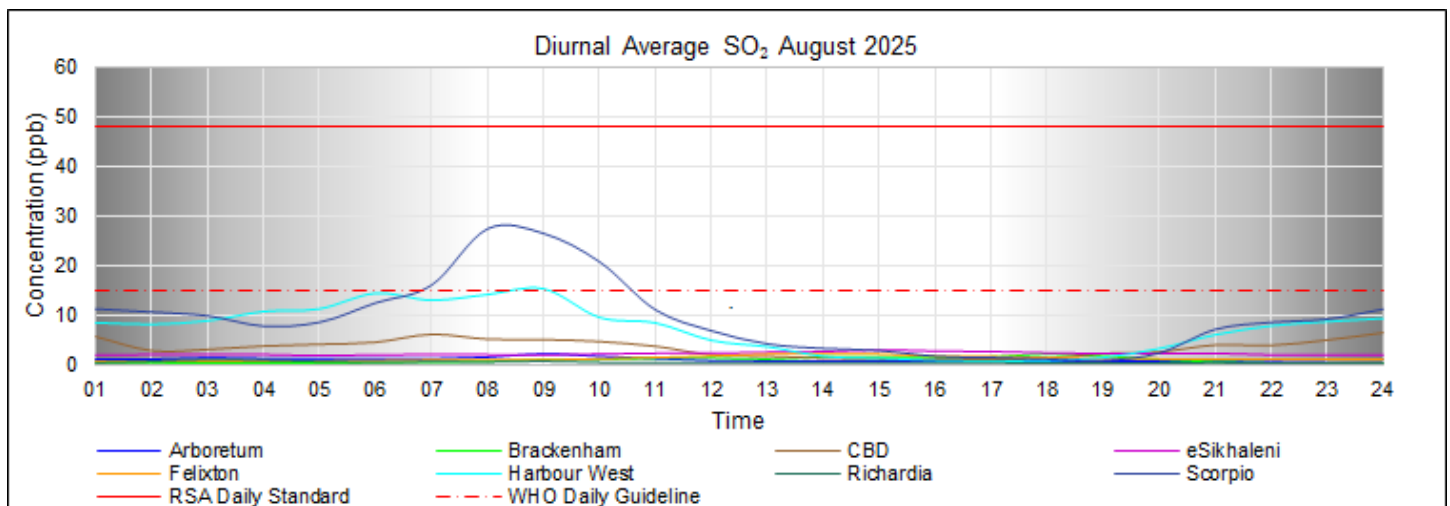


Figure 5.3: SO₂ diurnal concentrations.

5.5. Daily

SO₂ daily average concentrations are shown in Figure 5.4 and exceedances in Table 5.3: There were:

- ▶ No (0) measured exceedance of the RSA Limit (48 ppb); and,
- ▶ Thirteen (13) measured exceedances of the WHO Limit (15 ppb).

Table 5.3: SO₂ 24-hour average exceedances.

SO ₂ Daily WHO Limit (15 ppb)		13
No response required		13
CBD		2
None		2
Harbour West		5
None		5
Scorpio		6
None		6

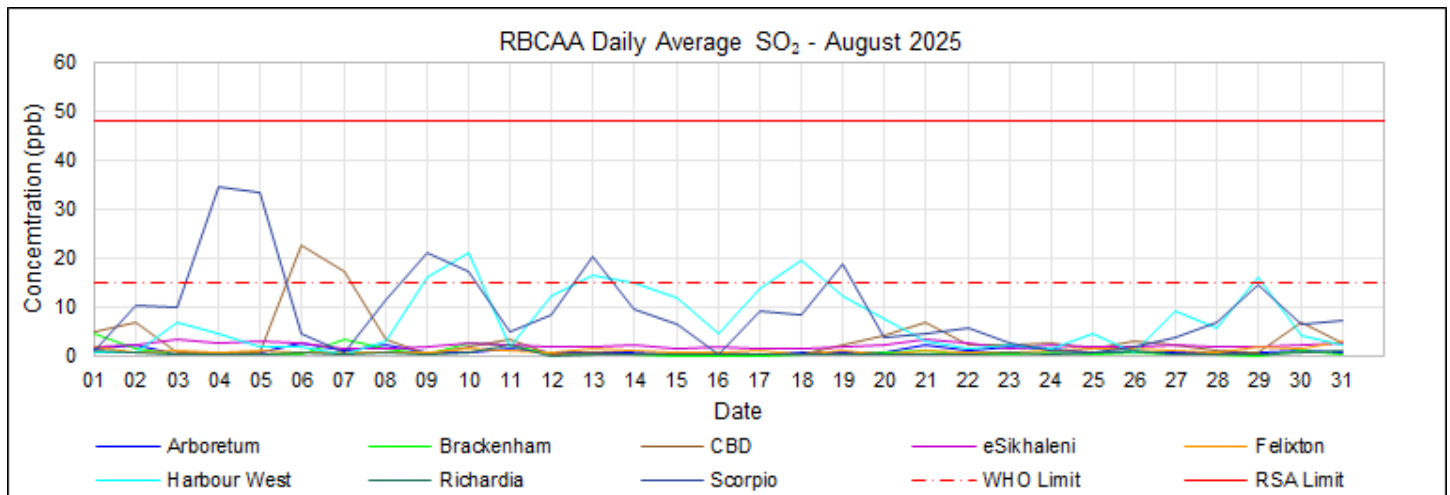


Figure 5.4: SO₂ 24-hour average concentrations.

Missing Data (SO₂):

- None.

5.6. Hourly

SO₂ hourly average concentrations are shown in Figure 5.5. Six (6) measured exceedances of the RSA Limit (134 ppb) were recorded.

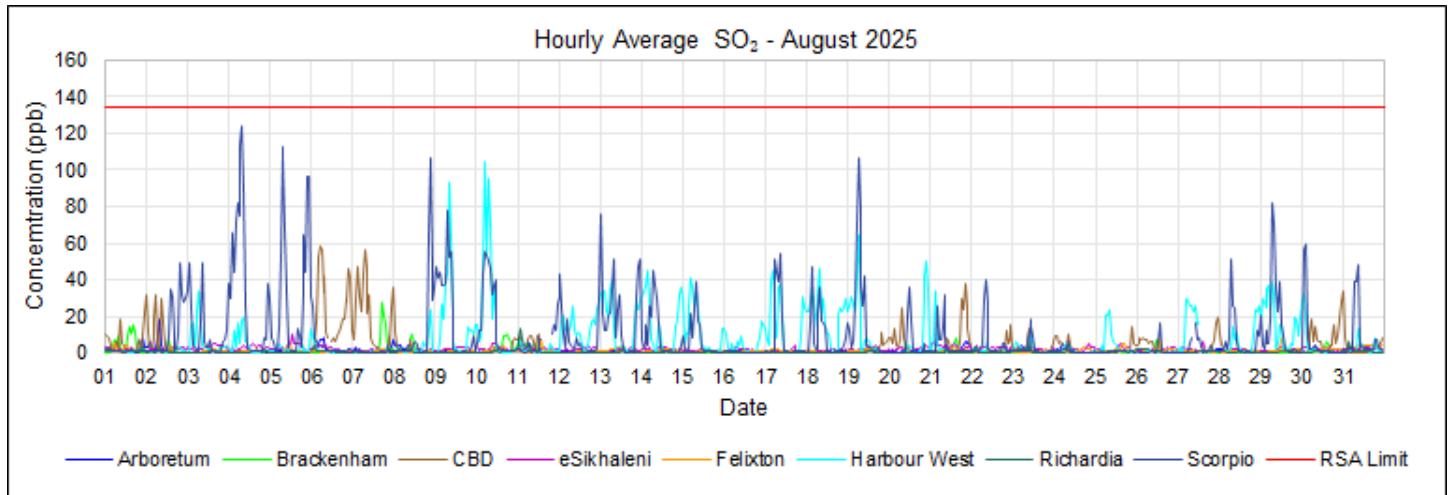


Figure 5.5: SO₂ 1-hour average concentrations.

5.7. 10-minute

SO₂ 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 5.4: SO₂ 10-minute average exceedances.

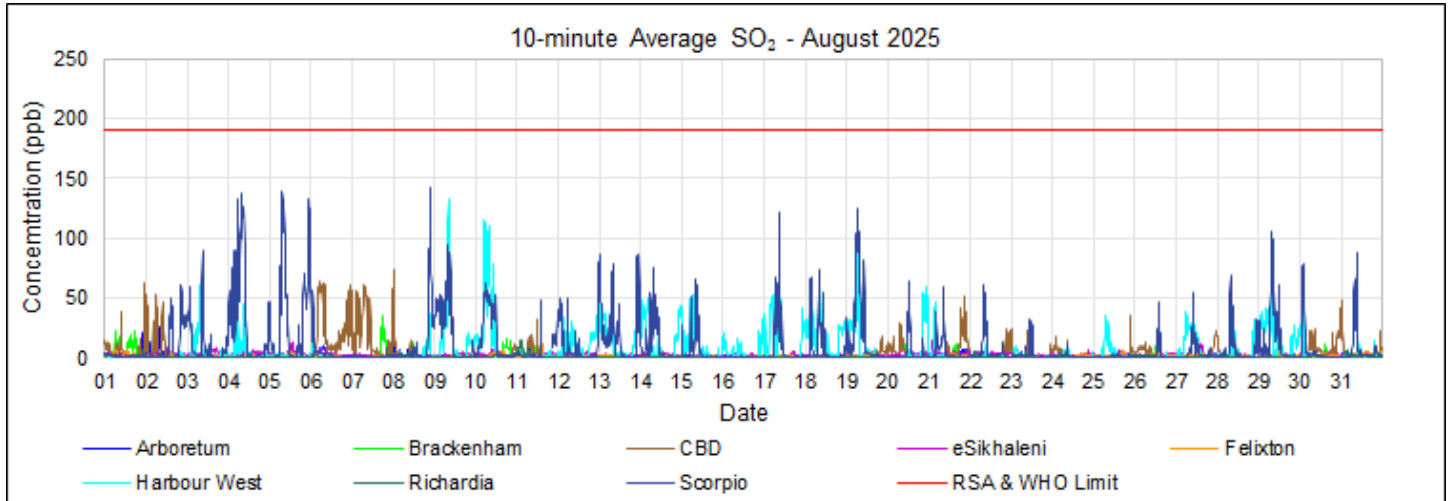


Figure 5.6: SO₂ 10-minute average concentrations.

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 SO₂ exceedances broken down per station is presented in Table 5.5. SO₂ 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 be considered good air quality concerning SO₂.

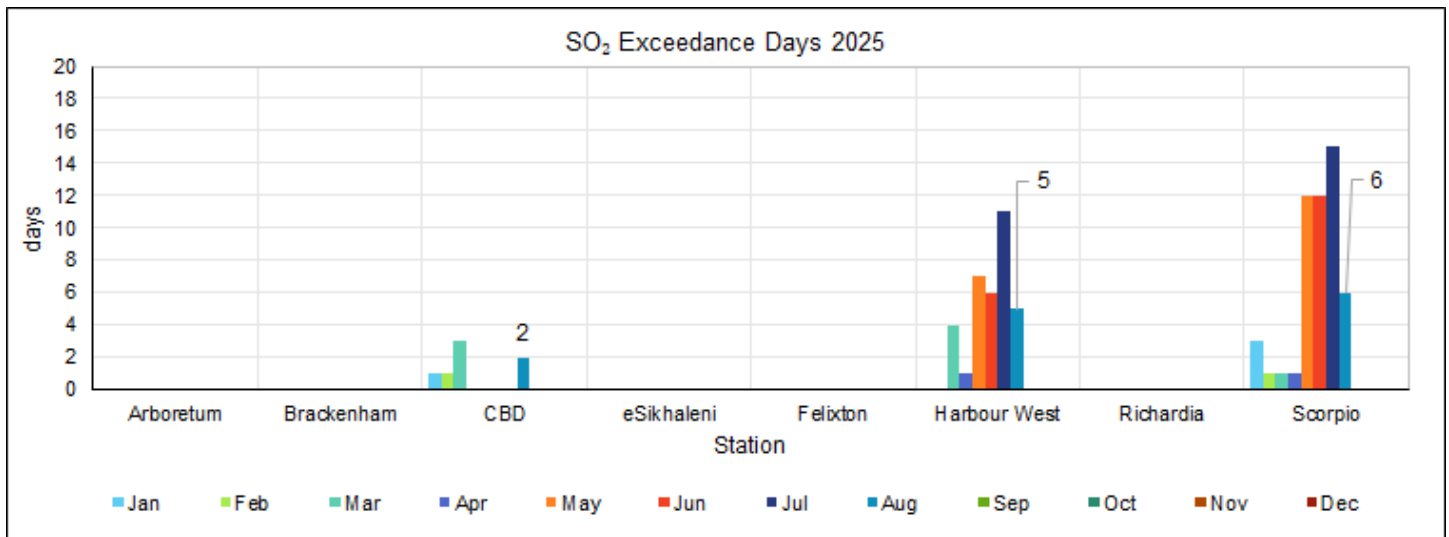


Figure 5.7: SO₂ exceedance days.

Table 5.5: SO₂ exceedance summary.

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SO₂ Daily RSA Limit (48 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	1	-	-	-	2	2	1	-	-	-	-	-	6
SO₂ 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	-	-	-	-	49
SO₂ Hourly RSA Limit (134 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	1	-	-	-	-	-	-	-	-	-	-	-	1
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	4	-	3	-	1	-	2	2	-	-	-	-	12
SO₂ 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 $\mu\text{g}/\text{m}^3$ ^[a]	-	-
		-	5 ppb ^[a]	-	-
OME	Standard (pulp and paper)	13 $\mu\text{g}/\text{m}^3$ ^[b]	10 $\mu\text{g}/\text{m}^3$ ^[b]	14 $\mu\text{g}/\text{m}^3$ ^[c]	-
		9.3 ppb ^[b]	7.2 ppb ^[b]	10.1 ppb ^[c]	-
OME	Standard (other industries)	13 $\mu\text{g}/\text{m}^3$ ^[b]	10 $\mu\text{g}/\text{m}^3$ ^[b]	7 $\mu\text{g}/\text{m}^3$ ^[b]	-
		9.3 ppb ^[b]	7.2 ppb ^[b]	5.0 ppb ^[b]	-

Notes:

- World Health Organisation recommendation to avoid substantial complaints about odour annoyance among the exposed population (WHO, 2000).
- Based on odour effects (OME, 1999).
- Based on the odour and health effects (OME, 1999).
- 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	100	99
eSikhaleni	100	100
Felixton	100	100
Richardia	99	81

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):

- Richardia – Instrument failure (6 day/s with <80% data capture, 24-29 August 2025).

6.3. Monthly

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

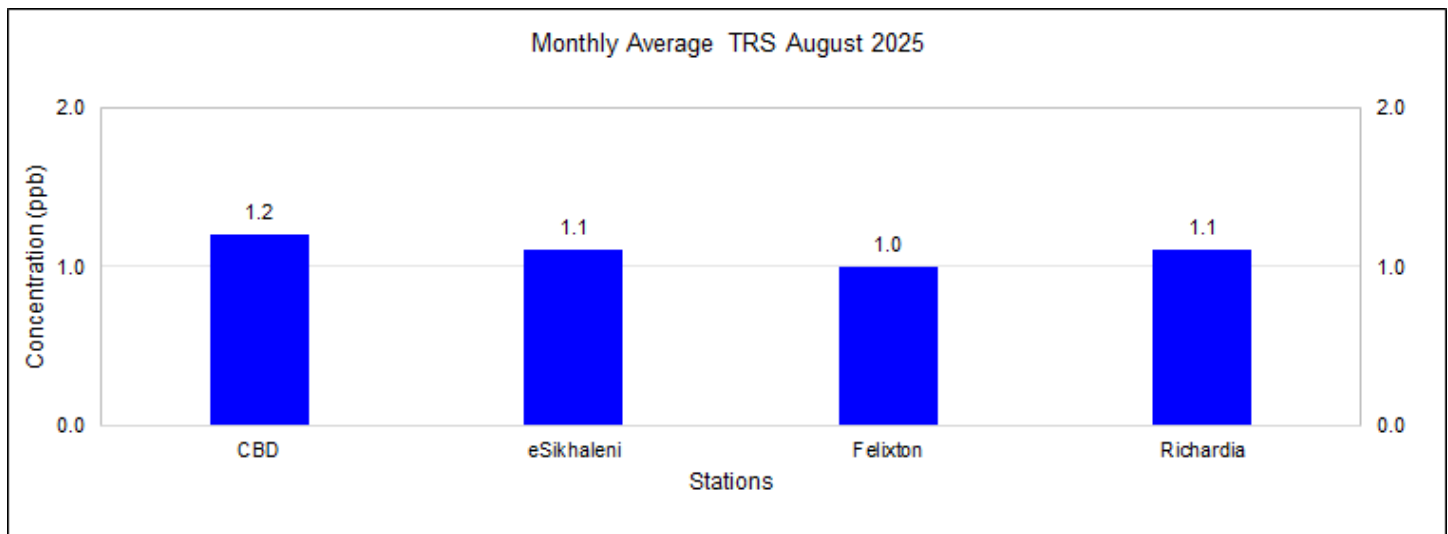


Figure 6.1: TRS monthly concentrations.

