AIMS

Report

Monthly Air Quality

September 2026

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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 month under review. It aims to provide a detailed analysis of meteorology, particulate matter (PM_{10} and $PM_{2.5}$), sulphur dioxide (SO_2), and total reduced sulphur (TRS) levels measured by the RBCAA's 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. Dust fallout is monitored separately under the National Dust Control Regulations (GN R.827 of 2013) and is reported outside this document; it is therefore not assessed here.

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



Figure 1.1: RBCAA monitoring network.

The RBCAA monitoring network comprises eleven (11) primary monitoring stations (Figure 1.1 and Table 1.1). Airport and Felixton Met are meteorological stations, and Meerensee is a rain-gauge site; none of the three operates continuous air-quality analysers. The network also includes a secondary screening network comprising eleven (11) AirGradient monitors, the eleventh of which was commissioned at Scorpio on 18 August 2026; this network is reported separately in the monthly AirGradient report (Project 2026001 Report 027). Network operations, maintenance and calibration activity, recorded data interruptions and equipment status for the reporting period are reported in the operational report for September 2026 (Project 2026001 Report 025) and are not repeated here.

All timestamps are treated as time-beginning. Except for wind-rose outputs, data completeness is calculated from valid 10-minute records relative to the scheduled 10-minute intervals. Wind-rose valid data is calculated from valid hourly averages relative to scheduled hours; wind speeds below 1.0 m/s are classified as calm and excluded from directional-sector totals. Fixed clock-hour and calendar-day averages are used; rolling averages are not calculated. The secondary screening network is operated for indicative spatial screening only. Screening data are not assessed against the National Ambient Air Quality Standards in this report and are compiled and reported separately.

Table 1.1: Primary monitoring network station coordinates.

Station	Latitude	Longitude	Elevation (m)
Airport	-28.738161	32.093332	33.99
Arboretum	-28.752377	32.062791	25.20
Brackenham	-28.731325	32.039059	56.28
CBD	-28.744693	32.054851	32.26
eSikhaleni	-28.865278	31.911679	14.54
Felixton	-28.829255	31.893636	56.59
Meerensee	-28.772104	32.101308	14.89
Felixton Met	-28.836487	31.892513	27.87
Harbour West	-28.787297	32.027133	7.36
Richardia	-28.762769	32.066068	19.96
Scorpio	-28.769694	32.034282	29.39

2. METEOROLOGY

2.1. Data Completeness

Meteorological data completeness for September 2026, calculated from valid 10-minute records relative to scheduled 10-minute records, is shown in Table 2.1. Rainfall is assessed on a daily basis (30 days), because a 10-minute rainfall record is non-zero only when the gauge tips; a 10-minute count therefore measures logger uptime rather than rainfall recovery. Wind speed and wind direction are reported separately because they fail independently. The same figures are reported in Report 025, Table 2.6, and the recorded data interruptions are itemised in Report 025, Table 2.4.

Table 2.1: Meteorological data capture.

Station	Wind speed (%)	Wind direction (%)	Temperature (%)	RH (%)	Pressure (%)	SR (%)	Rain (%)
Airport	100.0	100.0	100.0	100.0	100.0	100.0	-
Arboretum	80.2	82.4	82.4	-	-	-	-
Brackenham	91.9	91.9	91.9	-	-	-	-
CBD	100.0	100.0	100.0	100.0	-	-	-
CBD Rain	-	-	-	-	-	-	100.0
eSikhaleni	97.0	97.0	97.0	97.0	-	-	-
Felixton Met	100.0	100.0	100.0	100.0	-	-	-
Harbour West	100.0	100.0	100.0	-	-	-	-
Meerensee Rain	-	-	-	-	-	-	96.7

Notes:

1. *Red – not acceptable for statistical purposes (<80%)*
2. *Orange – below the RBCAA SANAS-related reporting threshold (<90%)*
3. *Yellow – below the RBCAA operational target (<95%)*
4. *Grey – parameter not monitored at the station.*

Missing Data (Meteorology):

- *Arboretum recorded 80.2% (wind speed) and 82.4% (wind direction and temperature) data capture in September 2026, below the RBCAA SANAS-related reporting threshold (90%), owing to a logger PC failure (10 September 10:10 to 11 September 07:50) and power interruptions on 26 September (01:00–09:30, and from 23:17 until 1 October owing to vandalism); Arboretum wind speed lost a further 92 records flagged as insufficient samples at low wind speeds. Brackenham recorded 91.9%, below the RBCAA operational target (95%), owing to an Adam unit power-supply failure (15 September 01:30 to 17 September 11:30). eSikhaleni recorded 97.0% following the power failure that ended on 1 September at 21:20, and the Meerensee rain gauge recorded 96.7% (29 of 30 days). All other meteorological parameters achieved 100.0% (Report 025, Table 2.4).*

2.2. Wind Roses

The monthly wind rose (Figure 2.1) indicates that the wind was dominated by the N–NE sector (40.4%), with SW–WSW as the secondary component (24.8%). NE wind is generally associated with fair weather, while SW to WSW wind is typically linked to coastal lows, cold fronts, and less settled conditions. Valid data coverage decreased from 96.1% to 80.7%, which should be considered when comparing the periods. These directional frequencies identify transport sectors but do not, by themselves, establish the governing synoptic mechanism.

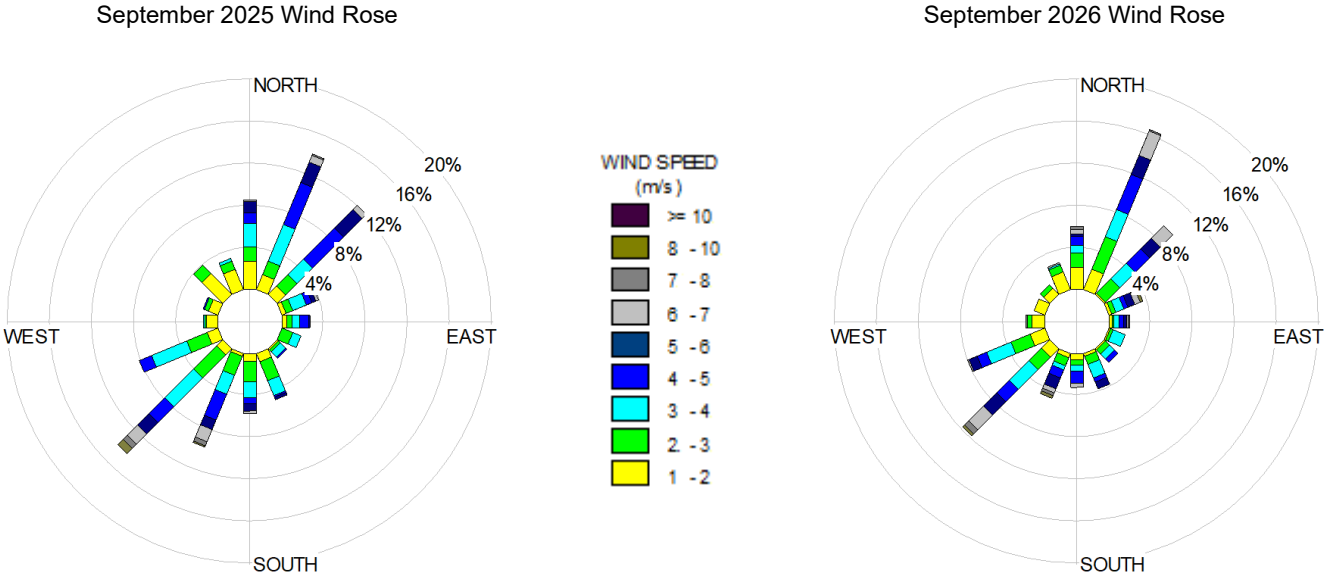
Typically, there is an increase in light (1 to 3 m/s) to moderate (3 to 6 m/s) wind from the NNW during periods that include autumn and winter conditions and the seasonal increase in fresh (6 to 8 m/s) to strong (> 8 m/s) N to NE wind during periods that include spring and early summer. Strong southerly 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 summer, which explains the slightly higher proportion of these winds. The preceding paragraph describes the general seasonal wind climatology of the Richards Bay area and is not derived from the September 2026 record.

The average wind speed in September 2026 was 3.6 m/s, compared with 3.5 m/s in September 2025, when N–NE (35.7%) and SSW–WSW (32.9%) were the dominant sectors. The north-easterly component therefore increased while the south-westerly component decreased, and calms increased from 0.0% in September 2025 to 2.4% in September 2026.

Diurnal wind roses for September 2026 are shown in Figure 2.2. Early-morning flow (00:00–05:59; 2.9 m/s) was almost equally divided between NNE–NE (37.2%) and SW–WSW (35.7%). Morning flow (06:00–11:59; 3.7 m/s) was dominated by N–NE (48.6%), with a secondary SSW–WSW component (31.7%). Afternoon flow (12:00–17:59) was dominated by NNE–E (48.6%), followed by S–SW (33.1%), and recorded the highest wind speed (4.5 m/s). Evening flow (18:00–23:59; 3.3 m/s) was predominantly N–NE (44.1%), while SSE and SW–WSW together contributed 38.6%. Calms ranged from 0.6% to 6.7%, with the highest proportion during the early morning. The average wind speed across the four periods was 3.6 m/s.

Valid data coverage ranged from 78.3% to 82.8% across the four periods (average 80.7%). The extent to which missing data affected the directional distributions has not been established; the wind roses should therefore be interpreted with this limitation in mind. Interpretation as sea-breeze or land-breeze circulation requires supporting meteorological evidence.

Arboretum



Period	Wind Speed	Dominant Sector 1		Dominant Sector 2		Calms	Valid Data
September 2025	3.5 m/s	N-NE	35.7%	SSW-WSW	32.9%	0.0%	96.1%
September 2026	3.6 m/s	N-NE	40.4%	SW-WSW	24.8%	2.4%	80.7%

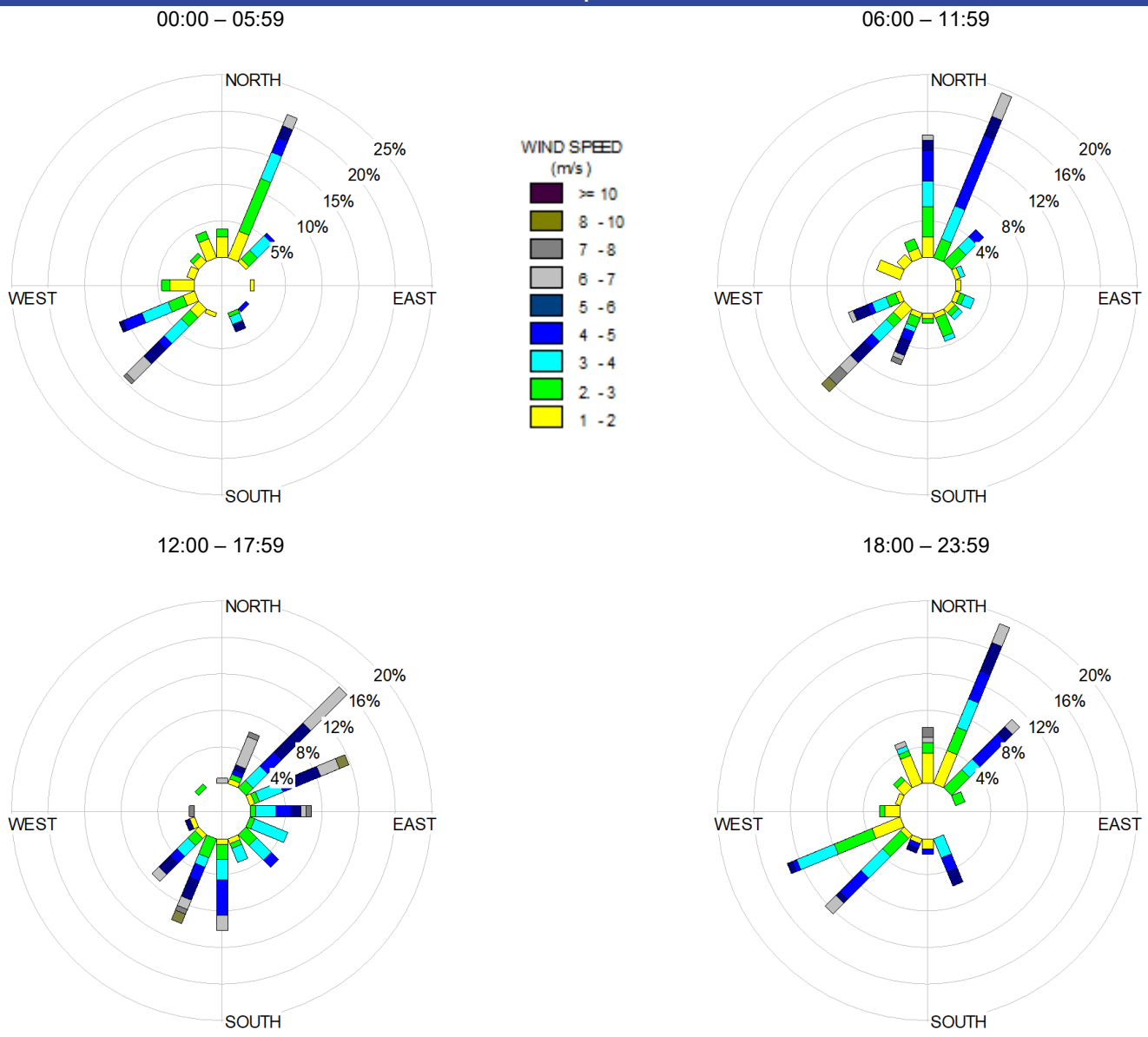
Figure 2.1: Wind roses – monthly.

Notes (Wind Roses):

Valid Data – an hour is counted as valid only where both wind speed and wind direction are present in the 1-hour average data; the denominator is the total possible hours in the period. Wind-speed and wind-direction availability are reported separately in Table 2.1.

Sector frequencies – expressed as a share of valid non-calm hours (wind speed ≥ 1.0 m/s). Dominant groupings are contiguous sectors, each exceeding 6.25%, ranked by combined share.

Arboretum – September 2026



Period	Wind Speed	Dominant Sector 1		Dominant Sector 2		Calms	Valid Data
00:00-05:59	2.9 m/s	NNE-NE	37.2%	SW-WSW	35.7%	6.7%	78.3%
06:00-11:59	3.7 m/s	N-NE	48.6%	SSW-WSW	31.7%	0.6%	79.4%
12:00-17:59	4.5 m/s	NNE-E	48.6%	S-SW	33.1%	0.6%	82.8%
18:00-23:59	3.3 m/s	N-NE	44.1%	SSE & SW-WSW	38.6%	1.7%	82.2%

Figure 2.2: Wind roses – diurnal.

2.3. Rainfall

Monthly rainfall totals measured at the reporting locations are presented in Table 2.2 and Figure 2.3 to Figure 2.8 (see Appendix E for tabulated rainfall data).

September rainfall ranged from 90 mm at South32 to 209 mm at RBCT, with a network average of 169 mm. The network average is calculated from the unrounded station totals.

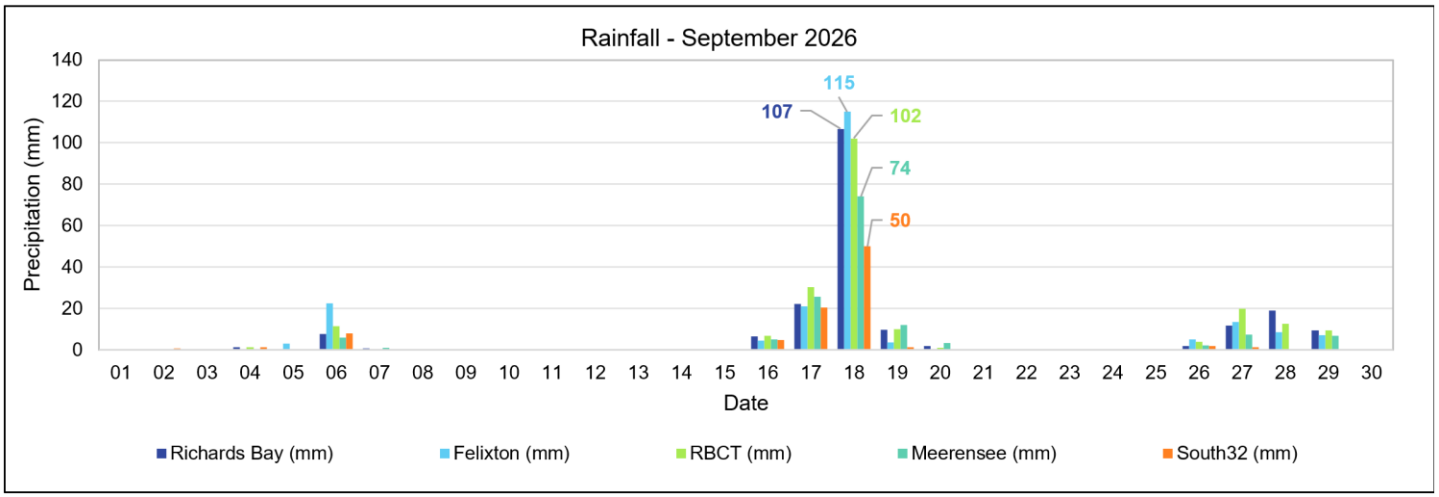


Figure 2.3: Rainfall.