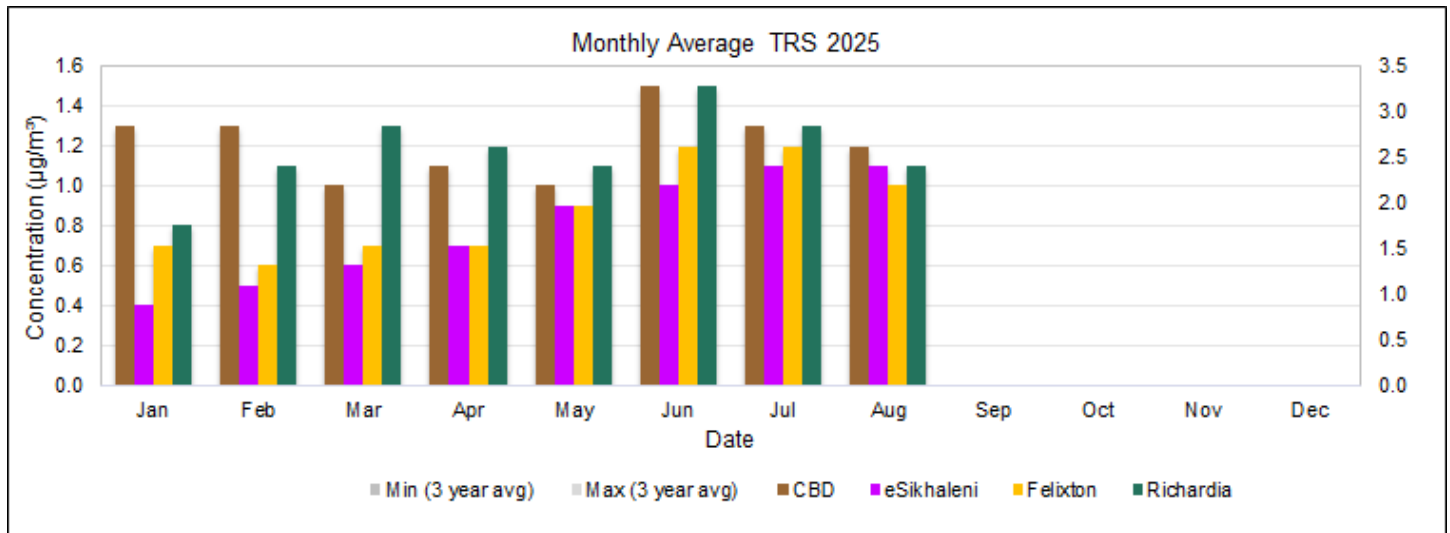


Figure 6.2: TRS monthly comparison.

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).

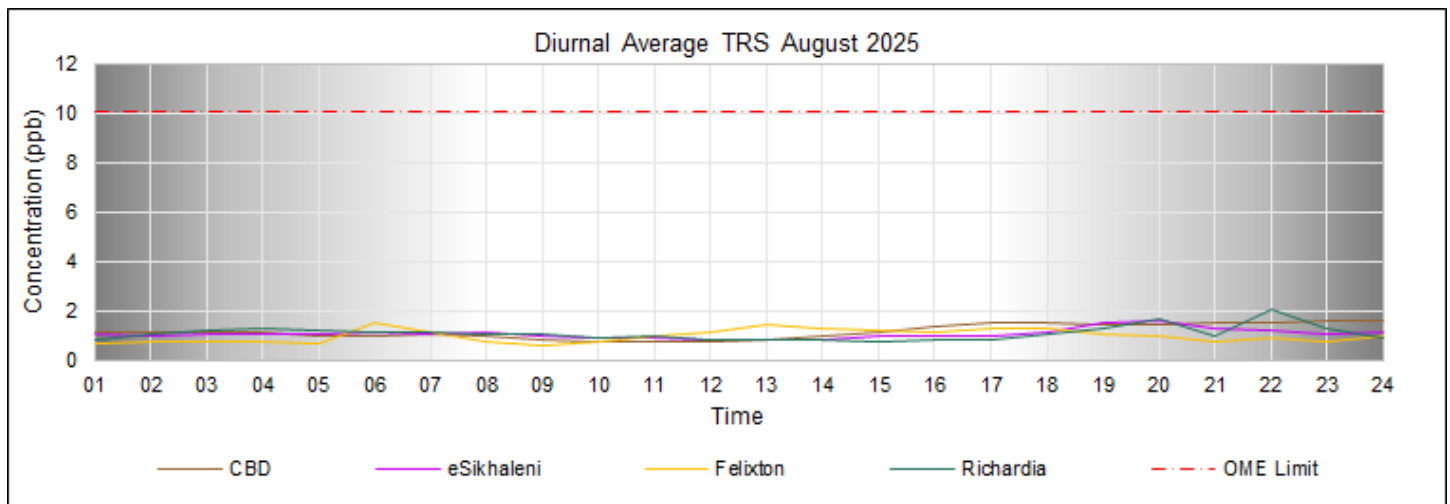


Figure 6.3: TRS diurnal concentrations.

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.

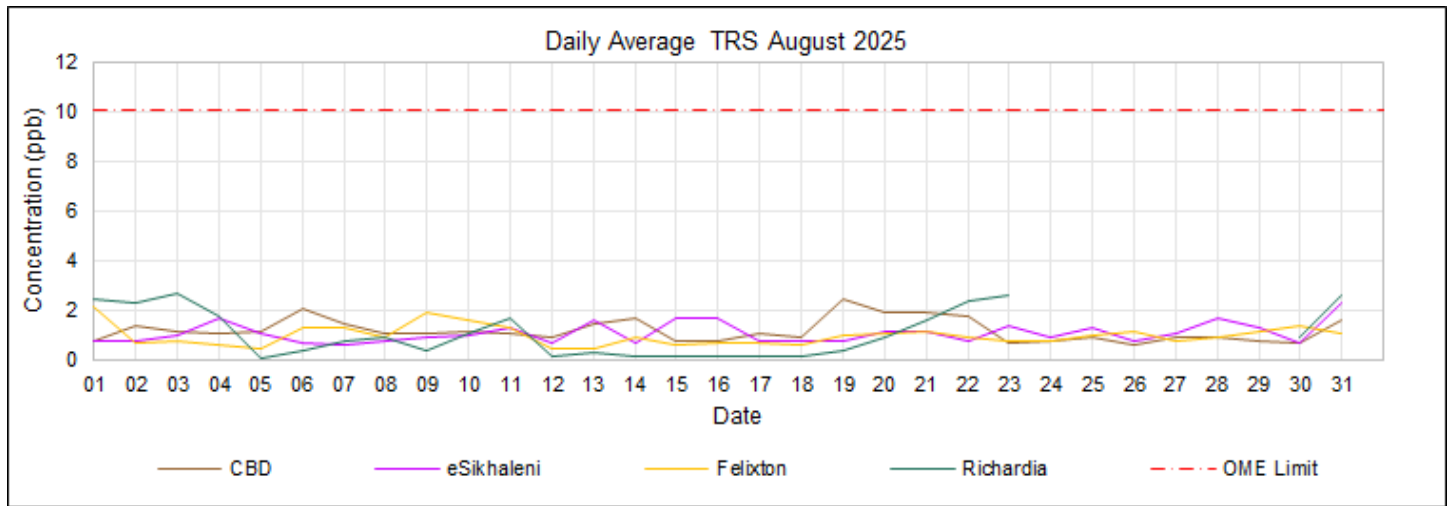


Figure 6.4: TRS daily average concentration.

Missing Data (TRS):

- Richardia – Instrument failure (6 day/s with <80% data capture, 24-29 August 2025).

6.6. 30-minute

The TRS 30-minute average concentrations are shown in Figure 6.5, and exceedances in Table 6.3. Forty-three (43) exceedances of the WHO Limit (5.0 ppb) were measured.

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

TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	43
Industry response required	8
eSikhaleni	2
Responded: THS	2
Felixton	3
Responded: THS	1
Responded: Mpact & THS	2
Richardia	3
None	3
Mondi	17
CBD	10
Non-condensable Gas system	10
eSikhaleni	1
Methanol system (possible cause)	1
Richardia	6
Secondary Effluent Treatment Plant	2
Source of TRS unknown	4
THS	18
eSikhaleni	1
Desludging process	1
Felixton	17
Delko bets within the smuts plant	17

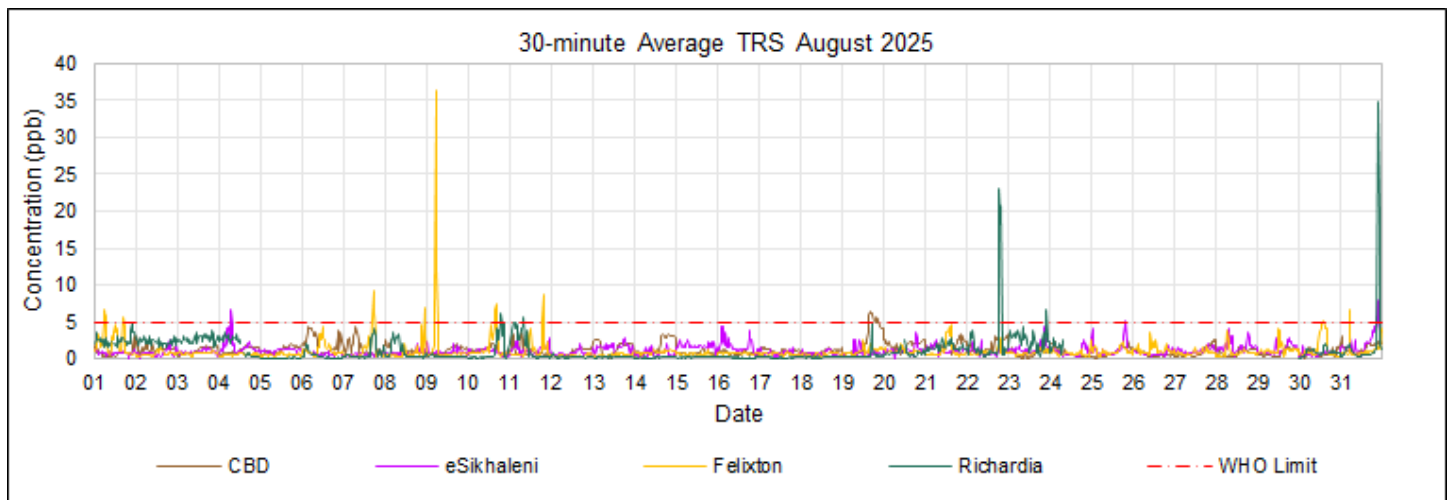


Figure 6.5: TRS 30-minute average concentration.

6.7. 10-minute

The TRS 10-minute average concentrations are shown in Figure 6.6, and exceedances in Table 6.4. Thirty-three (33) 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)	33
Industry response required	12
eSikhaleni	1
Responded: THS	1
Felixton	2
Responded: Mpact	1
Responded: THS	1
Richardia	9
None	9
Mondi	10
Richardia	10
Non-condensable Gas system	1
Source of TRS unknown	9
THS	11
Felixton	11
Delko bets within the smuts plant	11

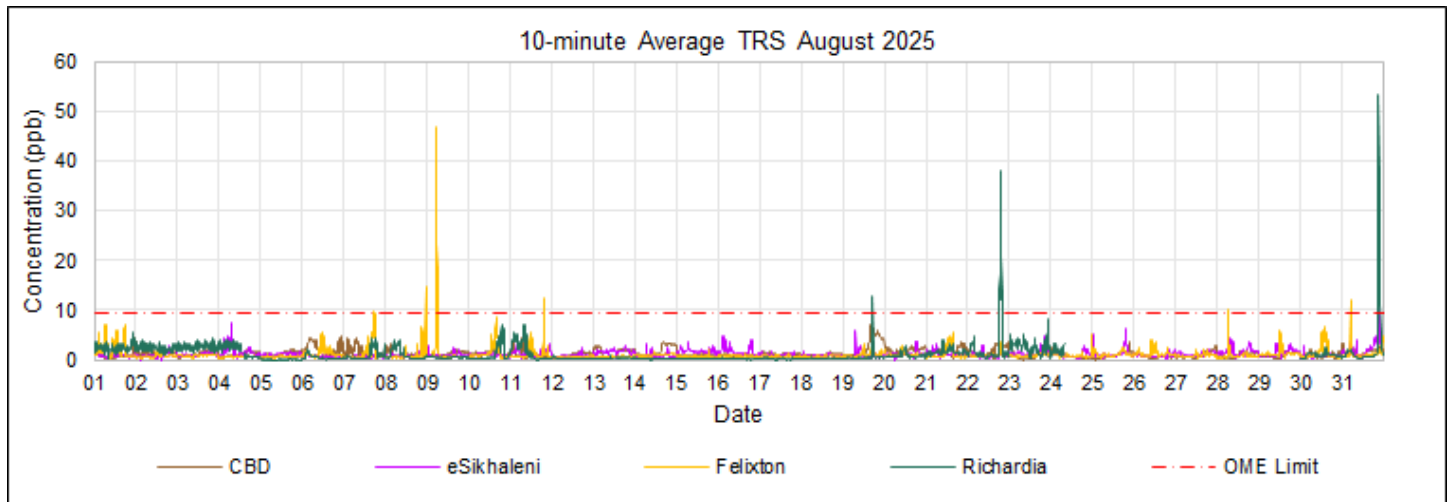


Figure 6.6: TRS 10-minute average concentrations.

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 6.5. TRS 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.

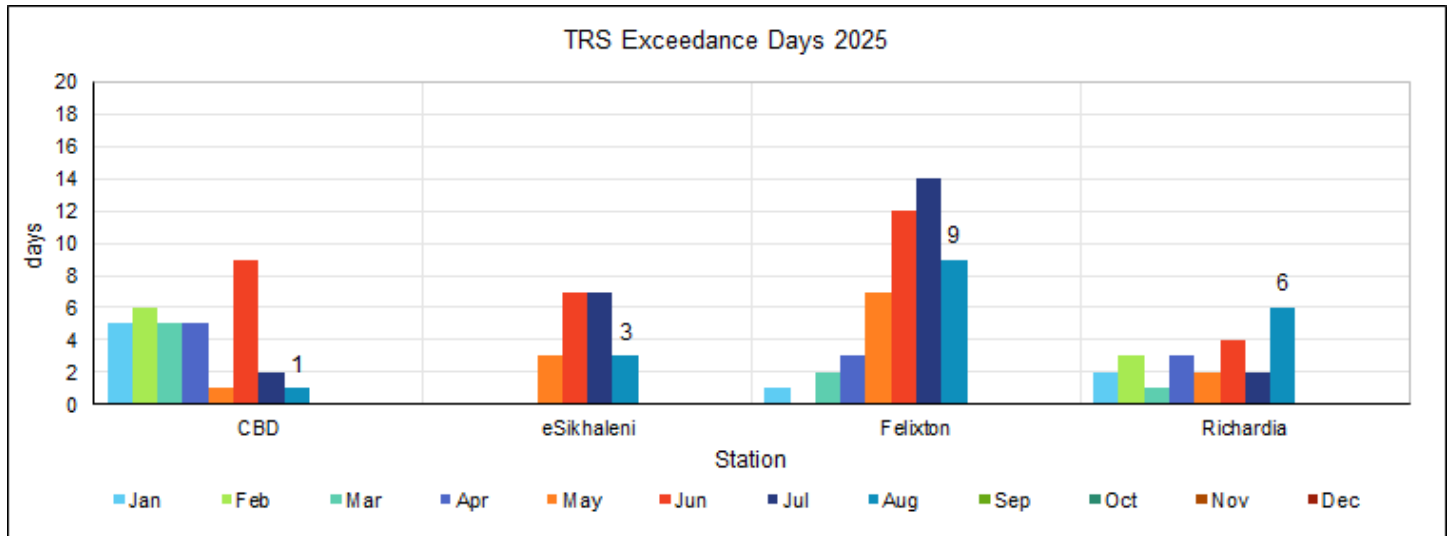


Figure 6.7: TRS exceedance days.

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 H₂S Limit (5.0 ppb)													
CBD	34	25	15	10	2	41	3	10	-	-	-	-	140
eSikhaleni	-	-	-	-	4	19	11	4	-	-	-	-	38
Felixton	1	-	8	7	11	31	51	20	-	-	-	-	129
Richardia	5	7	3	7	3	16	3	9	-	-	-	-	53
TRS 10-minute OME Limit (9.3 ppb)													
CBD	53	10	8	7	-	27	-	-	-	-	-	-	105
eSikhaleni	-	-	-	-	4	11	8	1	-	-	-	-	24
Felixton	2	-	4	10	10	43	66	13	-	-	-	-	148
Richardia	3	1	-	9	-	13	-	19	-	-	-	-	45

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 August 2025, based on the following:

- ▶ Measured long-term average concentrations (chronic exposure) and WHO health guidelines of concern are:
 - PM₁₀ 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:
 - PM₁₀ at CBD, eSikhaleni, Felixton, Richardia and Scorpio.
 - PM_{2.5} at Brackenham, Felixton, Harbour West and Scorpio - all points monitored.
 - SO₂ at CBD, Harbour West and 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 (PM₁₀, PM_{2.5} and PM₁) 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 (CO₂).

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 CO₂, which are dependable but may not meet the stringent accuracy levels of certified equipment. For instance, the SenseAir S8 has an accuracy of $\pm 30 \text{ ppm} \pm 3\%$ 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.

Date	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
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	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:

- **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).
- **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.
- **Harbour West**
 - February '25 –power outages (load shedding).
- **Richardia**
 - February '25 –power outages (load shedding).
 - June '25 – power outages.

8.2. Particulate Monitoring

8.2.1. Monthly

PM₁₀, PM_{2.5} and PM₁ 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.

- ▶ PM₁₀ monthly average concentrations did not exceed the RSA Annual Limit; the WHO Annual Limit was exceeded at Brackenham, eSikhaleni, Felixton and Richardia.
- ▶ PM_{2.5} monthly average concentrations exceed the RSA Annual Limit at eSikhaleni; the WHO Annual Limit was exceeded at all points monitored.