Table 2.2: Rainfall – monthly totals and network average.

Month	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	Meerensee (mm)	South32 (mm)	Average (mm)
September 2026	199	204	209	145	90	169

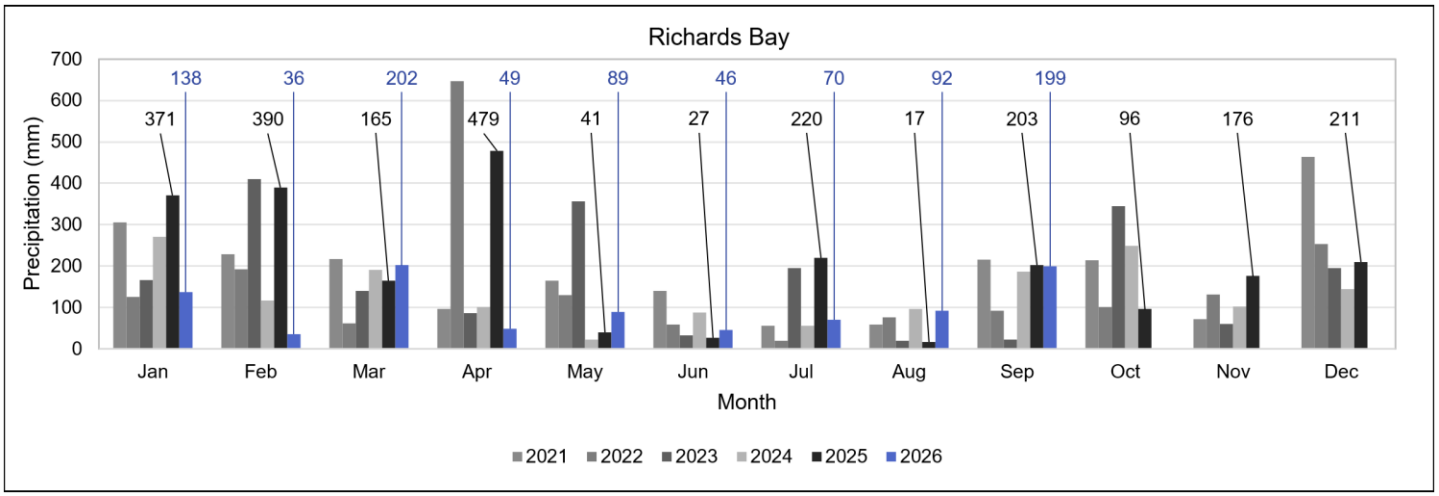


Figure 2.4: Rainfall – Richards Bay.

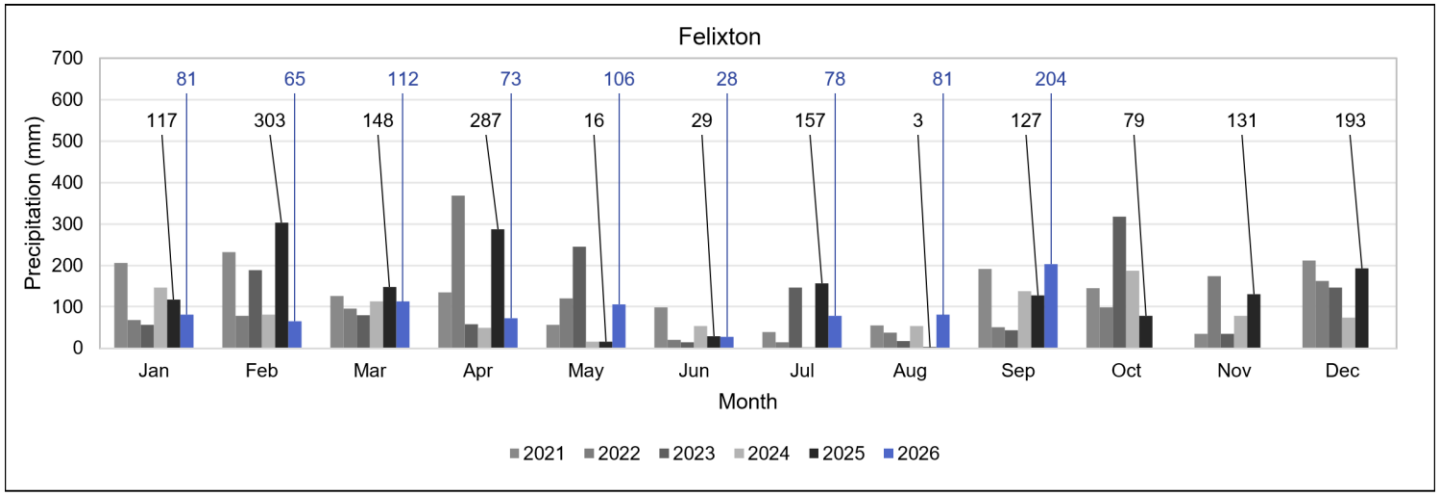


Figure 2.5: Rainfall – Felixton.

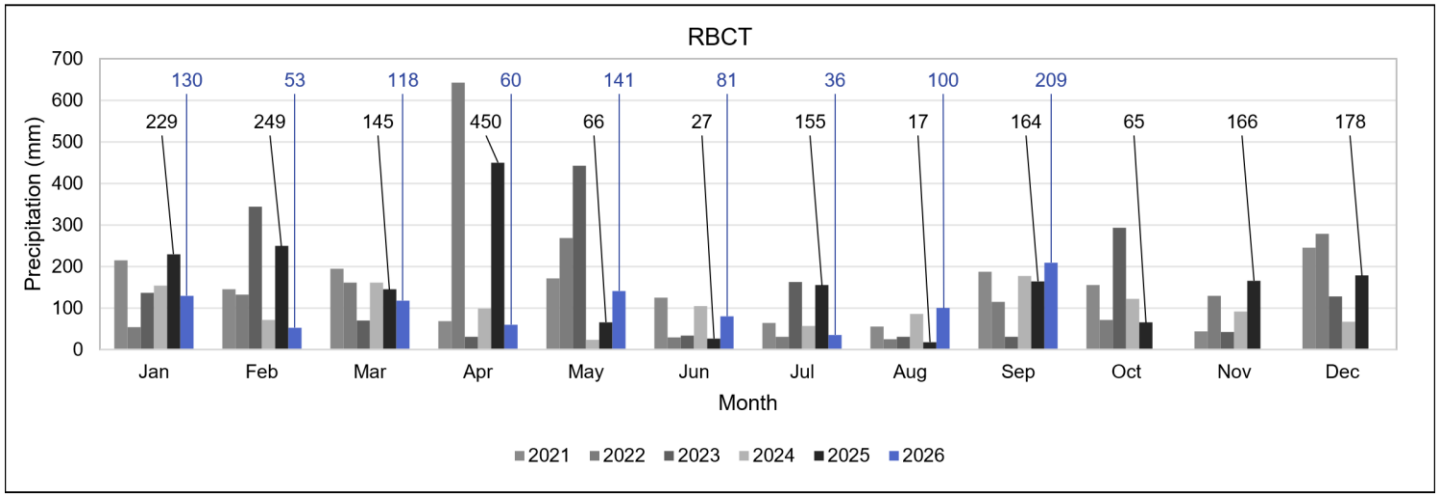


Figure 2.6: Rainfall – RBCT.