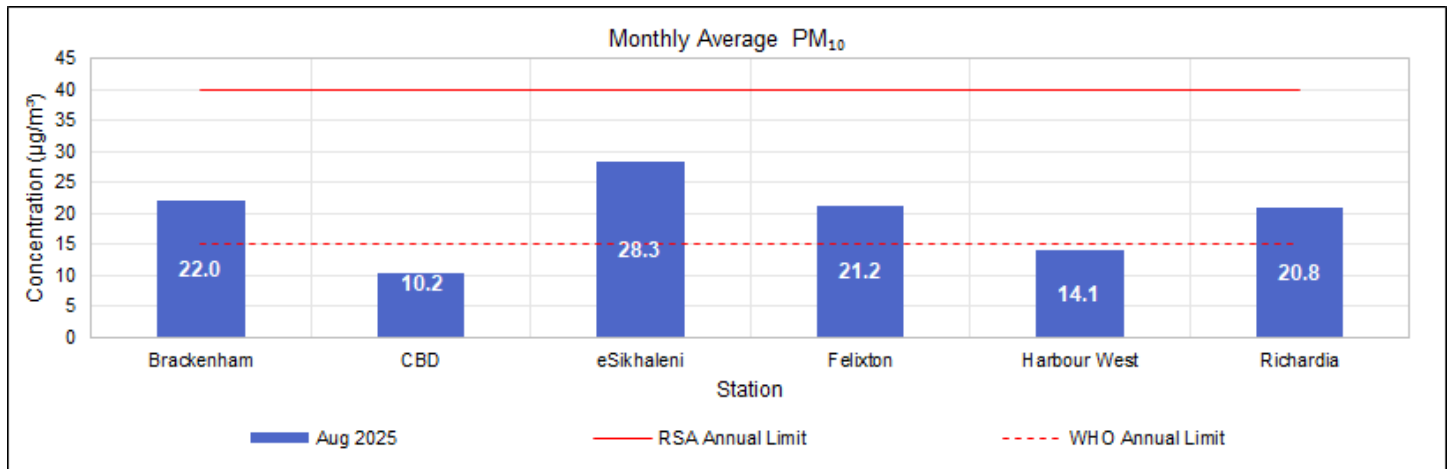


Figure 8.2: PM₁₀ monthly concentration.

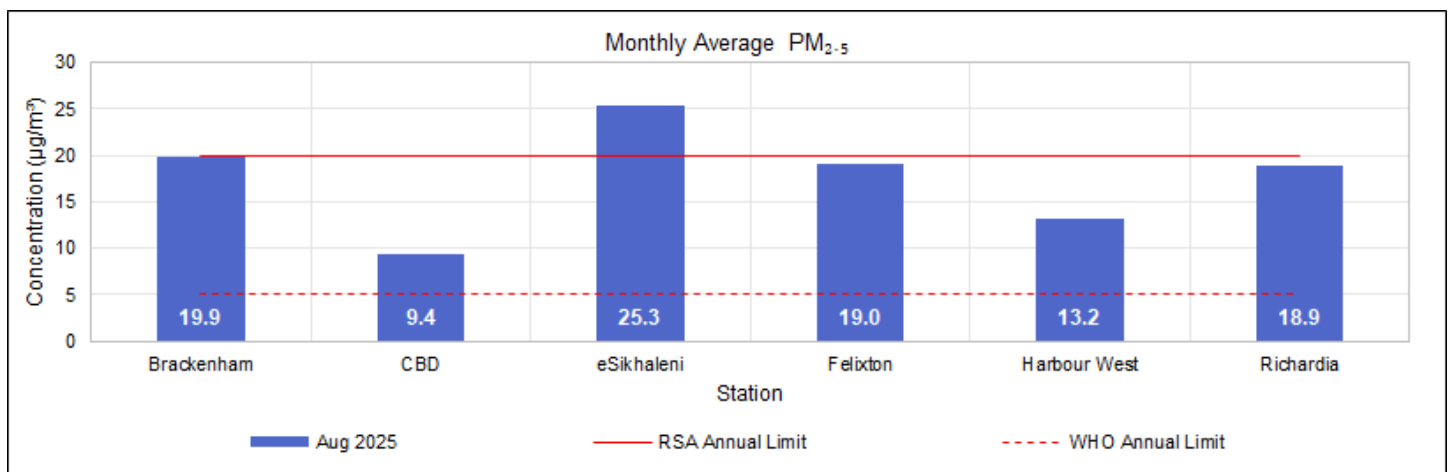


Figure 8.3: PM_{2.5} monthly concentration.

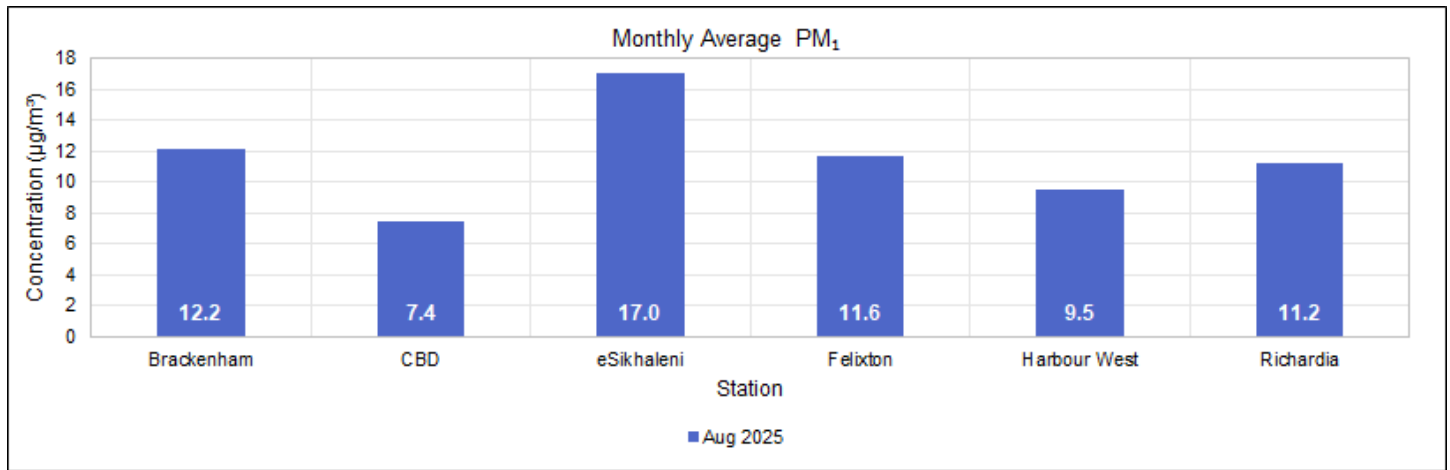


Figure 8.4: PM₁₀ monthly concentration.

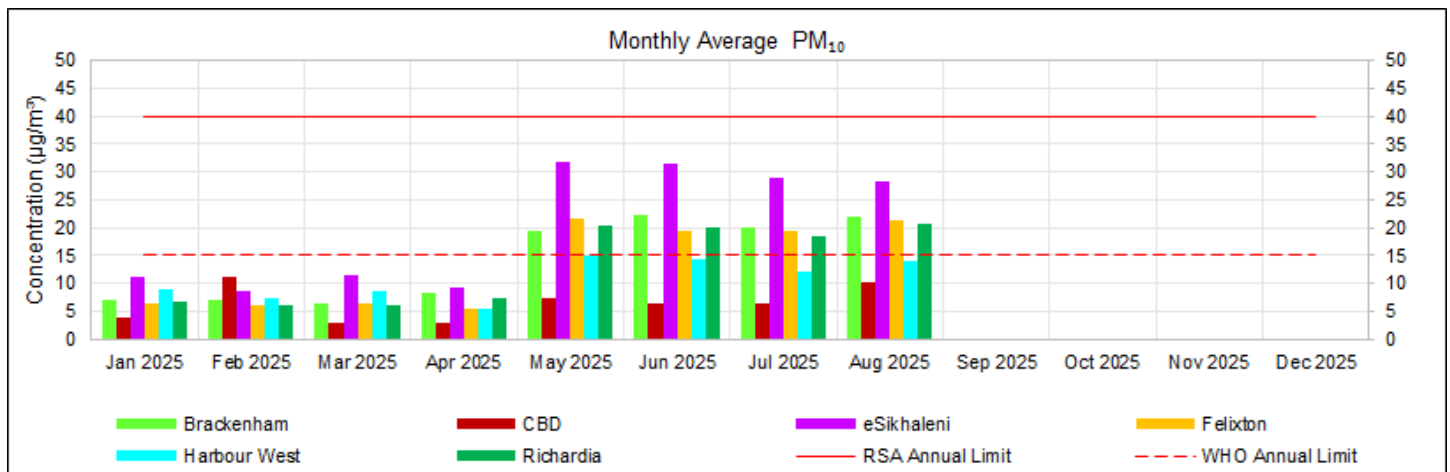


Figure 8.5: PM₁₀ monthly comparison.

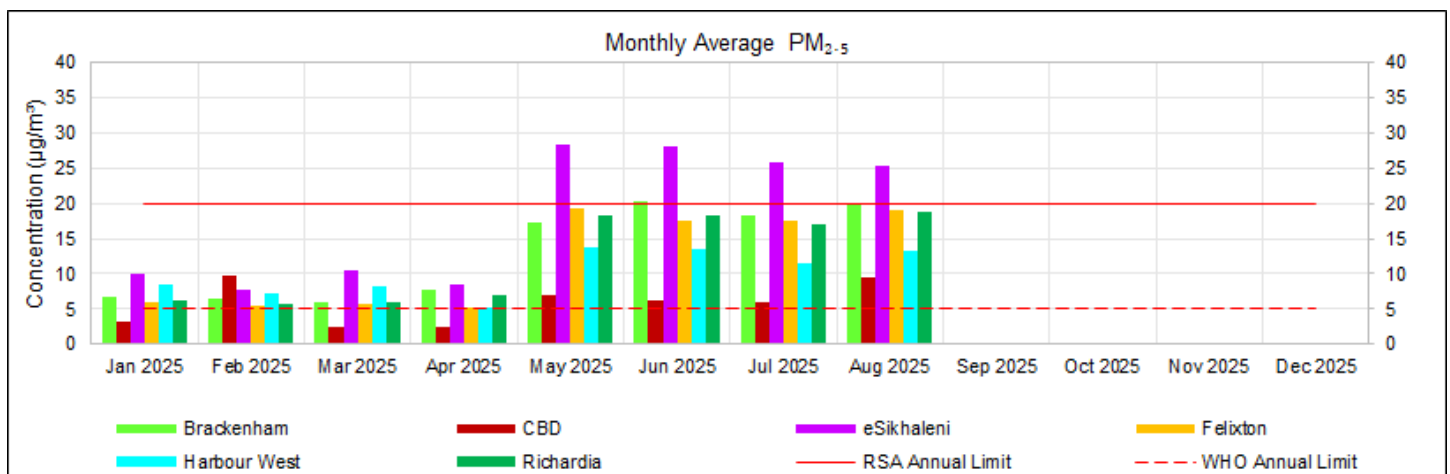


Figure 8.6: PM_{2.5} monthly comparison.

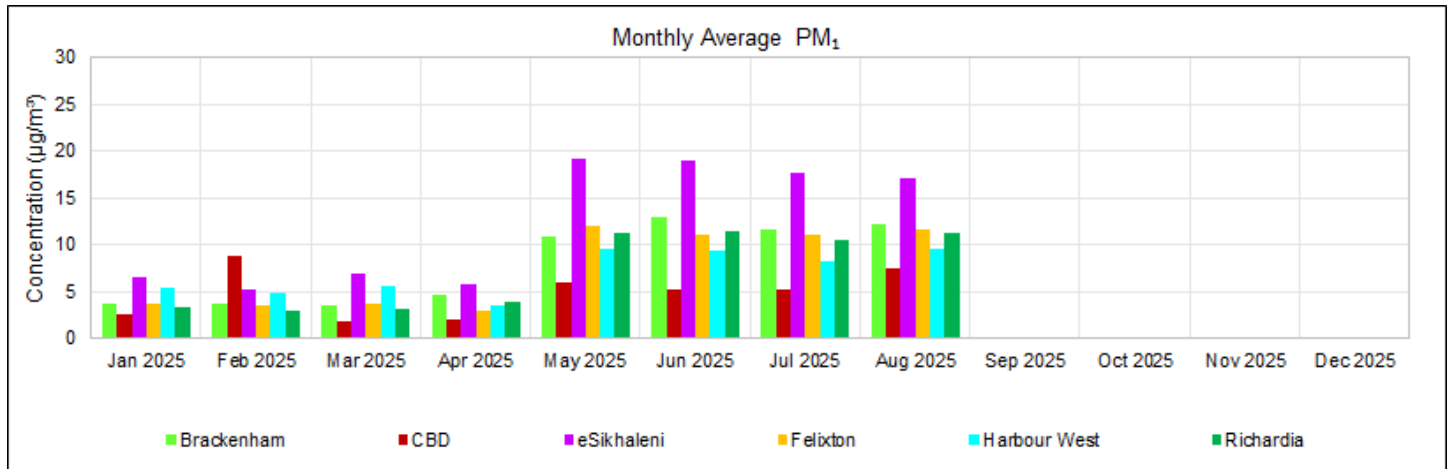


Figure 8.7: PM₁₀ monthly comparison.

8.2.2. Diurnal

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

- ▶ PM₁₀ diurnal concentrations did not exceed the RSA daily limit; the WHO daily limit was exceeded at eSikhaleni.
- ▶ PM_{2.5} diurnal concentrations exceeded the RSA limit at eSikhaleni, and the WHO daily limit was exceeded at Brackenham, eSikhaleni, Felixton and Richardia.

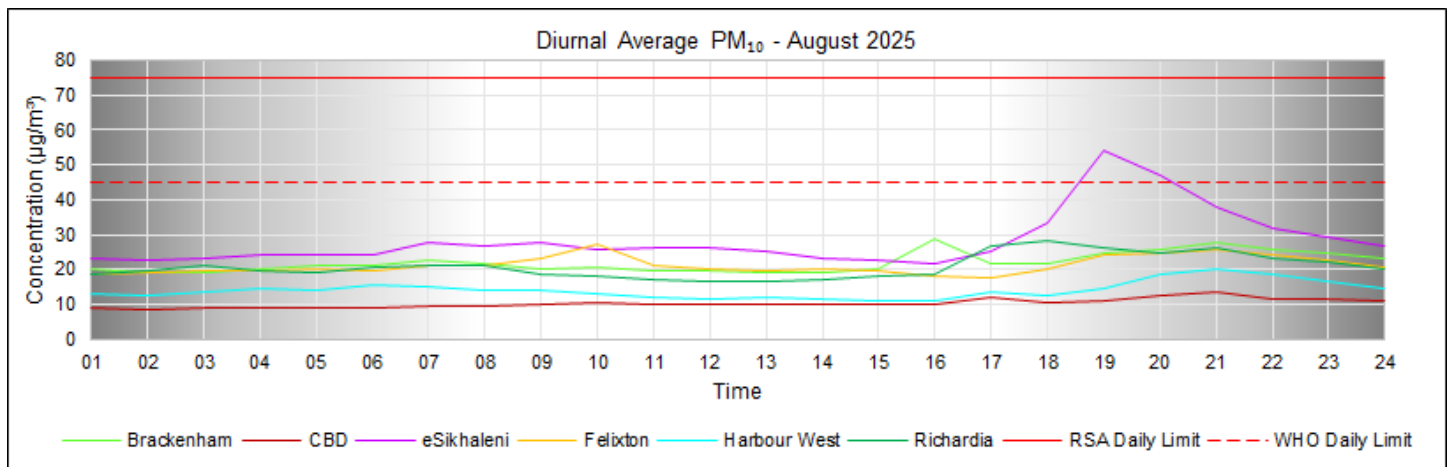


Figure 8.8: PM₁₀ diurnal concentrations.

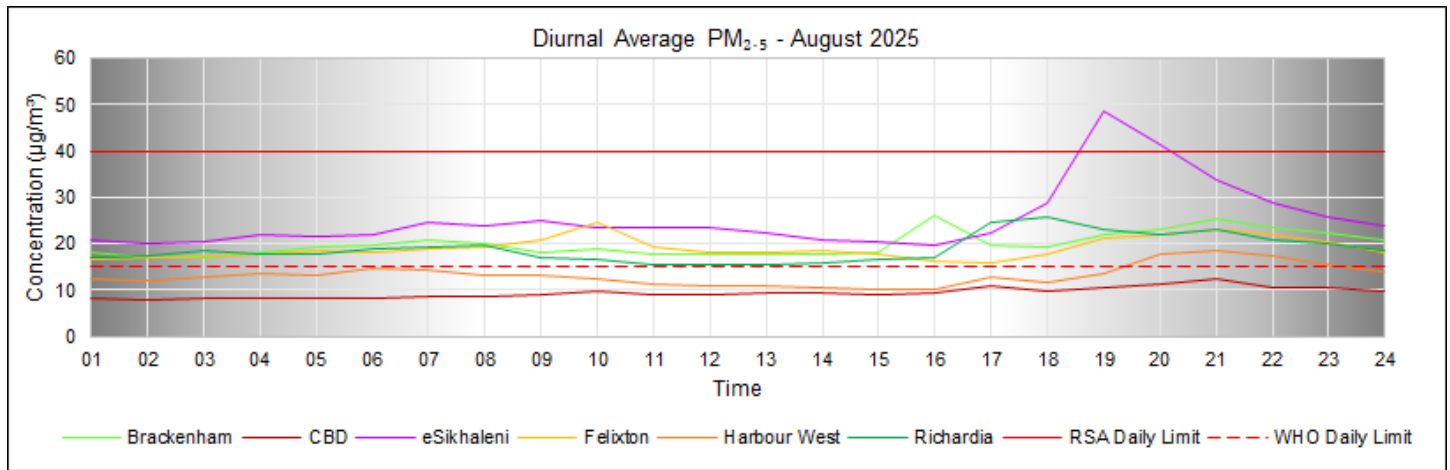


Figure 8.9: PM_{2.5} diurnal concentrations.

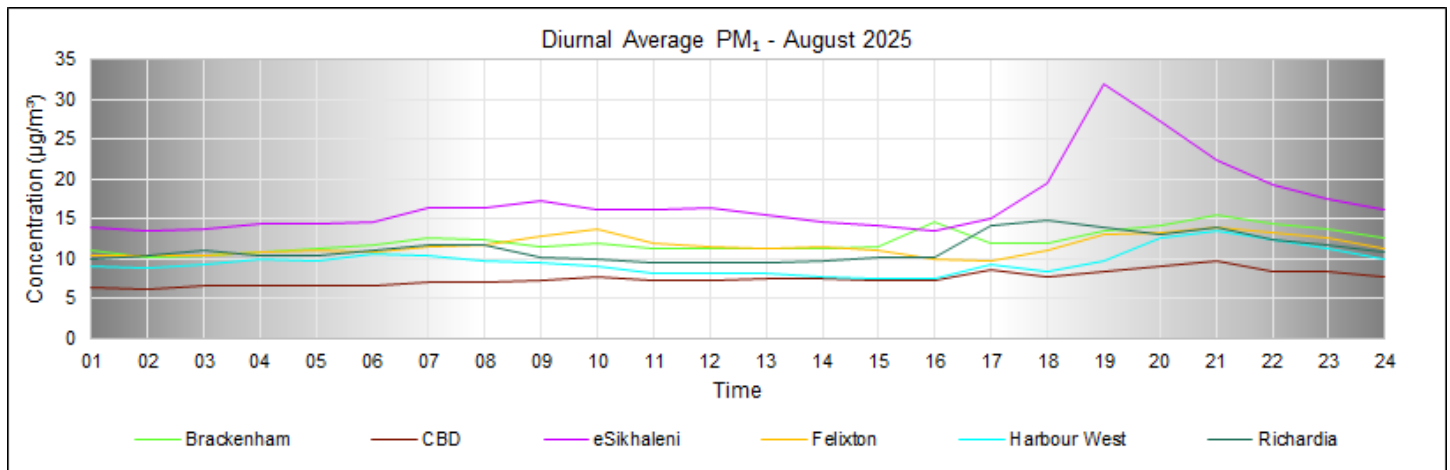


Figure 8.10: PM₁ diurnal concentrations.

8.2.3. Daily

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

- ▶ The PM₁₀ RSA daily limit was not exceeded, and the WHO limit was exceeded at Brackenham, eSikhaleni Felixton and Richardia.
- ▶ The PM_{2.5} RSA limit was exceeded at Brackenham, eSikhaleni, Felixton and Richardia, and the WHO limit was exceeded at all monitoring stations.

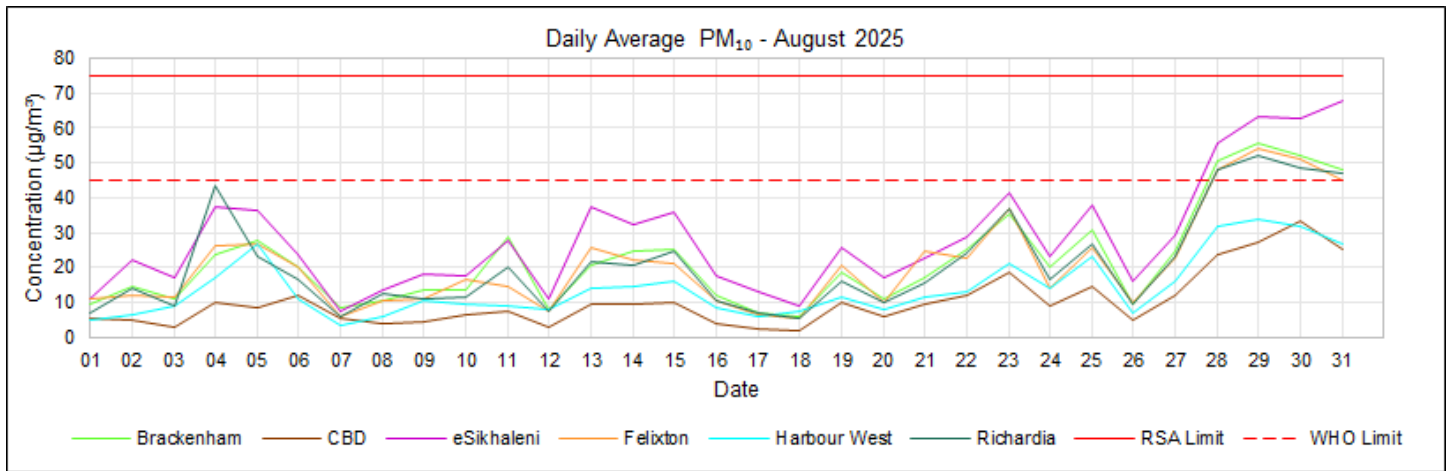


Figure 8.11: PM₁₀ daily concentrations.

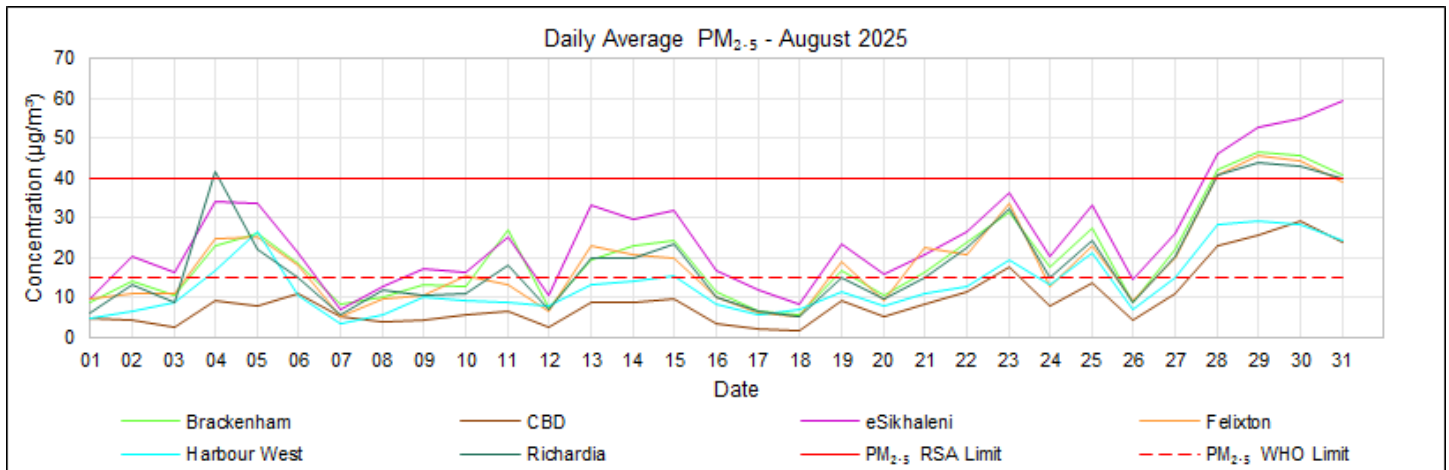


Figure 8.12: PM_{2.5} daily concentrations.

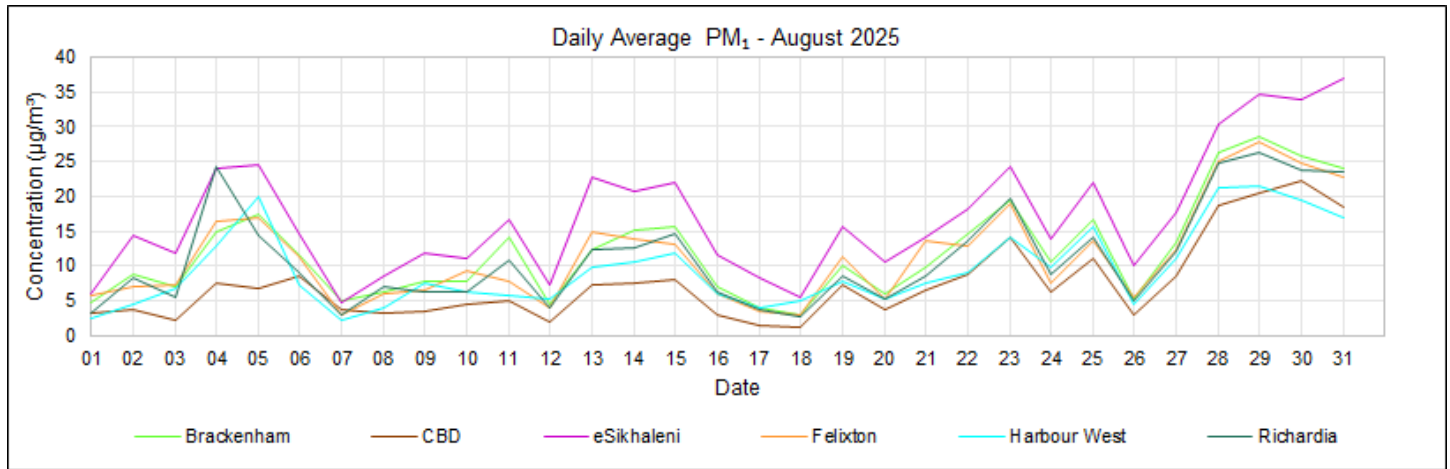


Figure 8.13: PM₁ daily concentrations.

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 negatively impact 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).

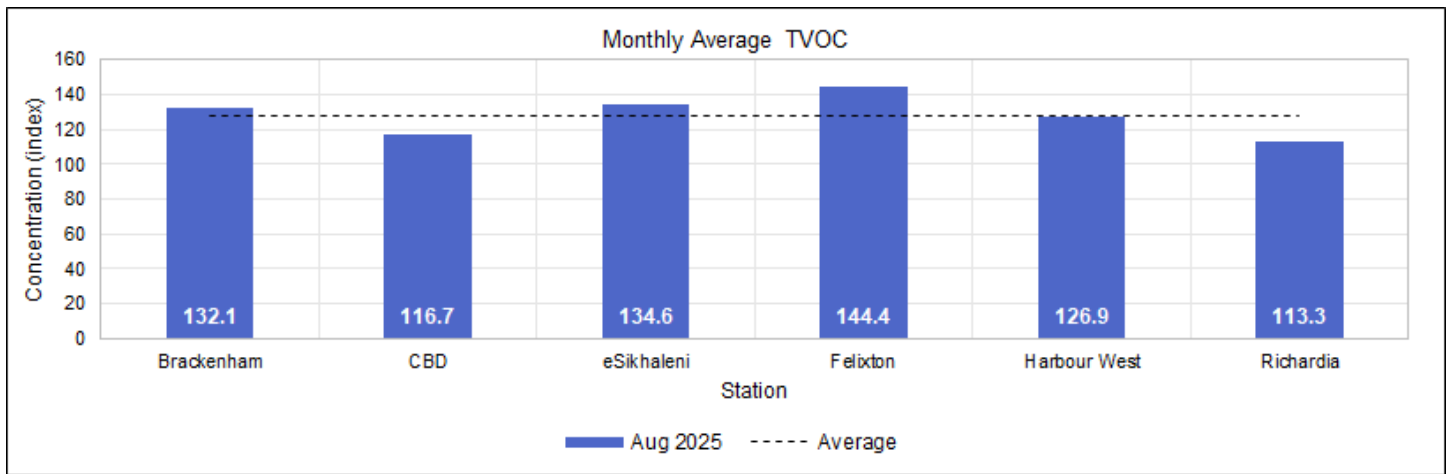


Figure 8.14: TVOC monthly concentration.

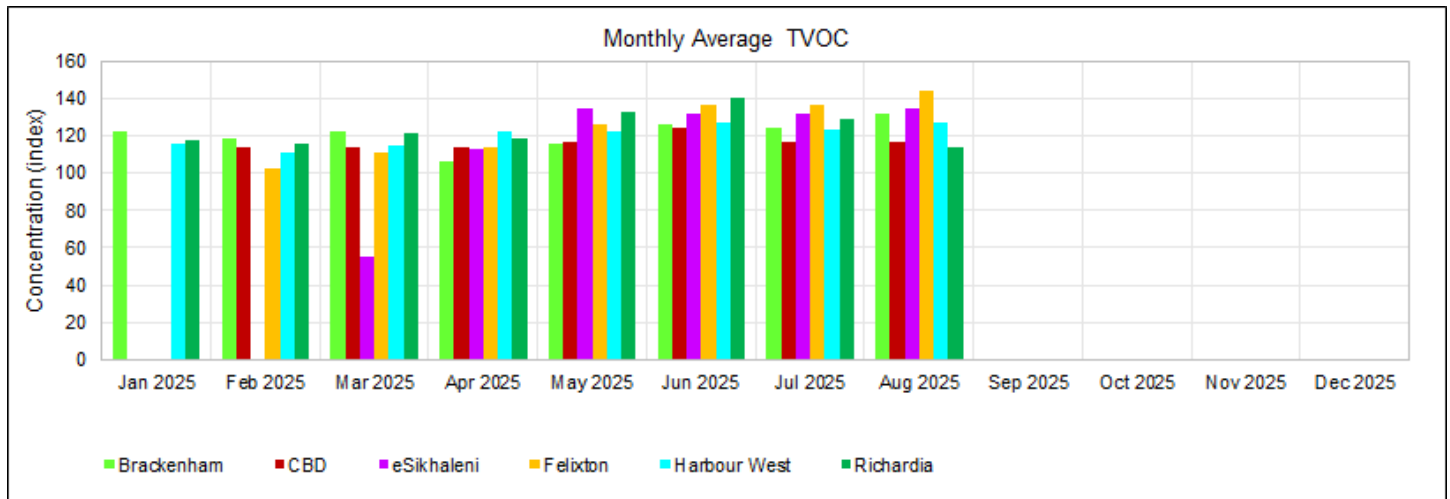


Figure 8.15: TVOC monthly comparison.

8.3.2. Diurnal

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

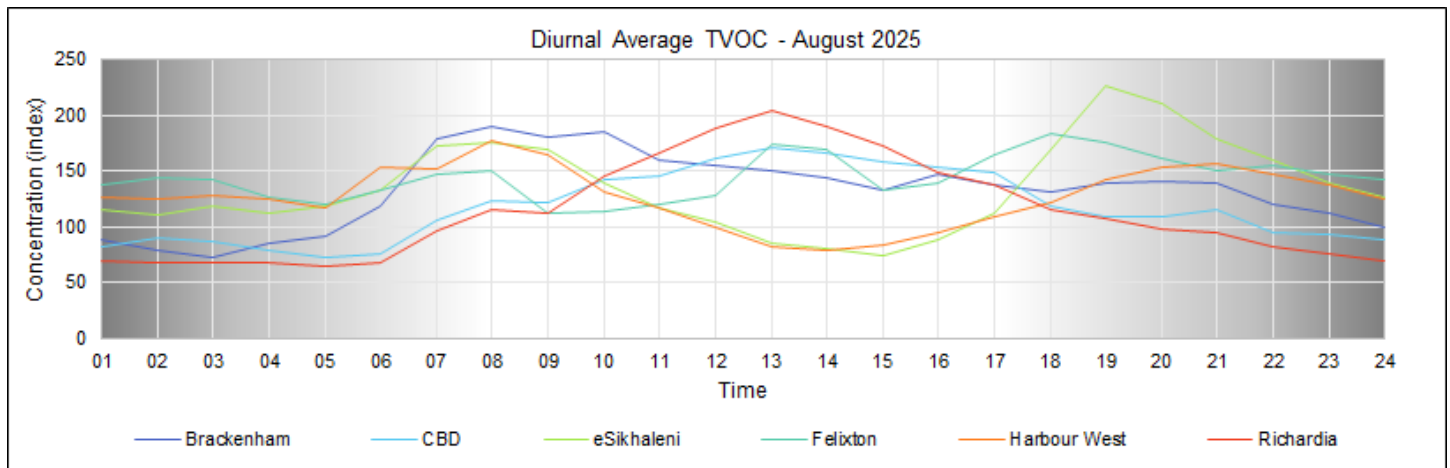


Figure 8.16: TVOC diurnal concentrations.

8.3.3. Daily

TVOC daily concentrations are shown below (Figure 8.17).

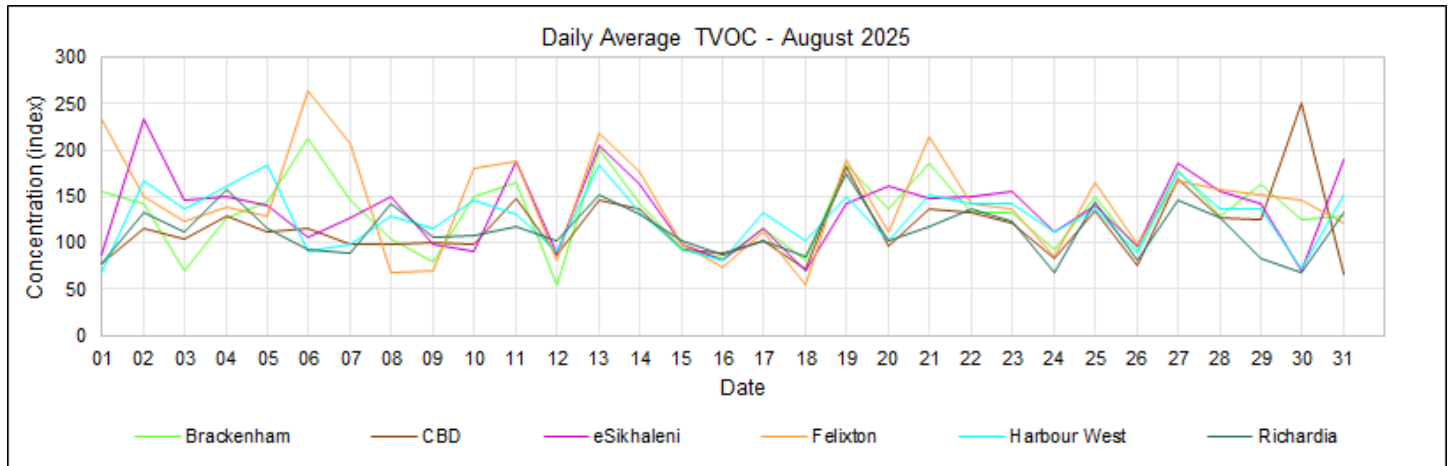


Figure 8.17: TVOC daily concentrations.

8.3.4. Hourly

TVOC hourly concentrations are shown below (Figure 8.18).