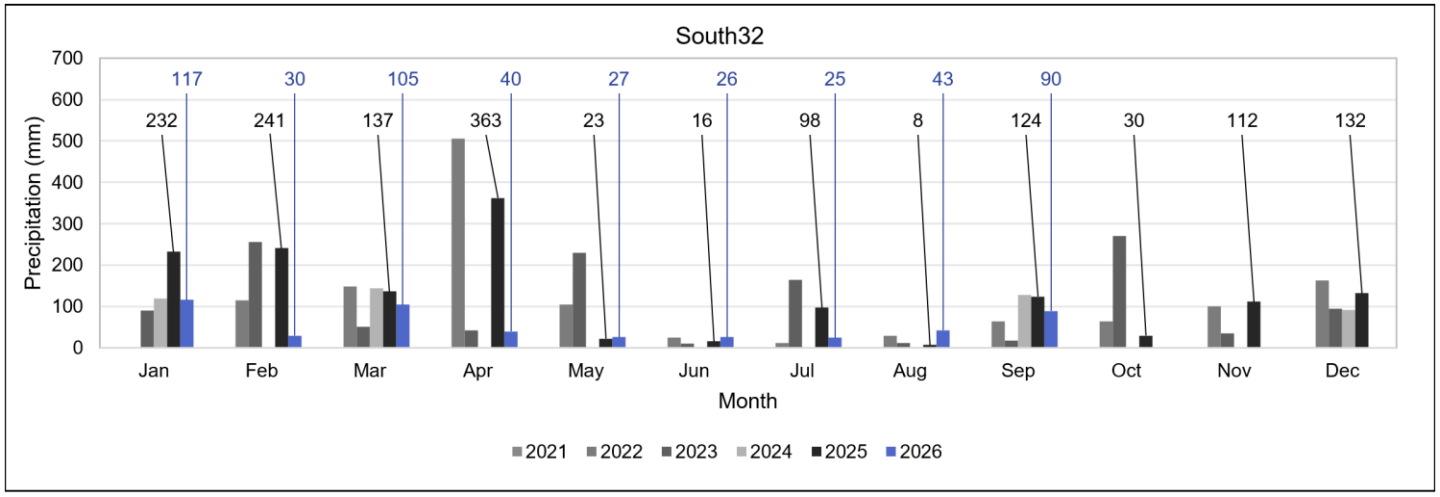


Figure 2.7: Rainfall – South32.

Note: South32 experienced rain-gauge data-quality issues in 2024.

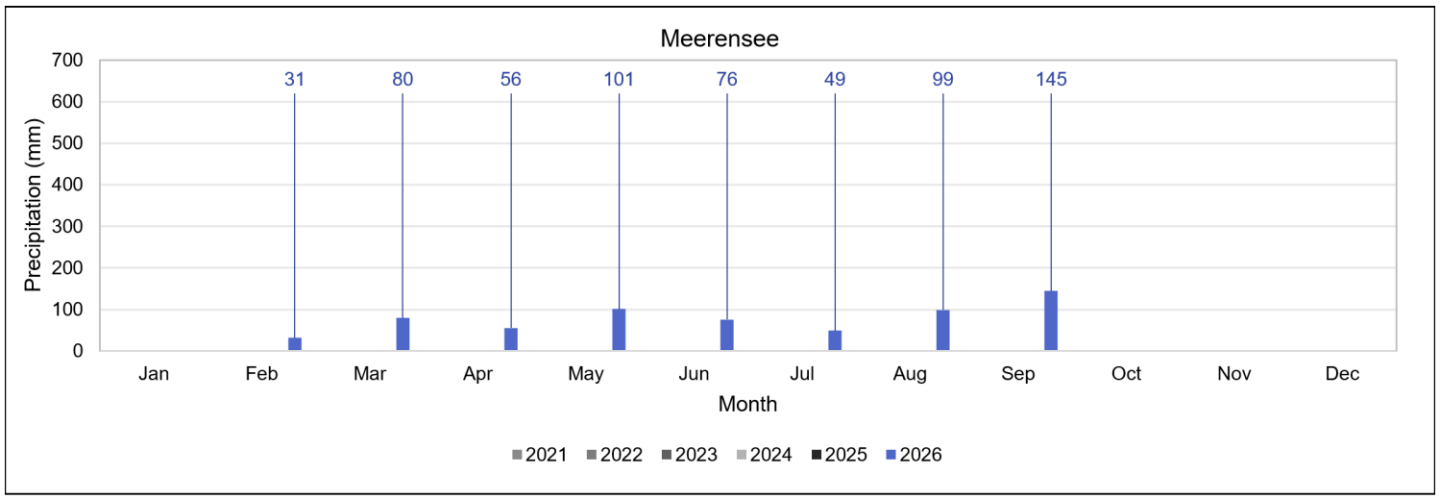


Figure 2.8: Rainfall – Meerensee.

Note: The Meerensee rain gauge was commissioned in February 2026.

3. AIR QUALITY COMPLAINTS

Detailed complaint records are maintained, updated, and distributed weekly to the RBCAA's complaints mailing list. The following sections summarise and analyse the complaints received during September 2026. Please see Appendix F for the complaints log. Abbreviations and defined terms used in this report are listed in Appendix A, and the quality-assurance basis for the reported data is set out in Appendix B.

3.1. Complaint Overview

Three (3) air quality complaints were received during September 2026, compared with thirty-nine (39) complaints logged in September 2025. The daily complaint count and monthly historical comparison are shown in Figure 3.1 and Figure 3.2.

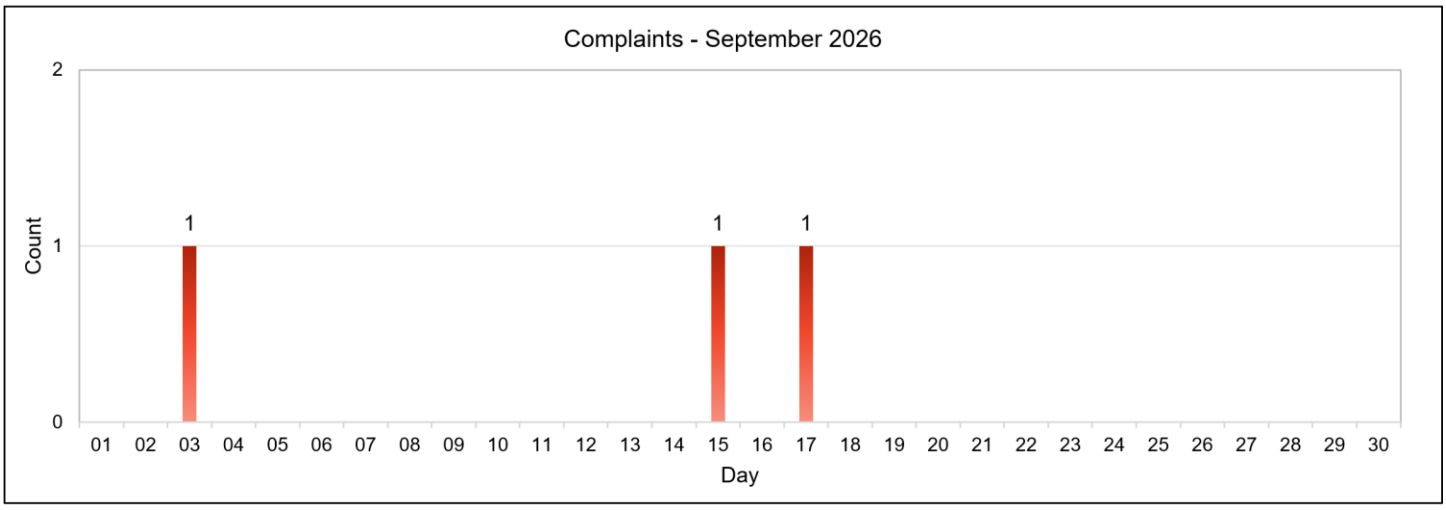


Figure 3.1: Complaints – daily.

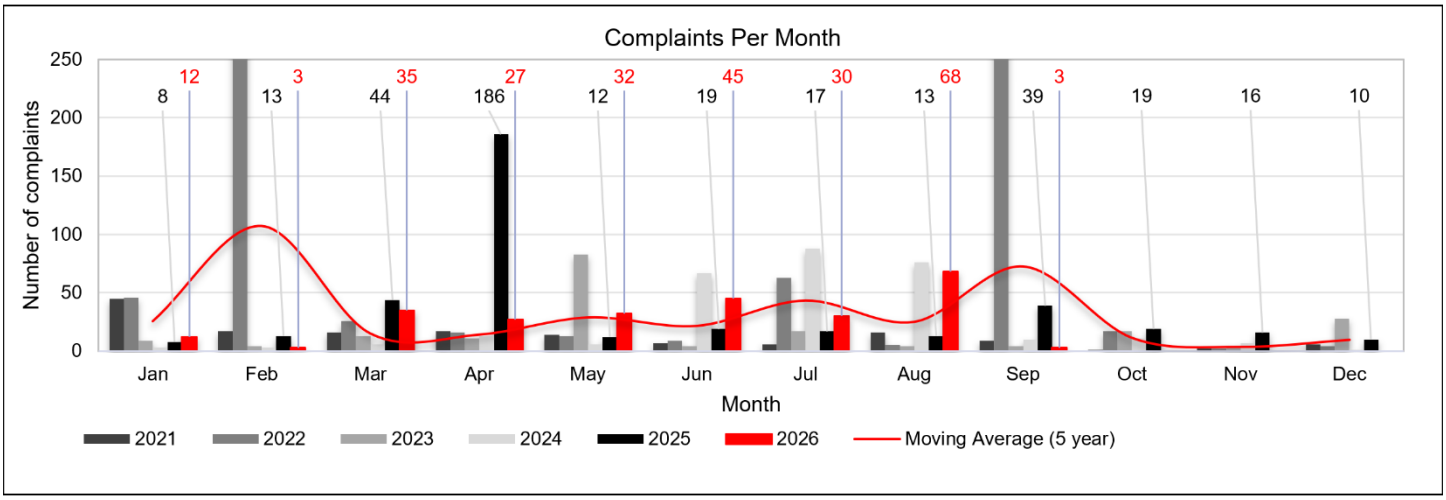


Figure 3.2: Complaints – historical monthly comparison.