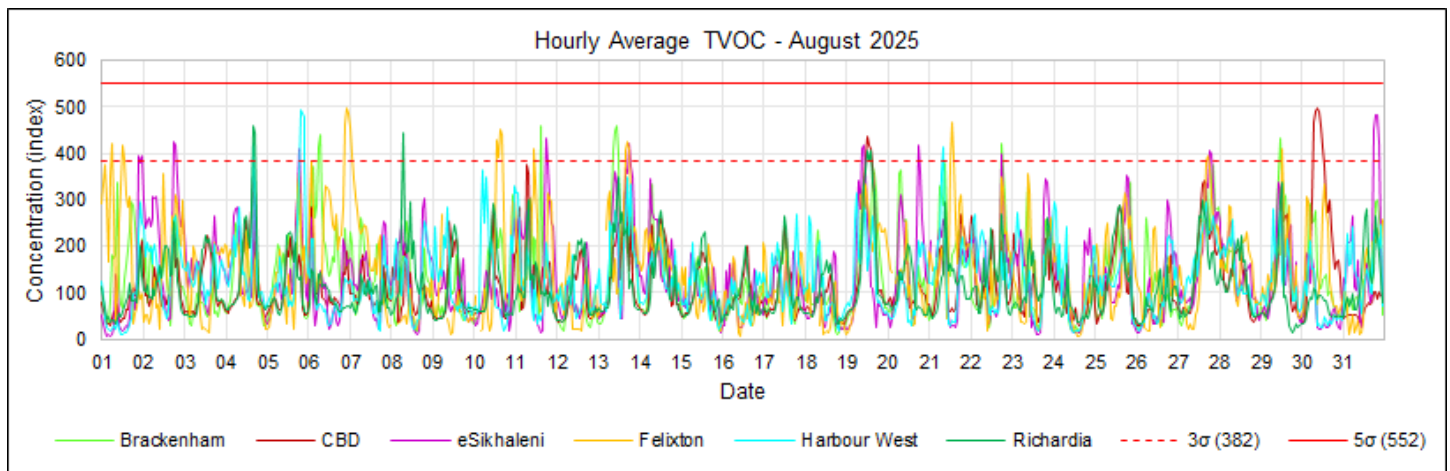


Figure 8.18: TVOC hourly concentrations.

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

Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
3σ	9	10	17	21	5	5
5σ	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 (NO₂) 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).

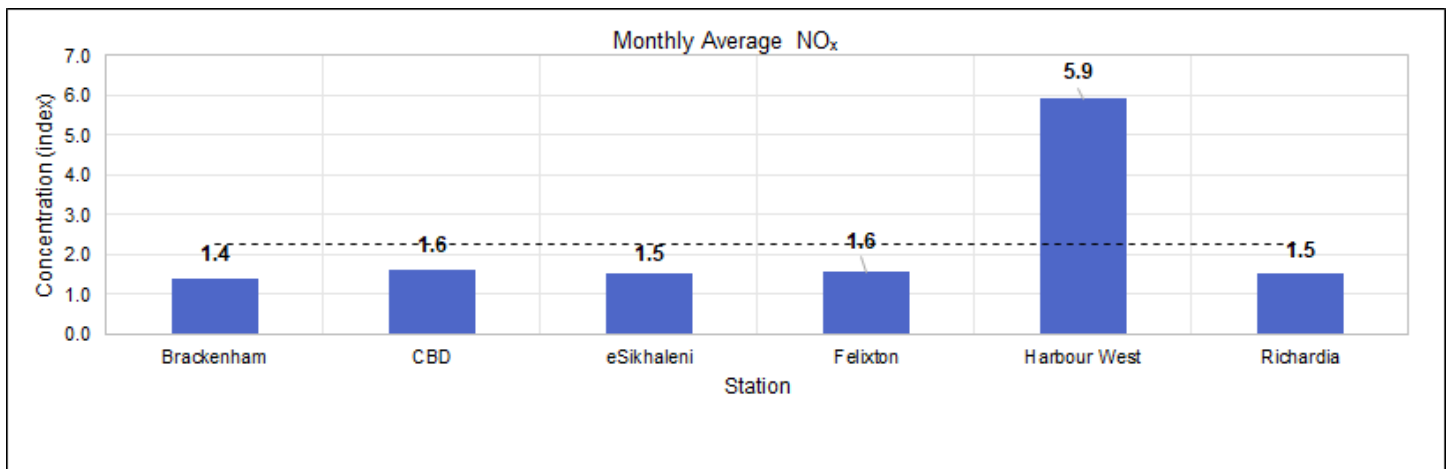


Figure 8.19: NO_x monthly concentration.

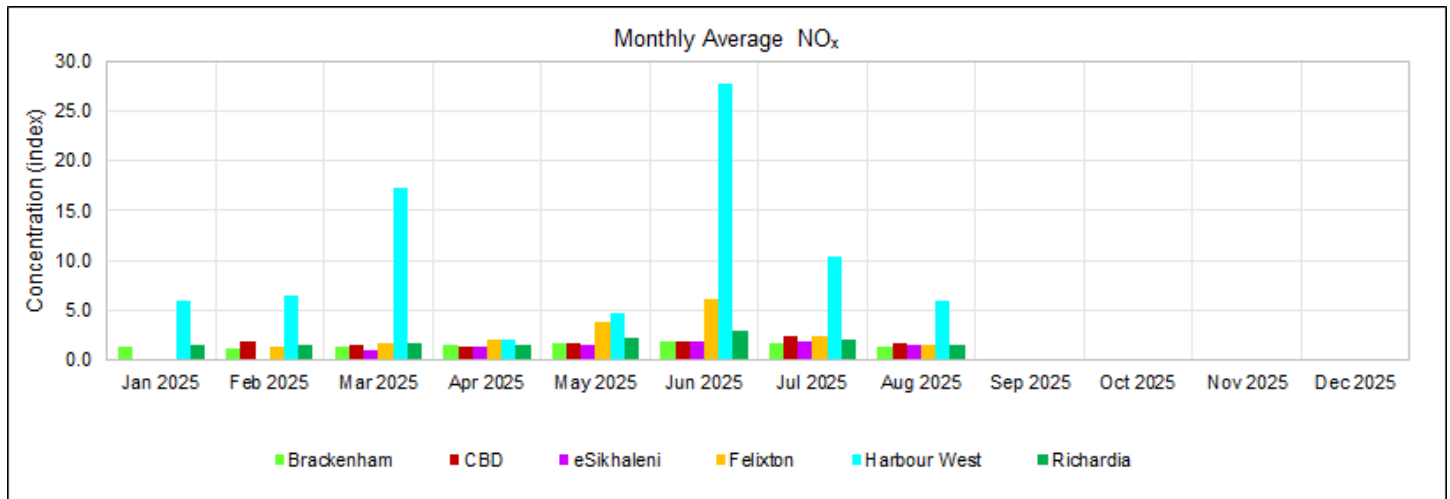


Figure 8.20: NO_x monthly comparison.

8.4.2. Diurnal

NO_x diurnal concentrations are shown below (Figure 8.21).

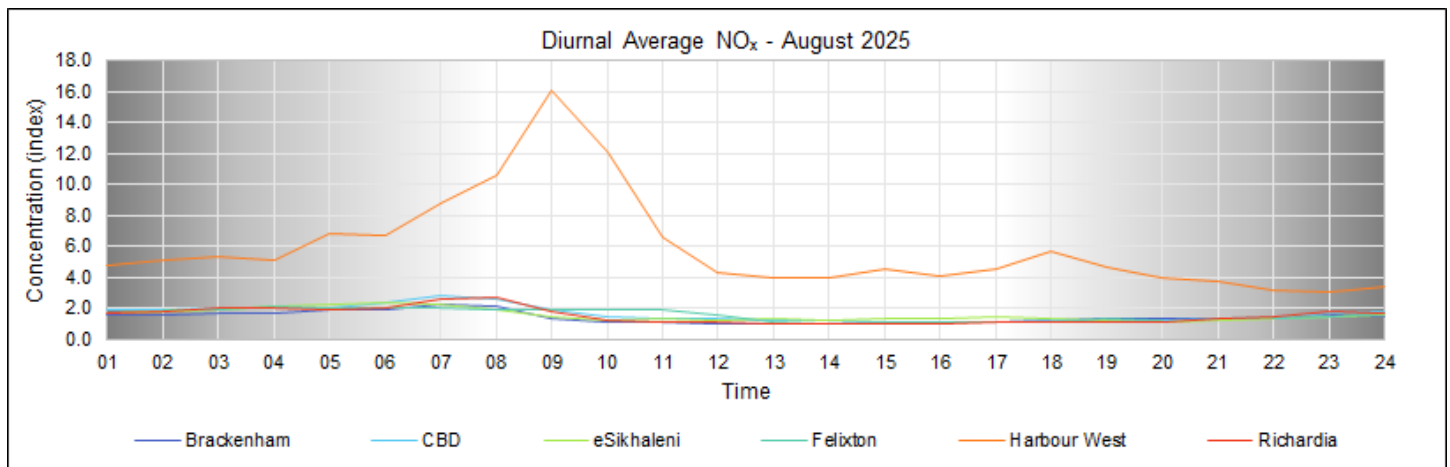


Figure 8.21: NO_x diurnal concentrations.

8.4.3. Daily

NO_x daily concentrations are shown below (Figure 8.22).

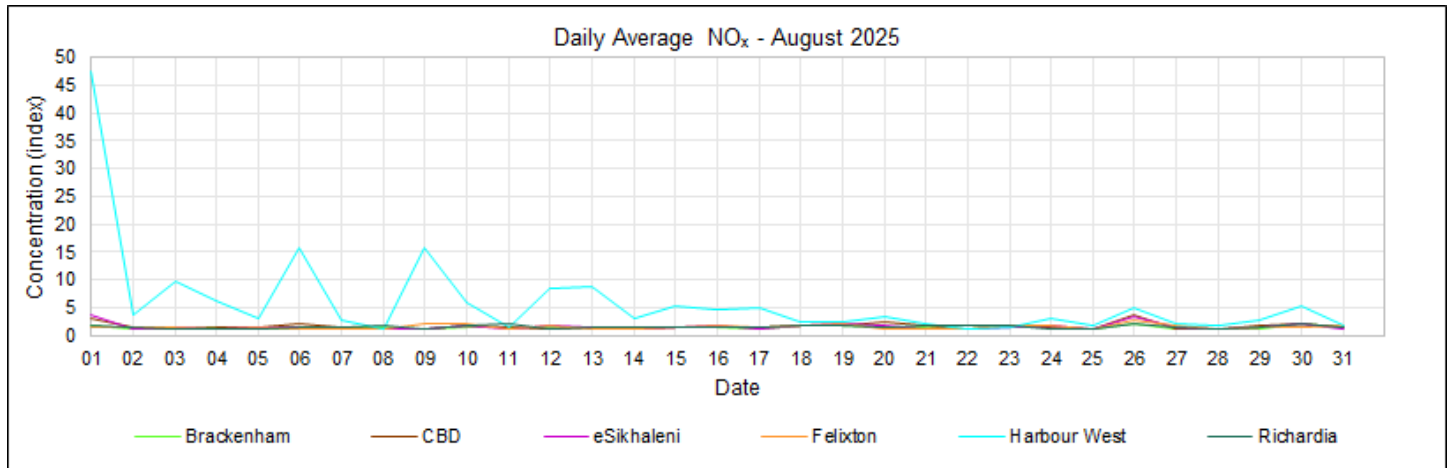


Figure 8.22: NO_x daily concentrations.

8.4.4. Hourly

NO_x hourly concentrations are shown below (Figure 8.23).

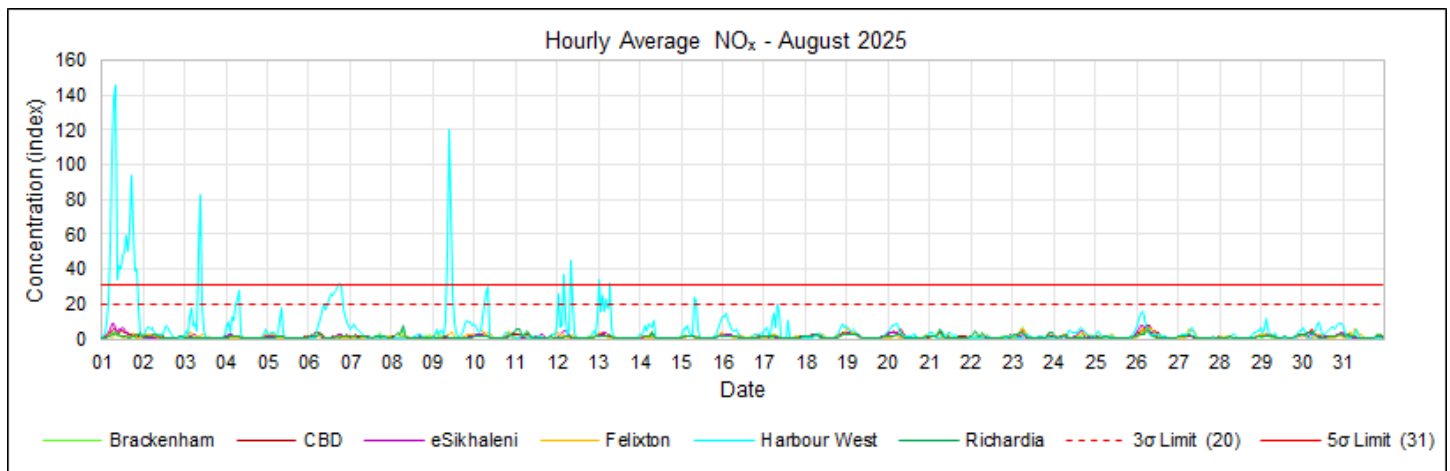


Figure 8.23: NO_x hourly concentrations.

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

Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
3σ	0	0	0	0	47	0
5σ	0	0	0	0	27	0

8.5. Carbon Dioxide Monitoring

In 2000, the global background concentration of carbon dioxide (CO₂) was approximately 370 ppm, marking a significant increase from the pre-industrial level of around 280 ppm. This reflected the continued growth in CO₂ emissions from fossil fuel combustion, deforestation, and other human activities during the 20th century. The rate of increase in atmospheric CO₂ 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

CO₂ monthly average concentrations are shown in Figure 8.24; comparisons to previous months are also provided (Figure 8.25).

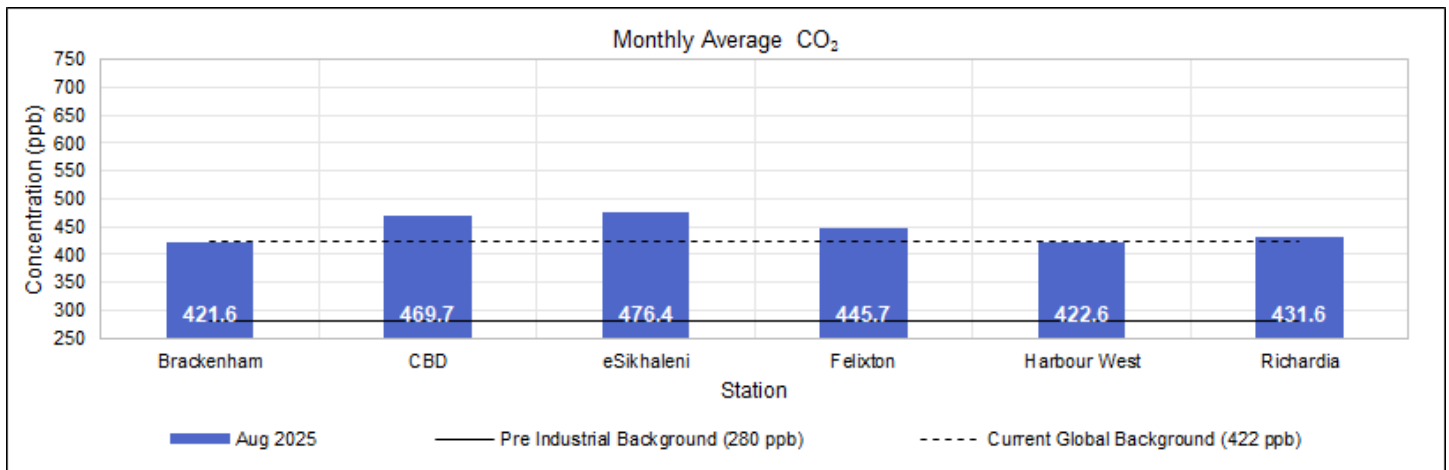


Figure 8.24: CO₂ monthly concentration.

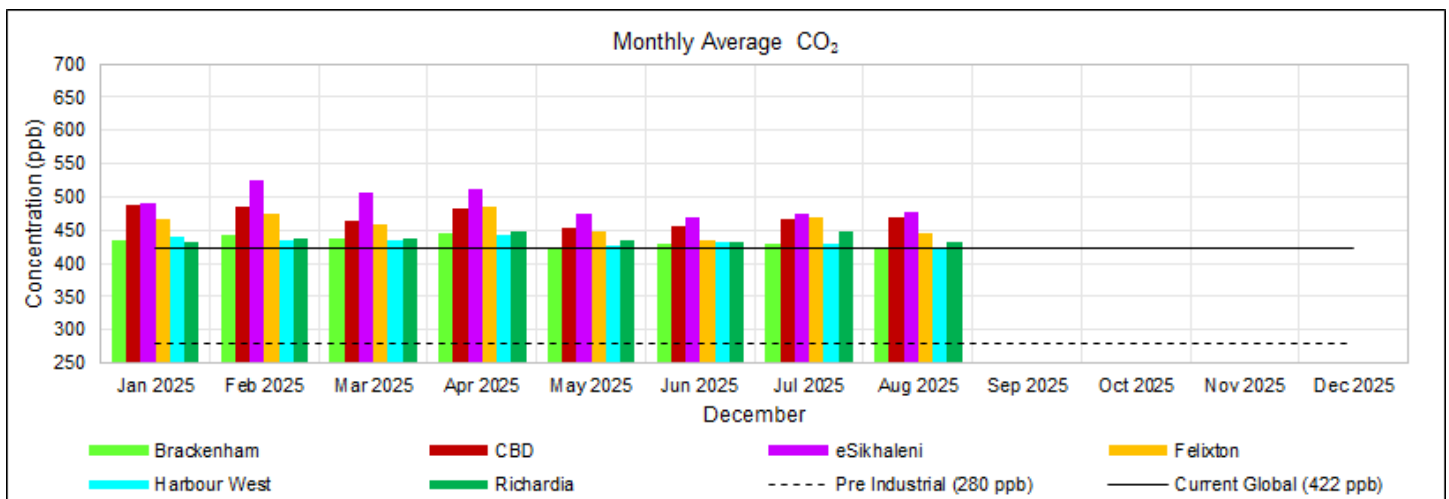


Figure 8.25: CO₂ monthly comparison.

8.5.2. Diurnal

CO₂ diurnal concentrations are shown below (Figure 8.26).

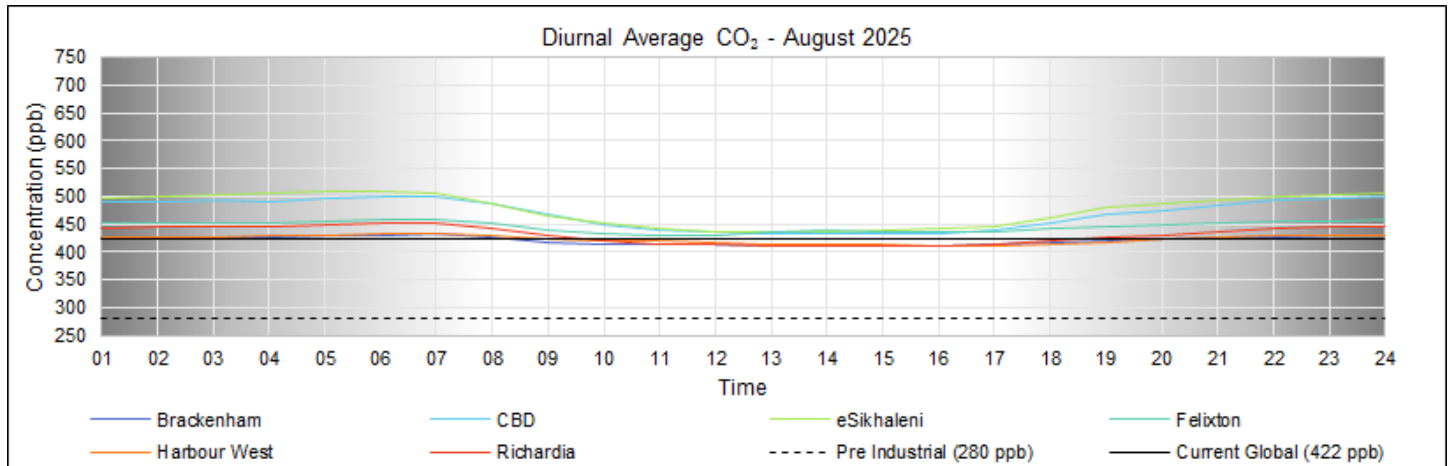


Figure 8.26: CO₂ diurnal concentrations.

8.5.3. Daily

CO₂ daily concentrations are shown below (Figure 8.27).

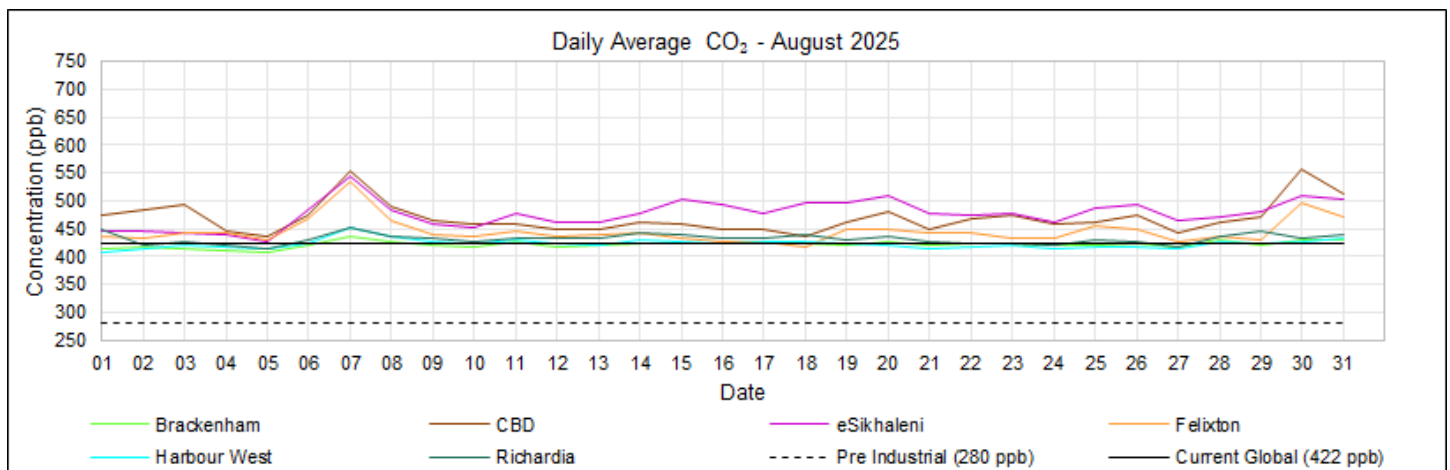


Figure 8.27: CO₂ daily concentrations.

8.5.4. Hourly

CO₂ hourly concentrations are shown below (Figure 8.28).

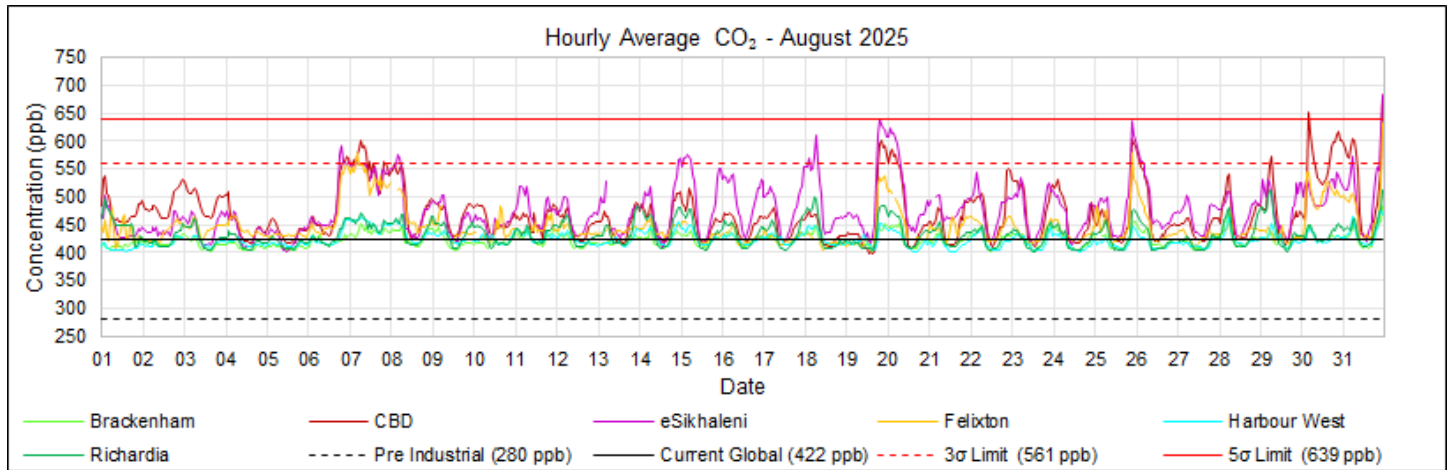


Figure 8.28: CO₂ hourly concentrations.

Table 8.4: CO₂ exceedances of the 3σ and 5σ limits.

Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
3σ	0	50	42	3	0	0
5σ	0	2	1	0	0	0

9. ACKNOWLEDGEMENT

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

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 ₃ S-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 ₂ S	Hydrogen Sulphide
H ₂ SO ₃	Sulphurous Acid
H ₂ SO 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/m ³	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/m ² /day	Milligrams per meter squared per day
mg/m ³	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. 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 where a sensor is challenged with a gas of a 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 pollutant measurement, meteorological measurement, or data consolidation.
System	The system represents all network components, including the procedures for marshalling and reporting data.

APPENDIX B QUALITY ASSURANCE

The SO₂ concentrations reported are determined by the United States Environmental Protection Agency (US EPA) equivalent method, EQSA-0193-092. SO₂ 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 reduce the error to a minimum. 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 re-zero all data.
	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 PM₁₀ and PM_{2.5}.

RBCAA: Monthly Report						
PM ₁₀ daily averages						
Station	Concentration ($\mu\text{g}/\text{m}^3$)	% of the RSA Standard (75 $\mu\text{g}/\text{m}^3$)	% of WHO Guideline (45 $\mu\text{g}/\text{m}^3$)	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 ($\mu\text{g}/\text{m}^3$)	% of the RSA Standard (40 $\mu\text{g}/\text{m}^3$)	% of WHO Guideline (15 $\mu\text{g}/\text{m}^3$)	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 SO₂.

RBCAA: Monthly Report						
SO ₂ 10-minute averages						
Station	Concentration (ppb)	% of RSA Standard & WHO Guideline (500 µg/m ³ / 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/m ³ / 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/m ³ / 48 ppb)	% of WHO Guideline (40 µg/m ³ / 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 ₂ S 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)
2025/08/01	3	0	4	1
2025/08/02	0	0	1	0
2025/08/03	0	0	0	0
2025/08/04	0	0	0	0
2025/08/05	0	0	0	0
2025/08/06	2	0	1	0
2025/08/07	8	3	7	6
2025/08/08	0	0	0	0
2025/08/09	0	0	0	0
2025/08/10	0	0	0	0
2025/08/11	2	0	5	1
2025/08/12	0	0	0	0
2025/08/13	0	0	0	0
2025/08/14	0	0	0	0
2025/08/15	0	0	0	0
2025/08/16	0	0	0	0
2025/08/17	0	0	0	0
2025/08/18	0	0	0	0
2025/08/19	0	0	0	0
2025/08/20	0	0	0	0
2025/08/21	0	0	0	0
2025/08/22	0	0	0	0
2025/08/23	0	0	0	0
2025/08/24	0	0	0	0
2025/08/25	0	0	0	0
2025/08/26	0	0	0	0
2025/08/27	0	0	0	0
2025/08/28	0	0	0	0
2025/08/29	0	0	0	0
2025/08/30	0	0	0	0
2025/08/31	0	0	0	0
Total	17	3	17	8

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	
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	214
Maximum	311	320	377	464	647	410	271	479
Total	1798	1850	1540	2234	1893	2034	1630	1710

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	
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	133
Maximum	342	311	214	231	368	318	187	303
Total	1354	1261	987	1530	1288	1347	992	1060

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	
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	1338

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	
Oct	-	-	-	-	64	271	-	
Nov	-	-	-	-	101	36	-	
Dec	-	-	-	-	163	95	92	
Minimum	-	-	-	-	12	11	92	8
Average	-	-	-	-	121	107	121	140
Maximum	-	-	-	-	505	271	144	363
Total	-	-	-	-	1336	1280	485	1118

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	2025/08/01 13:53	Alton	Dust fallout	RBIDZ	Excessive dust fallout on premises emanating from IDZ 1F site.	1, 305
2	2025/08/05 13:35	Richards Bay	Sulphur Spillage	Grindrod	The truck coming from kusasa did not tap the cargo (Sulphate) and the car was blowing on the open environment.	306
3	2025/08/06 00:00	Alton	Dust fallout	Gundo Logistics	Ongoing: Coal dust emanating from a transport facility operating in Hydrogen Line. The site and road are covered in coal dust generating significant fallout from moving trucks. The complainant also reports that tipper washing is occurring on site.	1, 307
4	2025/08/18 00:00	Empangeni	Dust fallout	Authorities response required	Dust fallout from Buthelezi Mall development in Empangeni. "Ongoing dust issues caused by the Buthelezi Mall Development in Empangeni. This has been since October 2024 Our property is located approximately 500 meters away and has been significantly impacted ,especially our open display area for used vehicles. Since November I have raised this concern. Unfortunately, the problem persists and has worsened over the past few months Despite the measures that are supposed to be taken the dust continues to settle on our vehicles, which is especially problematic for our inventory"	1
5	2025/08/19 00:00	Empangeni	Dust fallout	Authorities response required	Dust fallout from Buthelezi Mall development in Empangeni. "I am concerned about the dust all over our vehicles again like before, coming from the construction of the new Mall behind us. Some of our Staff members is resulting in wearing face masks due to it as well. I feel this is affecting the quality of the air in our area." (Photographic evidence provided)	1
6	2025/08/19 17:20	Veldenvlei	Odour	Mondi	"Pungent Mondi odour".	308
7	2025/08/21 09:45	Meerensee	Clinical + Odour	Mondi	"Mondi smell causing cough and sneezing".	309
8	2025/08/22 00:00	Richards Bay	Smoke	Authorities response required	on behalf of a number of KwaMbonambi residents (10) regarding air pollution and associated health impacts being caused by illegal coal manufacturing operations in Slovo, which dates back to 2020. This is evidenced in the attached letter from Dalene Deyssel to Mbonambi Municipality. Also attached are recent photographs taken last week Friday. (Note: photografic evidence from 2025-08-22 and historical complaints letter available)	1
9	2025/08/26 12:32	Meerensee	Odour	Authorities response required	Coming out of Meerensee at turn off to Small Craft, "very strong sewage smell"	1
10	2025/08/26 14:10	Arboretum	Odour	Authorities response required	"terrible gas smell" – like rotten egg.	1
11	2025/08/27 00:00	Richards Bay	Clinical	Authorities response required	"My wife suffers from chronic migraines to such an extent that she is on permanent pain medication, including tramacet, synaleve and targinact. Regular pain meds are simply not strong enough. Among her migraine triggers are various forms of air pollution. These include wood smoke (general burning of garden refuse), smoke generated by charcoal manufacturing as it seems to have a choking effect and affects sinuses along with the migraines. Burning plastics and petrochemical derivatives cause a tightening of the windpipes along with the migraines. It would appear that the railway transports Chlorine gas or liquid chlorine as, when the trucks are not sealed properly we get Chlorine fumes. This affects both my wife and I causing choking, sinus attacks and gives us both headaches (the latter is not regular and only occurs about once a month). My wife has had to be admitted to the emergency / casualty ward a number of times, particularly in the	1

No	Date	Region	Type	Source	Description	Response
					<p>evenings due to migraines caused by these external factors - the average cost of such an admission is usually around R4500. This is an amount we really cannot afford so we do this only as an extreme resort. Mt wife has also been admitted to hospital for a number of days due to complications caused by the migraines and associated medication. We do not use the local clinic as only a Doctor can prescribe the pethidine/aspirin drip which is about the only thing which gives a few hours relief but also carries the side effects of nausea.</p> <p>Generally, once a migraine has been caused it can take days to break. The regular doses of air pollution in KwaMbonambi means that she seldom manages to break the headache and can suffer for weeks without any respite." (Note: The RBCAA referred to the authorities on 2025-08-27)</p>	
12	2025/08/31 00:00	Arboretum Ext	Coal dust	Industry response required	Child covered in coal dust from playing on outdoor trampoline.	312, 313, 1
13	2025/08/31 22:35	Arboretum	Clinical + Odour	Mondi	"Sulphur smell causing tightness of chest".	310

Table 2: Responses

No.	Industry Feedback
1	Unresolved / No Response
305	<p>RBCAA - Sandy Camminga (2025/08/07 10:48): For clarification, the dust is emanating from a cleared site within IDZ 1F, where construction has yet to commence.</p> <p>RBIDZ - Sethabile Gcume (2025/08/08 16:20): Wind conditions on the day of the incident The wind was blowing in the northerly direction.</p> <p>Immediate Action(s) Taken The SHEQ Manager informed the Zone Development Manager of the incident and requested that appropriate mitigation measures be implemented. The appointed service provider was scheduled to attend to the matter on the morning of Saturday, 2 August. However, due to rainfall that morning, dust suppression was no longer required. 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 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 evening of July 31st and into the early hours of August 1st, Richards Bay experienced strong winds, making dust suppression challenging during night hours.</p> <p>Corrective Actions Procure a contractor to manage dust. Key Learnings Proactively implement erosion control measures to avoid negative environmental impacts.</p>
306	<p>Grindrod- Sibahle Dladla responded (2025/08/07 11:02): SOURCE OF COMPLAINT The truck with Registration number FXH687FS coming from KUSASA site to TPT 708 Vessel loading of Sulphate, the tarp was loose, and the cargo was exposed to air causing dust emission.</p> <p>ROOT CAUSE OF INCIDENT The tarp that was used to cover the skip was not secured properly and did not fully enclose the load further contributing to the dust emission. A small amount of cargo remained on the flat deck, which led to dust being dispersed into the open environment due to wind during transportation. CORRECTIVE ACTIONS & PREVENTATIVE MEASURES</p> <p>Immediate action taken:</p> <ul style="list-style-type: none"> • The skip tarp was adjusted and secured to ensure full coverage and to prevent further dust emission. • The remaining cargo was immediately removed from flat deck to eliminate the source of dust. • Incident was communicated to the responsible personnel; Site Supervisors and transport team to raise immediate awareness and to prevent recurrence. • The driver was briefed on the importance of fully securing tarps and ensuring the vehicle is clean before leaving the site <p>Corrective actions:</p> <ul style="list-style-type: none"> • Grindrod will inspect all trucks and clear spilled cargo before the tucks leave the facility to prevent dust emissions. All skips will be fully covered with tarps that are correctly fitted and secured to prevent dust emission from cargo. • Increase supervision (Supervisors to perform periodic audits and on job task observation to ensure compliance with load covering and cleanliness
307	RBCAA Allocation- Sandy Camminga (2025/08/19 14:38): I have verbal feedback from Municipality that Authorities have been to the premises and are dealing with it. Please allocate to GUNDO LOGISTICS.
308	<p>Mondi - Candice Webb responded (2025/08/25 11:53): Source of Odour: Non-condensable gas system- loss of vacuum. RBCAA Brakenham monitoring station.</p> <p>Average wind direction at Beckenham station prior to the complaint =263° Average wind speed = 1.0m/s. Description of Incident</p> <p>Mondi Environmental Manager received notification of odour complaint from the RBCAA at 17:52 and commenced with an investigation. It was determined that the Recovery plant maintenance team was repairing a sealing water leak on one of the gas vacuum pumps. During the repair process the vacuum system tripped resulting in a loss of vacuum of the non-condensable gas system and release of odours gases to atmosphere. The vacuum system was reinstated within 10 minutes.</p> <p>7. Corrective Actions</p> <ul style="list-style-type: none"> • The vacuum system was reinstated within 10 minutes. <p>8. Preventative Measures</p> <ul style="list-style-type: none"> • Isolation procedure for all odour abatement equipment revised to consider odour risk
309	<p>Mondi - Candice Webb responded (2025/08/25 11:53): Source of Odour: Secondary Effluent Treatment Plant - condensate overflow. Average wind direction at Beckenham station prior to the complaint =340° Average wind speed = 1.2m/s.</p> <p>Calculation of Impacts: Mondi Monitoring Stations A TRS peak of 5.3ppb was recorded at the Alton station between 09:33 and 09:38. Which is inline with the time and location of the odour complaint. "...However, it was noticed that there was a strong odour coming from the Fibreline wash presses which use condensate as a washing medium. Condensate is the moisture condensed off black liquor, cleaned and then reused across the mill instead of fresh water to help reduce water consumption. It was suspected that the condensate may have been contaminated with higherthan-normal TRS compounds. At 10:20 condensate samples across the mill were taken for analysis. And the Secondary Effluent Treatment Plant (SETP) taken offline as used condensate does make its way to the SETP together with mill effluent, and it was possible odours compounds were being stripped from the SETP cooling towers. By 10:30 there was no longer a strong odour in the Fibreline."</p> <p>Note: Full incident report available.</p>