3.2. Complaints Distribution

The distribution of complaints in September 2026 by region, type, and source is presented in Figure 3.3, Figure 3.4, and Figure 3.5.

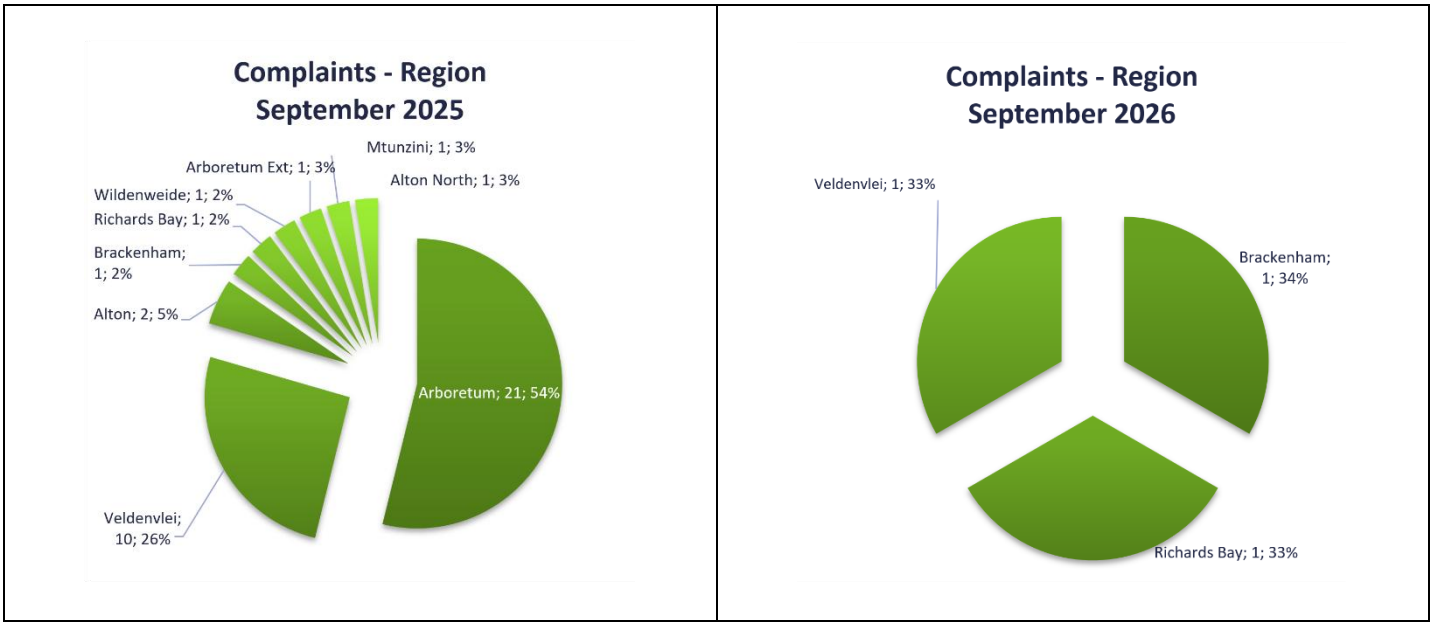


Figure 3.3: Complaints – region.

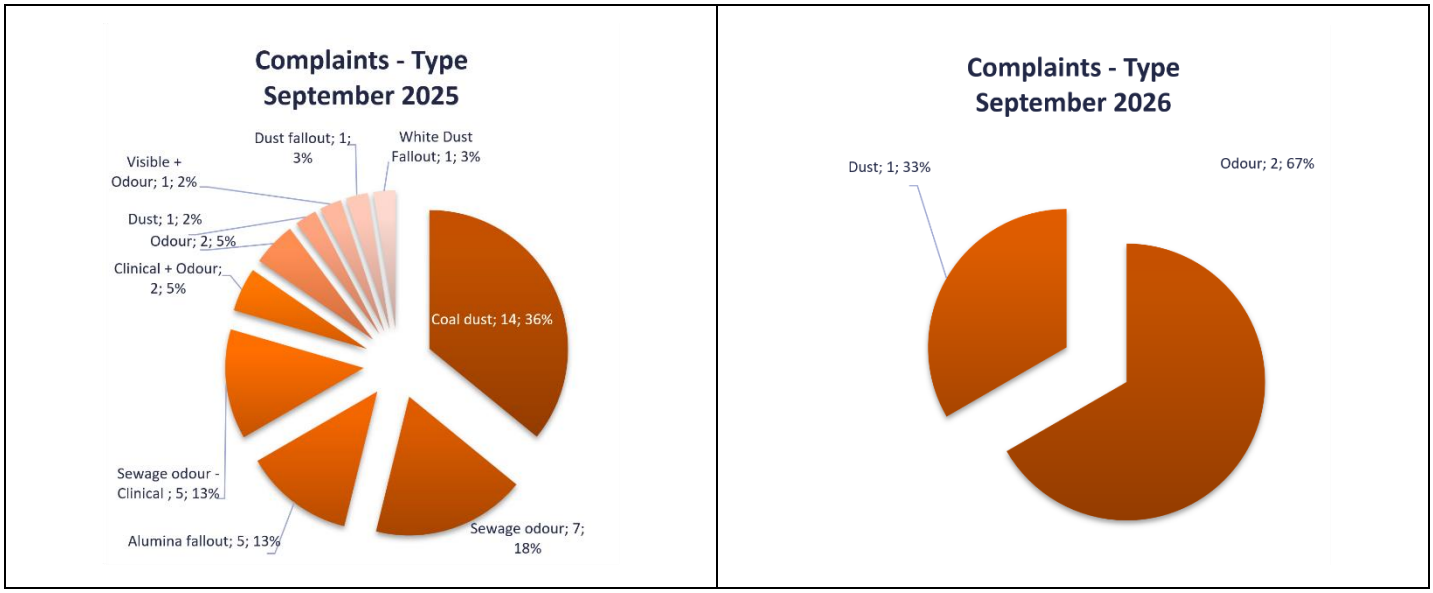


Figure 3.4: Complaints – type.

The complaints received were allocated as follows: Mondi (2, 66.7%) and Grindrod (1, 33.3%).

Complaint-source allocations reflect the best available assessment of timing, location, meteorology and operational information. They indicate a likely association and do not establish definitive causation.

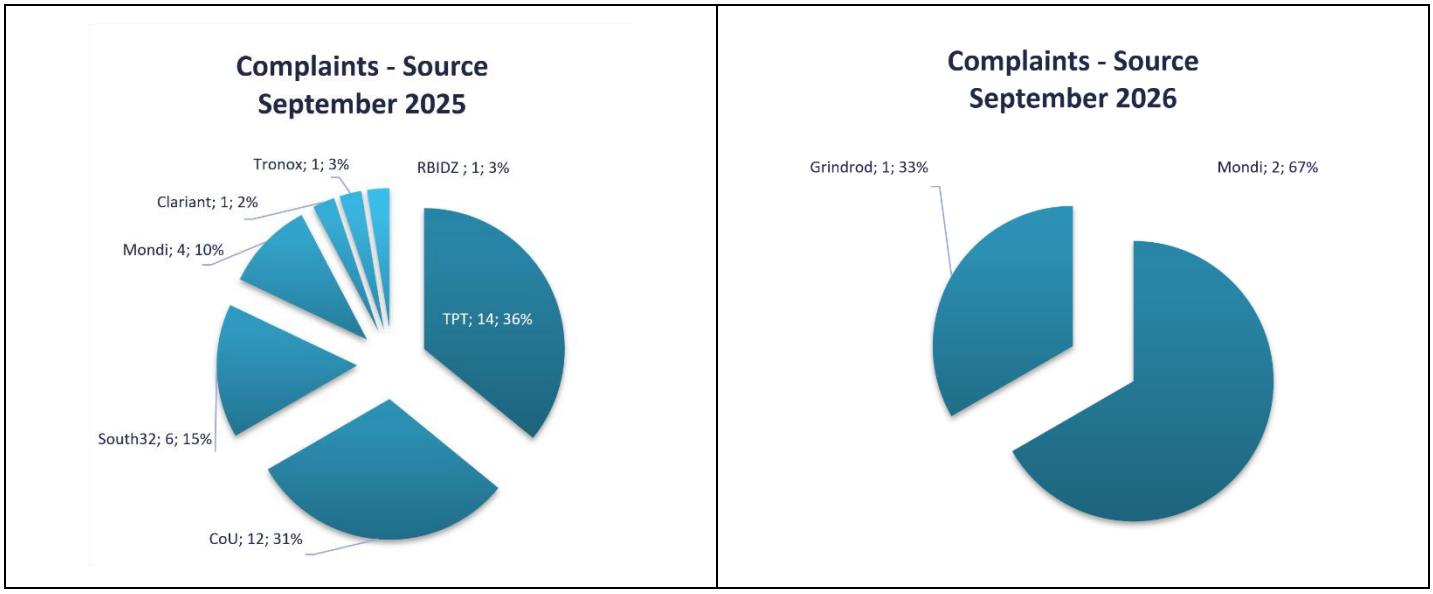


Figure 3.5: Complaints – source.

Table 3.1: Complaints – allocation, type, region.

Complaints – allocation, type, region	3
Grindrod	**1**
Dust	1
Richards Bay	1
Mondi	**2**
Odour	2
Brackenham	1
Veldenvlei	1

4. 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 subsequently form secondary PM. Particle size varies; for example, particles less than 10 micrometres (µm) in aerodynamic diameter are classified as PM_{10}, and particles less than 2.5 micrometres (µm) in aerodynamic diameter are classified as $PM_{2.5}$.

Inhalable particles, particularly $PM_{2.5}$, can penetrate deep into the respiratory system. Sustained exposure to high concentrations may therefore be associated with the following health effects:

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

At eSikhaleni and Richardia, particulate monitoring uses Tapered Element Oscillating Microbalance (TEOM) Series 140AB instruments. These derive from the TEOM Series 1400/1400a design covered by U.S. EPA equivalent method designation EQPM-1090-079 (Federal Register Vol. 55, p. 43406, 29 October 1990, as modified), which applies to PM_{10} only (Report 025, section 2). The Richardia TEOM was reconfigured from PM_{10} to $PM_{2.5}$ on 3 March 2026, so the designation does not extend to the $PM_{2.5}$ data reported for Richardia; those data are interpreted on the same indicative basis as the E-Sampler $PM_{2.5}$ data and remain subject to the RBCAA QA/QC controls, service and calibration status, data validation and site-specific operating conditions described below.

Brackenham, CBD, Felixton, Harbour West and Scorpio use Met One E-Sampler instruments for particulate monitoring. The Met One E-Sampler / ES-642 instrument model holds UK MCERTS product-conformity certificate CSA MC130241/06 (issued 29 July 2025, renewal date 10 December 2028) as an indicative ambient particulate monitor for PM_{10} and $PM_{2.5}$, subject to the certified instrument configuration and the conditions stated in the applicable certificate. (CSA Group Testing UK Ltd., 2025). The certificate defines a measurement uncertainty of ±50% for indicative instruments and makes site-specific calibration a condition of quantitative use; reported $PM_{2.5}$ 24-hour exceedance counts should be read with that uncertainty in mind. This certification is referenced as model-level supporting evidence only. It should not be interpreted as confirmation that every RBCAA unit, serial number, firmware version, installation configuration or operational period is individually covered by the certificate. The reported particulate data are therefore interpreted as indicative/operational ambient PM measurements and remain subject to RBCAA QA/QC controls, service and calibration status, data validation, site-specific operating conditions and, where required, comparability checks against reference or reference-equivalent methods.

4.1. Ambient Air Quality Standards

Ambient air quality standards for particulate matter are listed in Table 4.1.

Table 4.1: Particulate ambient air quality limits.

Organisation	Limit	PM_{10} 24-hour Average (µg/m³)	PM_{10} Annual Average (µg/m³)	$PM_{2.5}$ 24-hour Average (µg/m³)	$PM_{2.5}$ Annual Average (µg/m³)
RSA [a, d]	Standard	75 [b]	40 [c]	40 [b]	20 [c]
WHO [e]	Guideline	45 [c]	15 [c]	15 [c]	5 [c]

Notes:
a) Government Gazette 32816 (24 December 2009) in terms of the National Environmental Management: Air Quality Act No. 39 of 2004, effective from 2015 (RSA-NEMAQA, 2009).
b) Not to be exceeded more than four (4) times in one year.
c) Not to be exceeded.
d) Government Gazette 35463 (29 June 2012) in terms of the National Environmental Management: Air Quality Act No. 39 of 2004, effective 1 January 2016 to 31 December 2029; a subsequent standard of 25 µg/m³ (24-hour) and 15 µg/m³ (annual) applies from 1 January 2030 (RSA-NEMAQA, 2012).
e) World Health Organization global air quality guidelines, 2021, for the 24-hour and annual guideline values (WHO, 2021).

4.2. Data Completeness

PM data completeness for September 2026, calculated from valid 10-minute records relative to scheduled 10-minute records, is shown in Table 4.2.

Table 4.2: PM data capture.

Station	PM_{10} (%)	$PM_{2.5}$ (%)
Brackenham ES2	-	100.0
CBD ES1	99.9	-
eSikhaleni	96.7	-
Felixton ES1	100.0	-
Felixton ES2	-	98.8
Harbour West ES2	-	100.0
Richardia	n/m	100.0
Scorpio ES1	100.0	-
Scorpio ES2	-	100.0

Notes:
1. *Red – not acceptable for statistical purposes (<80%)*
2. *Orange – below the RBCAA SANAS-related reporting threshold (<90%)*
3. *Yellow – below the RBCAA operational target (<95%)*
4. *Grey – parameter not monitored at the station.*
5. *n/m – the Richardia TEOM was reconfigured from PM_{10} to $PM_{2.5}$ on 3 March 2026 (last valid PM_{10} record 2 March 2026 10:40), so PM_{10} is no longer monitored at Richardia.*

Missing Data (PM_{10} and $PM_{2.5}$):

- No day fell below 80% data capture; the lowest monthly $PM_{2.5}$ data capture was 98.8% at Felixton, and the lowest PM_{10} data capture was 96.7% at eSikhaleni. Individual record losses are itemised in Report 025, Table 2.4.

Scorpio – the Scorpio $PM_{2.5}$ record for September 2026 reports a monthly mean of 24 µg/m³ against a co-located PM_{10} monthly mean of 20 µg/m³, consistent with the previously recorded pattern in which the $PM_{2.5}$ 24-hour value exceeded the PM_{10} 24-hour value on 178 of 228 valid paired days from 1 February to 30 September 2026 (24 of 30 in September 2026). As $PM_{2.5}$ is a subset of PM_{10}, this indicates an instrument or calibration fault affecting one or both Scorpio

channels rather than a physical ambient condition. No direction of bias is asserted. The qualification was first recorded in the July 2026 report (Report 019, section 4.2). The 2026 annual service and calibration of the Scorpio E-Samplers SN B13480 (PM_{10}) and SN N7526 ($PM_{2.5}$), scheduled for February–March 2026, had not been carried out by 30 September 2026; SN N7526 was removed for service and calibration on 8 October 2026. A co-location test of E-Sampler SN C16773 against SN N7526 ran from 10 to 30 September 2026 (Report 025, section 2 and Table 4.1, items 6 and 7); its results will be evaluated in October 2026 and presented in the October 2026 report. Scorpio $PM_{2.5}$ values reported for September 2026 and year-to-date, including the associated exceedance counts, should be treated as provisional pending recalibration and instrument verification.

Instrument changes: the E-Sampler installations and removals during the reporting period are recorded in Report 025, section 2, and are not repeated here. Harbour West $PM_{2.5}$ was measured with the RBCAA spare E-Sampler SN E13528 from 5 August 2026 until 30 September 2026, when E-Sampler SN C16773 was reinstalled; SN C16773 operated at Scorpio from 10 to 30 September 2026 for the $PM_{2.5}$ co-location test. The September 2026 Harbour West $PM_{2.5}$ record is therefore not from a single instrument throughout the month.

4.3. Monthly Concentrations

Monthly mean PM_{10} concentrations were below the South African annual standard at all stations with sufficient September PM_{10} data. The WHO annual guideline value was exceeded at CBD, eSikhaleni, Felixton and Scorpio; this monthly comparison is indicative only and does not constitute an annual compliance determination (Figure 4.1). Comparisons to previous months are also provided (Figure 4.2).