No.	Industry Feedback
310	<p>Mondi - Candice Webb responded (2025/09/01 12:44): Source of Odour: Non-condensable gas system - gas flow. NOTE: Incident investigation report available.</p> <p>3. Metrological Conditions RBCAA Brakenham monitoring station Average wind direction at Beckenham station prior to the complaint =2300 Average wind speed = 1.2m/s. Brakenham monitoring station is chosen to display meteorological data as it is the RBCAA monitoring station which is situated closest to Mondi. Calculation of Impacts: Mondi Monitoring Stations No ambient TRS exceedances recorded at Mondi monitoring stations both prior and at the time of the complaint.</p> <p>Description of Incident: Mondi standby Environmental Manager received notification of an odour complaint from the RBCAA at 22:40, and Mondi commenced with an investigation. As a precaution the standby environmental manager requested the shutdown of the Mondi Secondary Effluent Treatment Plant (SETP) at 22:44. Plant checklists were conducted by the area operators, and respective plant standby engineers as well as the standby Environmental Manager immediately after the complaint was received. However, no deviations were identified.</p> <p>It was noted that ambient TRS at Richardia monitoring station had reduced back within acceptable TRS levels by 22:36. The following morning the Environmental Manager conducted a review of online odour related dashboards and trends. It was noted that the gas flow from the Evaporation plant increased at the same time of the ambient TRS recorded at the Richardia station.</p>
312	<p>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.</p> <ul style="list-style-type: none"> • NB: RBCT and the Richards Bay Area predominant winds are North easterlies and South Westerlies. <p>The following controls were operational before and after the incident reported.</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <ul style="list-style-type: none"> • 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	<p>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.</p>

APPENDIX G

PM₁₀ EXCEEDANCE LOG

Table 1: PM₁₀ 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/m ³)	CBD	2025/08/29 0:00	47.0	26	3.5	No response required	None	2
2	PM ₁₀ Daily WHO Limit (45 µg/m ³)	CBD	2025/08/30 0:00	68.0	233	4.1	No response required	None	2
3	PM ₁₀ Daily WHO Limit (45 µg/m ³)	CBD	2025/08/31 0:00	49.0	8	2.4	No response required	None	2
4	PM ₁₀ Daily WHO Limit (45 µg/m ³)	eSikhaleni	2025/08/28 0:00	49.0	29	2.1	No response required	None	2
5	PM ₁₀ Daily WHO Limit (45 µg/m ³)	eSikhaleni	2025/08/30 0:00	47.0	240	3.8	No response required	None	2
6	PM ₁₀ Daily WHO Limit (45 µg/m ³)	eSikhaleni	2025/08/31 0:00	49.0	11	2.4	No response required	None	2
7	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Felixton	2025/08/23 0:00	69.0	286	2.6	No response required	None	2
8	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Felixton	2025/08/28 0:00	47.0	57	2.8	No response required	None	2
9	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Felixton	2025/08/29 0:00	48.0	53	3.6	No response required	None	2
10	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Felixton	2025/08/30 0:00	63.0	239	3.7	No response required	None	2
11	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Felixton	2025/08/31 0:00	48.0	212	2.8	No response required	None	2
12	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/01 0:00	51.0	213	6.2	No response required	None	2
13	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/04 0:00	46.0	19	4.5	No response required	None	2
14	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/21 0:00	53.0	255	3.4	No response required	None	2
15	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/23 0:00	46.0	280	2.8	No response required	None	2
16	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/25 0:00	52.0	27	3.8	No response required	None	2
17	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/27 0:00	47.0	29	3.3	No response required	None	2
18	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/28 0:00	54.0	24	2.8	No response required	None	2
19	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/30 0:00	66.0	228	4.2	No response required	None	2
20	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Richardia	2025/08/31 0:00	51.0	334	3	No response required	None	2
21	PM ₁₀ Daily RSA Limit (75 µg/m ³)	Scorpio	2025/08/05 00:00	149	24	6.6	Bush Fire	Bush Fire	14
22	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Scorpio	2025/08/05 00:00	149	24	6.6	No response required	None	2
23	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Scorpio	2025/08/28 0:00	57.0	18	2.7	No response required	None	2
24	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Scorpio	2025/08/29 0:00	55.0	29	3.8	No response required	None	2
25	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Scorpio	2025/08/30 0:00	71.0	229	3.8	No response required	None	2
26	PM ₁₀ Daily WHO Limit (45 µg/m ³)	Scorpio	2025/08/31 0:00	59.0	337	2.5	No response required	None	2

Table 2: PM₁₀ responses.

Response	Industry Feedback
2	No response required
14	RBCAA - Sandy Camminga responded (2025/08/06 11:52): The exceedance below is attributed to a bush fire in close proximity to the Scorpio station.

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/m ³)	Brackenham	2025/08/01 00:00	27.9	240	5.4	No response required	None	2
2	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/02 00:00	19.8	258	2.3	No response required	None	2
3	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/04 00:00	21.8	35	4.6	No response required	None	2
4	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/05 00:00	25.2	40	5.2	No response required	None	2
5	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/06 00:00	28.3	251	3.3	No response required	None	2
6	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/10 00:00	23.8	318	4.6	No response required	None	2
7	PM_{2.5} Daily RSA Limit (40 µg/m³)	Brackenham	2025/08/11 00:00	77.7	309	1.4	Fires	Fires	43, 44
8	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/11 00:00	77.7	309	1.4	No response required	None	2
9	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/13 00:00	22.1	33	3	No response required	None	2
10	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/14 00:00	21.7	40	2.9	No response required	None	2
11	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/15 00:00	21.0	48	3.2	No response required	None	2
12	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/19 00:00	26.1	32	3.9	No response required	None	2
13	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/20 00:00	18.3	200	2.8	No response required	None	2
14	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/21 00:00	25.3	278	2.7	No response required	None	2
15	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/22 00:00	29.2	17	2.2	No response required	None	2
16	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/23 00:00	32.6	334	1.5	No response required	None	2
17	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/25 00:00	33.4	44	3.2	No response required	None	2
18	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/26 00:00	21.1	204	3.4	No response required	None	2
19	PM_{2.5} Daily RSA Limit (40 µg/m³)	Brackenham	2025/08/28 00:00	52.1	36	2.4	Regional fires	Controlled cane burning	47, 53, 1
20	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/28 00:00	52.1	36	2.4	No response required	None	2
21	PM_{2.5} Daily RSA Limit (40 µg/m³)	Brackenham	2025/08/29 00:00	56.1	38	3.2	Cane fires	Cane fires	48, 54
22	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/29 00:00	56.1	38	3.2	No response required	None	2
23	PM_{2.5} Daily RSA Limit (40 µg/m³)	Brackenham	2025/08/30 00:00	81.3	249	3.8	Cane fires	Cane fires	49
24	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/30 00:00	81.3	249	3.8	No response required	None	2
25	PM_{2.5} Daily RSA Limit (40 µg/m³)	Brackenham	2025/08/31 00:00	56.1	14	2.2	Cane fires	Cane fires	50
26	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/31 00:00	56.1	14	2.2	No response required	None	2
27	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Brackenham	2025/08/27 00:00	31.4	46	2.8	No response required	None	2
28	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/01 00:00	28.0	234	5.3	No response required	None	2
29	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/04 00:00	21.0	31	3.9	No response required	None	2
30	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/05 00:00	22.0	47	4.8	No response required	None	2
31	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/06 00:00	20.0	238	4.2	No response required	None	2
32	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/10 00:00	22.0	317	3.5	No response required	None	2
33	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/11 00:00	20.0	229	2.3	No response required	None	2
34	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/13 00:00	20.0	52	2.8	No response required	None	2
35	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/14 00:00	18.0	57	2.7	No response required	None	2
36	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/15 00:00	19.0	52	3.4	No response required	None	2
37	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/19 00:00	22.0	150	3.7	No response required	None	2
38	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/21 00:00	29.0	244	2.9	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
39	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/22 00:00	24.0	260	2.8	No response required	None	2
40	PM_{2.5} Daily RSA Limit (40 µg/m³)	Felixton	2025/08/23 00:00	45.0	286	2.6	Local source	Sports/ festival event close to the monitoring station.	45, 46
41	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/23 00:00	45.0	286	2.6	No response required	None	2
42	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/25 00:00	26.0	58	3.8	No response required	None	2
43	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/26 00:00	17.0	189	3.7	No response required	None	2
44	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/27 00:00	27.0	46	3.7	No response required	None	2
45	PM_{2.5} Daily RSA Limit (40 µg/m³)	Felixton	2025/08/28 00:00	45.0	57	2.8	Regional fires	Controlled cane burning	47, 53, 1
46	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/28 00:00	45.0	57	2.8	No response required	None	2
47	PM_{2.5} Daily RSA Limit (40 µg/m³)	Felixton	2025/08/29 00:00	50.0	53	3.6	Regional fires	Controlled cane burning	48, 51, 54
48	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/29 00:00	50.0	53	3.6	No response required	None	2
49	PM_{2.5} Daily RSA Limit (40 µg/m³)	Felixton	2025/08/30 00:00	62.0	239	3.7	Regional fires	Controlled cane burning	49, 52
50	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/30 00:00	62.0	239	3.7	No response required	None	2
51	PM_{2.5} Daily RSA Limit (40 µg/m³)	Felixton	2025/08/31 00:00	48.0	212	2.8	Regional fires	Controlled cane burning	50
52	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Felixton	2025/08/31 00:00	48.0	212	2.8	No response required	None	2
53	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/04 00:00	24.0	25	5.4	No response required	None	2
54	PM_{2.5} Daily RSA Limit (40 µg/m³)	Harbour West	2025/08/05 00:00	45.0	24	6.6	Bush Fire	Bush Fire	42
55	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/05 00:00	45.0	24	6.6	No response required	None	2
56	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/13 00:00	16.0	23	4.2	No response required	None	2
57	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/15 00:00	16.0	36	3.7	No response required	None	2
58	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/23 00:00	20.0	299	2.1	No response required	None	2
59	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/25 00:00	19.0	40	3.9	No response required	None	2
60	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/27 00:00	22.0	29	3.7	No response required	None	2
61	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/28 00:00	38.0	18	2.7	No response required	None	2
62	PM_{2.5} Daily RSA Limit (40 µg/m³)	Harbour West	2025/08/29 00:00	41.0	29	3.8	Regional fires	Controlled cane burning	48, 54
63	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/29 00:00	41.0	29	3.8	No response required	None	2
64	PM_{2.5} Daily RSA Limit (40 µg/m³)	Harbour West	2025/08/30 00:00	48.0	229	3.8	Regional fires	Controlled cane burning	49
65	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/30 00:00	48.0	229	3.8	No response required	None	2
66	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Harbour West	2025/08/31 00:00	37.0	337	2.5	No response required	None	2
67	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/01 00:00	19.0	206	5.9	No response required	None	2
68	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/02 00:00	22.0	241	2.7	No response required	None	2
69	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/04 00:00	23.0	25	5.4	No response required	None	2
70	PM_{2.5} Daily RSA Limit (40 µg/m³)	Scorpio	2025/08/05 00:00	142.0	24	6.6	Bush Fire	Bush Fire	42
71	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/05 00:00	142.0	24	6.6	No response required	None	2
72	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/06 00:00	19.0	232	4.4	No response required	None	2
73	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/10 00:00	19.0	299	5	No response required	None	2
74	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/11 00:00	27.0	282	1.5	No response required	None	2
75	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/13 00:00	26.0	23	4.2	No response required	None	2
76	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/14 00:00	18.0	23	3.4	No response required	None	2
77	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/15 00:00	17.0	36	3.7	No response required	None	2
78	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/19 00:00	21.0	11	4.4	No response required	None	2
79	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/20 00:00	18.0	173	3.4	No response required	None	2
80	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/21 00:00	23.0	252	3.2	No response required	None	2
81	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/22 00:00	25.0	296	2.4	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/m ³)	Scorpio	2025/08/23 00:00	25.0	299	2.1	No response required	None	2
83	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/25 00:00	24.0	40	3.9	No response required	None	2
84	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/26 00:00	17.0	170	3.8	No response required	None	2
85	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/27 00:00	24.0	29	3.7	No response required	None	2
86	PM_{2.5} Daily RSA Limit (40 µg/m³)	Scorpio	2025/08/28 00:00	43.0	18	2.7	Regional fires	Controlled cane burning	47, 53, 1
87	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/28 00:00	43.0	18	2.7	No response required	None	2
88	PM_{2.5} Daily RSA Limit (40 µg/m³)	Scorpio	2025/08/29 00:00	44.0	29	3.8	Regional fires	Controlled cane burning	48
89	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/29 00:00	44.0	29	3.8	No response required	None	2
90	PM_{2.5} Daily RSA Limit (40 µg/m³)	Scorpio	2025/08/30 00:00	57.0	229	3.8	Regional fires	Controlled cane burning	49
91	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/30 00:00	57.0	229	3.8	No response required	None	2
92	PM_{2.5} Daily RSA Limit (40 µg/m³)	Scorpio	2025/08/31 00:00	44.0	337	2.5	Regional fires	Controlled cane burning	50
93	PM _{2.5} Daily WHO Limit (15 µg/m ³)	Scorpio	2025/08/31 00:00	44.0	337	2.5	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
42	RBCAA Allocation - Sandy Camminga (2025/08/07 00:04): "we can assume that PM exceedances recorded at Brackenham on northerly winds are related to fires, so please allocate as such."
43	RBCAA Allocation - Sandy Camminga (2025/08/11 17:49): (Allocation via RBCAA Whatsapp) Fire on Brackenham area on CoU property.
44	Mondi - Kira Cobbold responded, (2025/08/14 08:25): Mondi has investigated the following PM2.5 exceedance and based on wind direction is unlikely the source. The mill was operating under stable conditions at the time of the exceedance and all stack emissions were well within their compliance limits.
45	RBCAA Allocation - Sandy Camminga (2025/08/23 10:52): (Allocation via RBCAA Whatsapp) Traven Chetty and Maggie Odayar reported an Sport tournament happening next to the monitoring station; braaing activities were taking place.
46	Mondi - Kira Cobbold responded, (2025/08/25 12:55): Mondi has investigated the following PM2.5 exceedance and based on the south westerly wind direction and stack emissions within their compliance limits, Mondi is unlikely the source.
47	Mpact -Traven Chetty responded, (2025/09/01 13:02): Mpact has investigated this exceedance of pm2.5 on the 28th of August 2025. All process plant reports indicated stable conditions and no abnormalities to report. The wind direction is also not in favour of emissions from our plant. Based on this, Mpact is unlikely to be the source of this exceedance.
48	Mpact -Traven Chetty responded, (2025/09/02 14:52): We have investigated the exceedance for Pm2.5 on the 29th August 2025. All process reports indicate the plant was stable with no abnormalities. There were reports received of controlled cane burning within this area over the weekend which could be the source of this PM2.5 exceedances. It is unlikely that Mpact processes was the source of this.
49	Mpact -Traven Chetty responded, (2025/09/02 14:58): We have investigated the exceedance for PM2.5 on the 30th August 2025. All process reports indicate the plant was stable with no abnormalities. There were reports received of controlled cane burning within this area over the weekend which could be the source of this PM2.5 exceedances. It is unlikely that Mpact processes was the source of this.
50	Mpact -Traven Chetty responded, (2025/09/02 15:03): We have investigated the exceedance for PM2.5 on the 31th August 2025. All process reports indicate the plant was stable with no abnormalities to report. There were reports received of controlled cane burning within this area over the weekend which could be the source of this PM2.5 exceedances. It is unlikely that Mpact processes was the source of this.
51	Tongaat Hulett - Nicolas Govender responded (2025/09/02 15:59): Felixton : PM2,5 feedback, THS investigated the exceedance and operations were noted to be stable with abnormalities, therefore TH could have not contributed to the exceedance.
52	Tongaat Hulett - Nicolas Govender responded (2025/09/02 16:01): Felixton : PM2,5 feedback, THS investigated the exceedance and operations were noted to be stable with abnormalities, therefore TH could have not contributed to the exceedance.
53	Mondi - Kira Cobbold responded, (2025/09/04 08:41): Mondi has investigated the following PM2.5 exceedances and based on prevailing wind direction is unlikely the source.
54	Mondi - Kira Cobbold responded, (2025/09/04 08:43): Mondi has investigated the following PM2.5 exceedances and based on prevailing north easterly wind direction is unlikely the source.