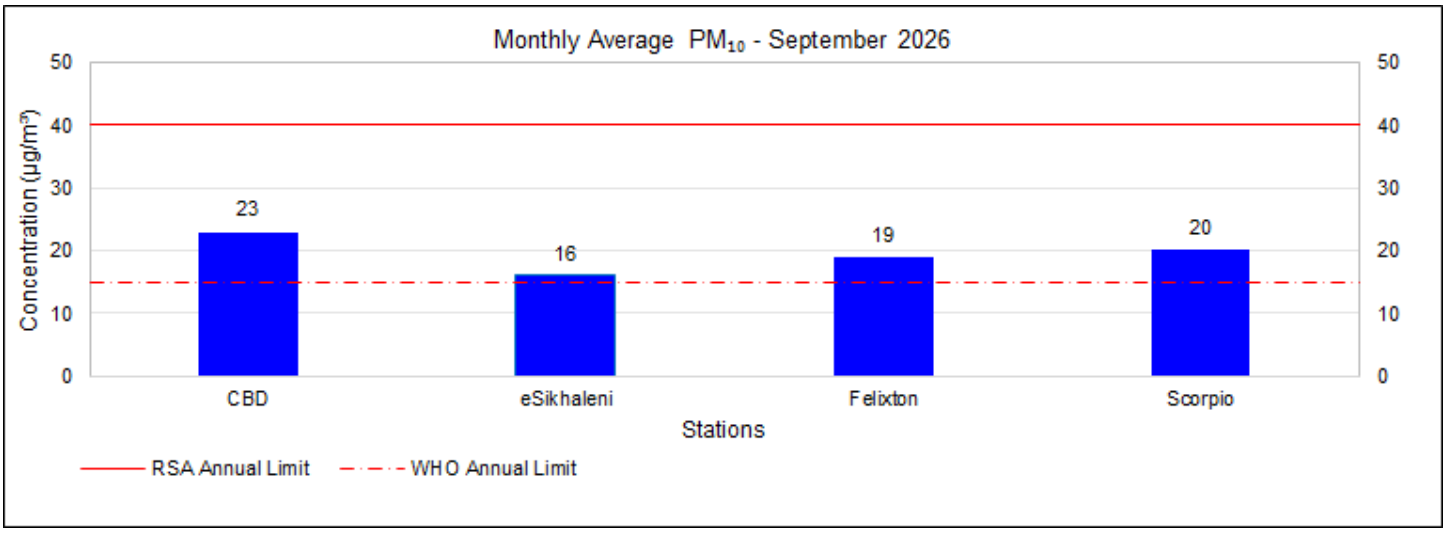


Figure 4.1: PM_{10} monthly concentrations.

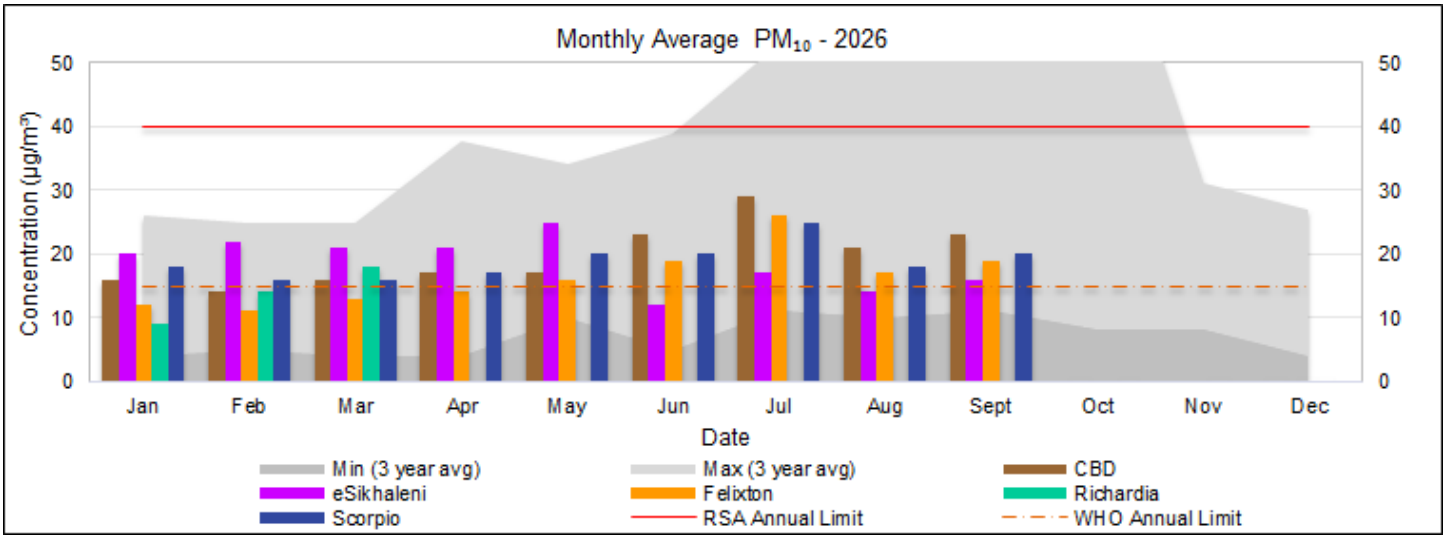


Figure 4.2: PM_{10} monthly comparison.

Monthly mean $PM_{2.5}$ concentrations exceeded the South African annual standard at Brackenham (23 µg/m³) and Scorpio (24 µg/m³). The WHO annual guideline value was exceeded at Brackenham, Felixton, Harbour West, Richardia and Scorpio; this monthly comparison is indicative only and does not constitute an annual compliance determination (Figure 4.3). Comparisons to previous months are also provided (Figure 4.4). Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.

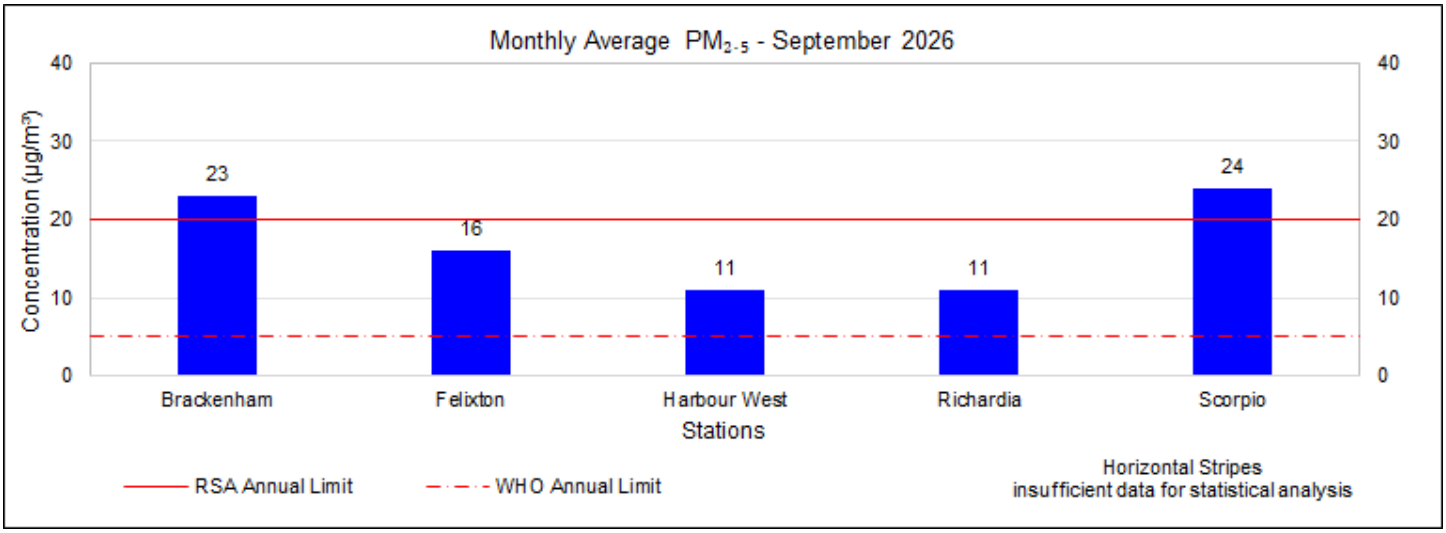


Figure 4.3: $PM_{2.5}$ monthly concentrations.