APPENDIX I SO₂ EXCEEDANCE LOG

Table 1: SO₂ 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)	CBD	2025/08/06 00:00	22.7	240	4.6	No response required	None	2
2	SO ₂ Daily WHO Limit (15 ppb)	CBD	2025/08/07 00:00	17.4	232	3.7	No response required	None	2
3	SO ₂ Daily WHO Limit (15 ppb)	Harbour West	2025/08/09 00:00	16.3	16	4.4	No response required	None	2
4	SO ₂ Daily WHO Limit (15 ppb)	Harbour West	2025/08/10 00:00	21.1	299	5	No response required	None	2
5	SO ₂ Daily WHO Limit (15 ppb)	Harbour West	2025/08/13 00:00	16.4	23	4.2	No response required	None	2
6	SO ₂ Daily WHO Limit (15 ppb)	Harbour West	2025/08/18 00:00	19.5	25	5.2	No response required	None	2
7	SO ₂ Daily WHO Limit (15 ppb)	Harbour West	2025/08/29 00:00	16.3	29	3.8	No response required	None	2
8	SO ₂ Daily WHO Limit (15 ppb)	Scorpio	2025/08/04 00:00	34.5	25	5.4	No response required	None	2
9	SO ₂ Daily WHO Limit (15 ppb)	Scorpio	2025/08/05 00:00	33.5	24	6.6	No response required	None	2
10	SO ₂ Daily WHO Limit (15 ppb)	Scorpio	2025/08/09 00:00	21.4	16	4.4	No response required	None	2
11	SO ₂ Daily WHO Limit (15 ppb)	Scorpio	2025/08/10 00:00	17.2	299	5	No response required	None	2
12	SO ₂ Daily WHO Limit (15 ppb)	Scorpio	2025/08/13 00:00	20.3	23	4.2	No response required	None	2
13	SO ₂ Daily WHO Limit (15 ppb)	Scorpio	2025/08/19 00:00	18.8	11	4.4	No response required	None	2

Table 2: SO₂ Responses.

Response	Industry Feedback
2	No response required

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 ₂ S Limit (5.0 ppb)	CBD	2025/08/19 15:30	6.0	69	2.0	Mondi	Non-condensable Gas system	747
2	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 16:00	6.5	86	1.9	Mondi	Non-condensable Gas system	747
3	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 16:30	6.3	103	1.7	Mondi	Non-condensable Gas system	747
4	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 17:00	6.2	No data	0.9	Mondi	Non-condensable Gas system	747
5	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 17:30	5.9	228	5.4	Mondi	Non-condensable Gas system	747
6	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 18:00	5.2	225	5.1	Mondi	Non-condensable Gas system	747
7	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 18:30	5.1	226	5.2	Mondi	Non-condensable Gas system	747
8	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 19:30	5.2	231	5.5	Mondi	Non-condensable Gas system	747
9	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 20:00	5.7	229	5.4	Mondi	Non-condensable Gas system	747
10	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	CBD	2025/08/19 20:30	5.3	229	5.5	Mondi	Non-condensable Gas system	747
11	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	eSikhaleni	2025/08/04 07:00	6.6	63	1.4	Mondi	Methanol system (possible cause)	734, 736
12	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	eSikhaleni	2025/08/25 19:30	5.1	306	2.3	THS	Desludging process	752, 753
13	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	eSikhaleni	2025/08/31 21:00	8.0	334	0.3	Industry response required	Responded: THS	758, 1
14	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2025/08/31 21:10	11.0	343	0.3	Industry response required	Responded: THS	758, 1
15	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	eSikhaleni	2025/08/31 21:30	5.5	243	0.8	Industry response required	Responded: THS	758, 1
16	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/01 06:00	6.7	223	8.1	THS	Delko bets within the smuts plant	732, 733, 739
17	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/01 07:00	5.9	225	6.4	THS	Delko bets within the smuts plant	732, 733, 739
18	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/01 16:30	5.3	227	3.6	THS	Delko bets within the smuts plant	732, 733, 739
19	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/01 17:00	5.7	230	3.1	THS	Delko bets within the smuts plant	732, 733, 739
20	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/07 16:30	5.2	222	2.9	THS	Delko bets within the smuts plant	737, 738, 740
21	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/07 17:00	5.5	224	3.0	THS	Delko bets within the smuts plant	737, 738, 740
22	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/07 17:30	9.8	226	3.3	THS	Delko bets within the smuts plant	737, 738, 740
23	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/07 17:30	9.2	226	3.5	THS	Delko bets within the smuts plant	737, 738, 740
24	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/07 17:50	9.5	227	3.3	THS	Delko bets within the smuts plant	737, 738, 740
25	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/07 18:00	6.3	225	2.7	THS	Delko bets within the smuts plant	737, 738, 740
26	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/08 23:00	6.9	226	1.3	THS	Delko bets within the smuts plant	740, 741
27	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/08 23:20	14.6	228	1.4	THS	Delko bets within the smuts plant	740, 741
28	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/09 05:00	7.9	172	0.7	THS	Delko bets within the smuts plant	740, 742
29	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/09 05:20	17.9	159	0.6	THS	Delko bets within the smuts plant	740, 742
30	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/09 05:30	47.1	112	0.6	THS	Delko bets within the smuts plant	740, 742

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
31	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/09 05:30	36.3	144	0.5	THS	Delko bets within the smuts plant	740, 742
32	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/09 05:40	38.5	156	0.3	THS	Delko bets within the smuts plant	740, 742
33	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/09 05:50	23.3	162	0.6	THS	Delko bets within the smuts plant	740, 742
34	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/09 06:00	18.2	135	0.5	THS	Delko bets within the smuts plant	740, 742
35	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/09 06:00	11.9	158	0.6	THS	Delko bets within the smuts plant	740, 742
36	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/09 06:20	10.0	167	0.5	THS	Delko bets within the smuts plant	740, 742
37	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/10 15:30	6.8	225	5.1	THS	Delko bets within the smuts plant	743, 745, 748
38	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/10 16:00	7.4	224	4.4	THS	Delko bets within the smuts plant	743, 745, 748
39	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/10 16:30	6.7	227	4.0	THS	Delko bets within the smuts plant	743, 745, 748
40	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/11 19:00	5.3	222	0.9	THS	Delko bets within the smuts plant	744, 746, 749
41	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/11 19:20	9.7	217	0.7	THS	Delko bets within the smuts plant	744, 746, 749
42	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/11 19:30	12.3	216	0.8	THS	Delko bets within the smuts plant	744, 746, 749
43	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/11 19:30	8.7	235	1.6	THS	Delko bets within the smuts plant	744, 746, 749
44	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/28 06:20	10.2	203	0.9	Industry response required	Responded: Mpact	755, 1
45	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/30 13:30	5.1	223	5.8	Industry response required	Responded: Mpact & THS	756, 757
46	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/30 14:00	5.1	227	5.5	Industry response required	Responded: Mpact & THS	756, 757
47	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2025/08/31 05:00	11.9	104	0.4	Industry response required	Responded: THS	758, 1
48	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Felixton	2025/08/31 05:00	6.8	160	0.6	Industry response required	Responded: THS	758, 1
49	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/10 19:00	6.3	198	3.5	Mondi	Secondary Effluent Treatment Plant	748
50	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/11 08:00	5.6	197	1.5	Mondi	Secondary Effluent Treatment Plant	749
51	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/19 17:20	13.0	193	1.1	Mondi	Non-condensable Gas system	754
52	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 18:30	14.3	162	1.8	Mondi	Source of TRS unknown	750
53	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/22 18:30	23.2	168	1.6	Mondi	Source of TRS unknown	750
54	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 18:40	17.3	170	1.6	Mondi	Source of TRS unknown	750
55	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 18:50	38.0	173	1.5	Mondi	Source of TRS unknown	750
56	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 19:00	21.6	186	1.8	Mondi	Source of TRS unknown	750
57	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/22 19:00	18.1	190	1.9	Mondi	Source of TRS unknown	750
58	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 19:10	11.9	194	1.9	Mondi	Source of TRS unknown	750
59	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 19:20	20.9	190	2.1	Mondi	Source of TRS unknown	750
60	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 19:30	28.9	193	2.2	Mondi	Source of TRS unknown	750
61	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/22 19:30	20.9	202	2.0	Mondi	Source of TRS unknown	750
62	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 19:40	20.6	199	2.0	Mondi	Source of TRS unknown	750
63	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/22 19:50	13.1	215	1.9	Mondi	Source of TRS unknown	750
64	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/23 22:00	6.7	251	2.2	Mondi	Source of TRS unknown	751

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
65	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 21:00	14.4	201	1.4	Industry response required	None	1
66	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/31 21:00	34.9	194	1.2	Industry response required	None	1
67	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 21:10	53.6	195	1.2	Industry response required	None	1
68	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 21:20	36.8	183	1.0	Industry response required	None	1
69	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 21:30	35.6	194	1.6	Industry response required	None	1
70	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/31 21:30	33.8	No Data	1.1	Industry response required	None	1
71	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 21:40	38.1	210	1.5	Industry response required	None	1
72	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 21:50	27.6	No Data	0.1	Industry response required	None	1
73	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 22:00	26.1	No Data	0.7	Industry response required	None	1
74	TRS 30-minute WHO H ₂ S Limit (5.0 ppb)	Richardia	2025/08/31 22:00	18.7	220	1.6	Industry response required	None	1
75	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 22:10	18.8	219	1.6	Industry response required	None	1
76	TRS 10-minute OME Limit (9.3 ppb)	Richardia	2025/08/31 22:20	11.1	220	2.3	Industry response required	None	1

Table 2: TRS Responses

Response	Industry Feedback
1	Unresolved / No Response
732	Mpact -Traven Chetty responded, (2025/08/05 10:11): Mpact has conducted an investigation into the exceedance on the 01st August 2025. Our process plant reports show no abnormal activities and was running under stable conditions. The wind direction was also not in favour of Mpact. It is unlikely that Mpact was the source of this exceedance at Felixton station.
733	Mondi - Kira Cobbold responded, (2025/08/05 12:02): Mondi has investigated the exceedances at Felixton on 01/08 and based on the high wind speeds and south westerly wind direction Mondi is unlikely the source.
734	Mpact -Traven Chetty responded, (2025/08/06 14:35): Mpact has conducted an investigation into the exceedance on the 04th August 2025. Our process plant reports show no abnormal activities and was running under stable conditions. Furthermore, the wind direction was also not in favour of emissions from Mpact. It is unlikely that Mpact was the source of this exceedance at eSikhaleni station.
736	Mondi - Kira Cobbold responded, (2025/08/08 12:11): Mondi has investigated the following exceedance at eSikhaleni on 04/08 and based on the strong north easterly wind direction Mondi can be considered a potential source. The mill was stable at the time of the exceedance, and all stack emissions were within specification. Additionally, all Mondi monitoring stations remained on low TRS levels. Although no deviations were noted, a fluctuating positive pressure has been observed on the methanol system (pressure transmitter installed 28/07) which may be resulting in odour escaping via small leaks. The odour abatement task team continues to meet and investigate possible root cause with the intention to address findings as soon as possible.
737	Mondi - Kira Cobbold responded, (2025/08/08 12:21): Mondi has investigated the following exceedances and based on south westerly wind direction is unlikely the source. The mill was stable, and stack emissions were well within compliance limits.
738	Mpact -Traven Chetty responded, (2025/08/11 10:16): We have investigated this matter and our process plant shift reports indicated that the plant was running well and under stable conditions on 07th of August 2025, there was no abnormal activities taking place. Based on our investigations and the wind direction as indicated below, it is unlikely that Mpact would have contributed to this exceedance at the Felixton station.
739	Tongaat Hulett - Nicolas Govender responded (2025/08/11 18:53): Please allocate these to TH, we have been experiencing issues with the Delko bets within the smuts plant. Lines 2953 to 2957
740	Tongaat Hulett - Nicolas Govender responded (2025/08/12 08:18): Please allocate these exceedances TH, the Delko belts have been experiencing challenges in the Smuts plant.
741	Mpact -Traven Chetty responded, (2025/08/12 15:03): We have investigated this matter and our process plant shift reports indicated that the plant was running well and under stable conditions on 08th of August 2025, there was no abnormal activities taking place. Based on our investigations and the wind direction as indicated below, it is unlikely that Mpact would have contributed to this exceedance at the Felixton station.
742	Mpact -Traven Chetty responded, (2025/08/12 15:09): Mpact has conducted an investigation into the exceedances on the 09st August 2025. Our process plant reports show no abnormal activities reported and it was running under stable conditions. It is unlikely that Mpact was the source of these exceedances at Felixton station.
743	Mpact -Traven Chetty responded, (2025/08/12 15:13): Mpact has conducted an investigation into these exceedances for the 10th of August 2025. Our process plant reports show no abnormal activities. Our processes were running under stable conditions. The wind direction is also not in favour of Mpact. It is unlikely that Mpact was the source of this exceedance at the Felixton station.
744	Mpact -Traven Chetty responded, (2025/08/12 15:35): We have investigated this exceedance at the felixton station for the 11th of August 2025. All our plant process reports indicate stable conditions were experienced and no abnormal conditions were reported. To further this, the wind direction which indicates a South westerly wind, is not in favour of emissions from Mpact. Therefore, it is unlikely that Mpact is the cause of this exceedance.
745	Tongaat Hulett - Nicolas Govender responded (2025/08/19 08:38): Kindly allocate the Felixton exceedances to TH, we have experienced issues with the filter belts which created high TSS in the smuts water.
746	Tongaat Hulett - Nicolas Govender responded (2025/08/19 08:39 & 08:40): Kindly allocate the Felixton exceedances to TH, we have experienced issues with the filter belts which created high TSS in the smuts water.
747	Mondi - Kira Cobbold responded, (2025/08/25 13:15): Mondi has investigated the TRS exceedances on 19/08/2025 which align with an odour complaint received at 17:20 in Veldenvlei, indicating Mondi as the likely source based on the wind direction shift to a south westerly. It was determined that the Recovery plant maintenance team was repairing a sealing water leak on one of the gas vacuum pumps. During the repair process the vacuum system tripped resulting in a loss of vacuum of the non-condensable gas system and release of odorous gases to atmosphere. The vacuum system was reinstated within 10 minutes. The full investigation report has been submitted to the RBCAA.
748	Mondi - Kira Cobbold responded, (2025/08/27 09:10): Mondi has investigated the following exceedances and based on wind direction is unlikely the source for the exceedances at Felixton. The wind direction does however indicate Mondi as a potential source for the exceedance at Richardia. This is confirmed by the elevated TRS levels recorded by the Mondi portable station. TRS stack emissions were within compliance limits however there was some instability within the mill which may have resulted in the release of TRS from the SETP.

Response	Industry Feedback
749	Mondi - Kira Cobbold responded, (2025/08/27 09:32): Mondi has investigated the exceedances at Felixton on 11/08 and is unlikely the source due to wind direction. For the exceedance at Richardia, Mondi can be considered a potential source due to wind direction, coupled with lower wind speeds, and the increased TRS levels recorded at Mondi Hytec, Portable and Alton stations. Due to some instability surrounding the mill at the time, there is a potential that TRS was released from the SETP, contributing to the lingering odour plume.
750	Mondi - Kira Cobbold responded, (2025/08/27 10:21): Mondi has investigated the exceedances at Richardia on 22/08 and although wind direction was slightly off, Mondi can be considered a potential contributing source. Increased TRS levels were recorded by the Mondi portable station from 18:30 (time of first exceedance). No further deviations were noted during the time of the exceedances, with stack emissions being well within their compliance limits. Therefore, no exact root cause could be identified, especially for the magnitude of the exceedances, however Mondi can still be considered a potential contributing source based on elevated TRS levels and wind direction recorded.
751	Mondi - Kira Cobbold responded, (2025/08/27 10:40): Mondi has investigated the following TRS exceedance at Richardia on 23/08 and based on wind direction and elevated TRS recorded at Mondi Alton and Portable stations, can be considered a potential source. Stack emissions were within compliance limits, and no further deviations were noted. No exact root cause could be determined in this instance however the odour abatement task team continues to meet biweekly in order to drive improvements surrounding odour management at the mill.
752	Mpact -Traven Chetty responded, (2025/08/27 15:24): We have conducted an investigation into the exceedance at eSikhaleni station for the 25th August 2025. Our process plant reports show no abnormal activities and it was running under stable conditions. Based on the report below, the wind direction is not in favour of emissions from Mpact. It is unlikely that Mpact was the source of this exceedance.
753	Tongaat Hulett - Nicolas Govender responded (2025/08/28 07:44): Line 2964 – for TRS eSikhaleni may have been triggered by the TH desludging process at our Effluent treatment plant. Kindly allocate this to TH.
754	Mondi - Kira Cobbold responded, (2025/08/28 07:58): Mondi has investigated the TRS exceedance at Richardia on 19/08/2025 which aligns with an odour complaint received at 17:20 in Veldenvlei, indicating Mondi as the likely source based on the wind direction shift to a south westerly. It was determined that the Recovery plant maintenance team was repairing a sealing water leak on one of the gas vacuum pumps. During the repair process the vacuum system tripped resulting in a loss of vacuum of the non-condensable gas system and release of odorous gases to atmosphere. The vacuum system was reinstated within 10 minutes. The full investigation report has been submitted to the RBCAA.
755	Mpact -Traven Chetty responded, (2025/09/01 13:26): Mpact has investigated the exceedance for TRS on 28th August 2025. All process reports indicate the plant was running under stable conditions with no abnormalities to report. It is unlikely that Mpact has contributed to this exceedance of TRS at Felixton station.
756	Mpact -Traven Chetty responded, (2025/09/02 10:48): We have investigated this exceedance is regards to TRS on the 30th of August 2025. All process plant reports indicate our operations were stable with no abnormalities to report. Furthermore, the wind direction is not in support of emissions from Mpact. Therefore it is unlikely that Mpact is the source of this exceedance at the Felixton station.
757	Tongaat Hulett - Nicolas Govender responded (2025/09/02 16:06): THS investigated the exceedance, the effluent plant operations was stable with normal pH's and levels. Smuts plant and boiler operations was normal, therefore TH could have not contributed to the exceedance.
758	Tongaat Hulett - Nicolas Govender responded (2025/09/02 16:07 & 16:08): Kindly see response for Felixton exceedance, THS investigated the exceedance, the effluent plant operations was stable with normal pH's and levels. Smuts plant and boiler operations was normal, therefore TH could have not contributed to the exceedance. Kindly see response for Felixton and eSikhaleni exceedance, THS investigated the exceedance, the effluent plant operations was stable with normal pH's and levels. Smuts plant and boiler operations was normal, therefore TH could have not contributed to the exceedance.