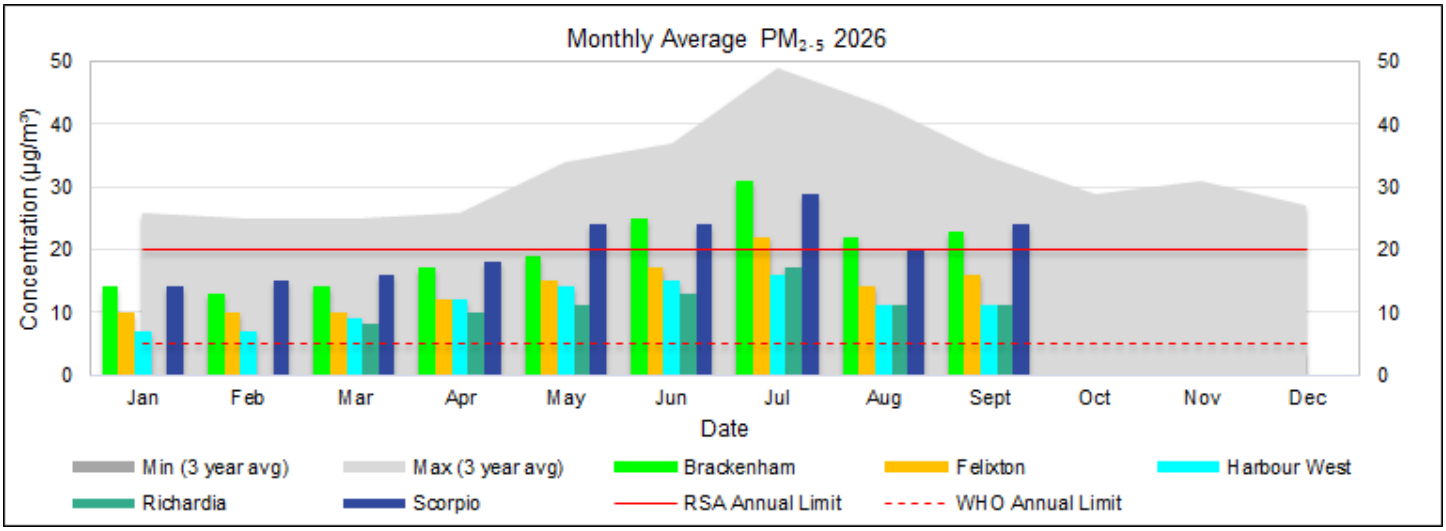


Figure 4.4: $PM_{2.5}$ monthly comparison.

4.4. Diurnal Concentrations

PM diurnal concentration profiles are shown in Figure 4.5 and Figure 4.6. The 24-hour values are included only as numerical visual references; hourly-of-day mean profiles cannot be used to determine 24-hour exceedances.

The PM_{10} hourly-of-day profile remained below the numerical value of the RSA and WHO 24-hour criteria; this is not a 24-hour exceedance determination.

The $PM_{2.5}$ hourly-of-day profile remained below the numerical value of the RSA 24-hour criterion.

The numerical value of the WHO 24-hour guideline was exceeded mainly at Brackenham and Scorpio, and at Felixton from around midday; this is not a 24-hour exceedance determination.

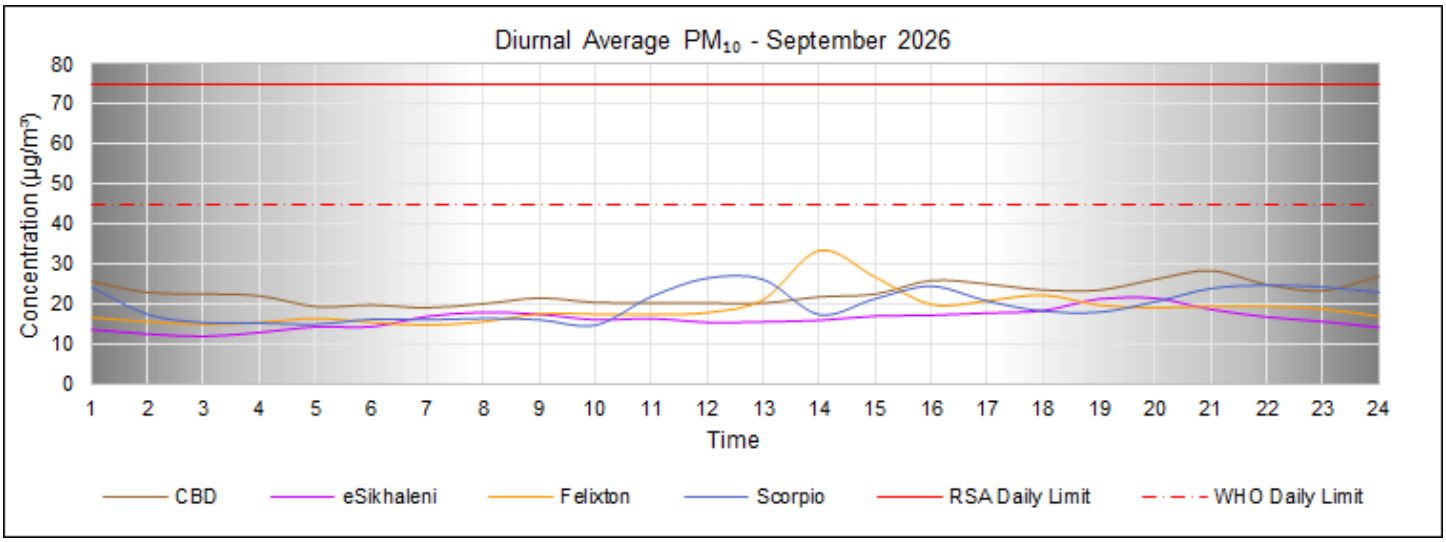


Figure 4.5: PM_{10} diurnal concentrations.

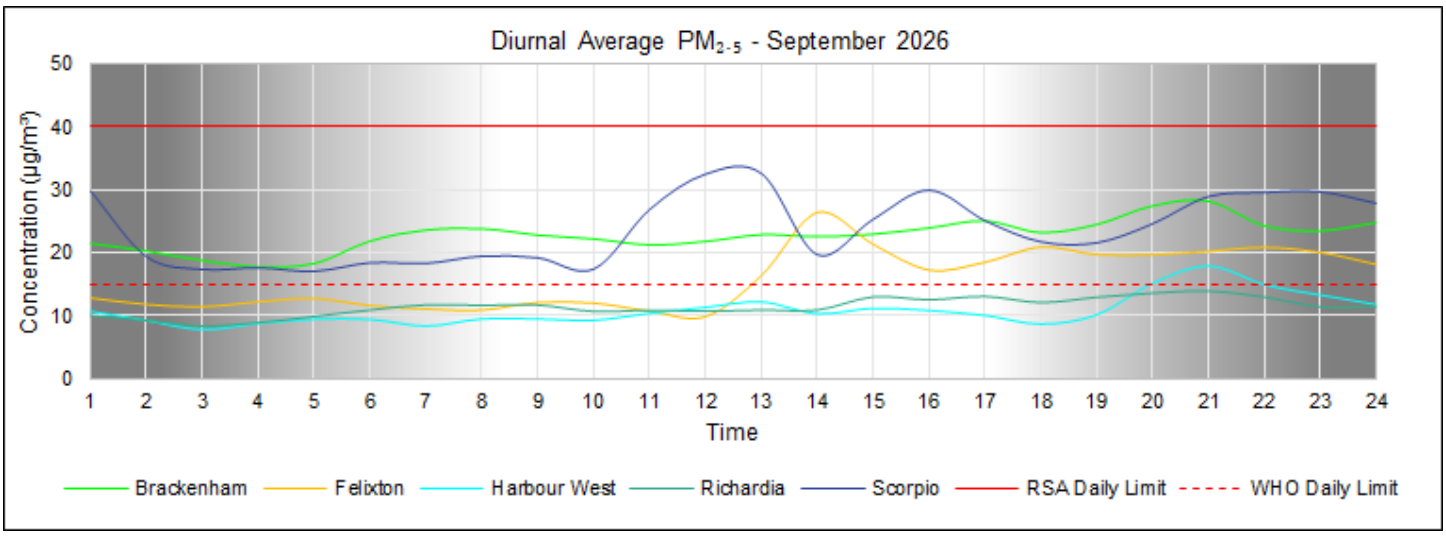


Figure 4.6: $PM_{2.5}$ diurnal concentrations.

4.5. 24-hour Concentrations

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

- No (0) measured exceedances of the RSA 24-hour standard (75 µg/m³); and
- Six (6) measured exceedance-days of the WHO 24-hour guideline (45 µg/m³).

Table 4.3: PM_{10} 24-hour exceedances.

PM_{10} 24-hour WHO Limit (45 µg/m³)	6
No response required	**6**
CBD	2
Felixton	2
Scorpio	2

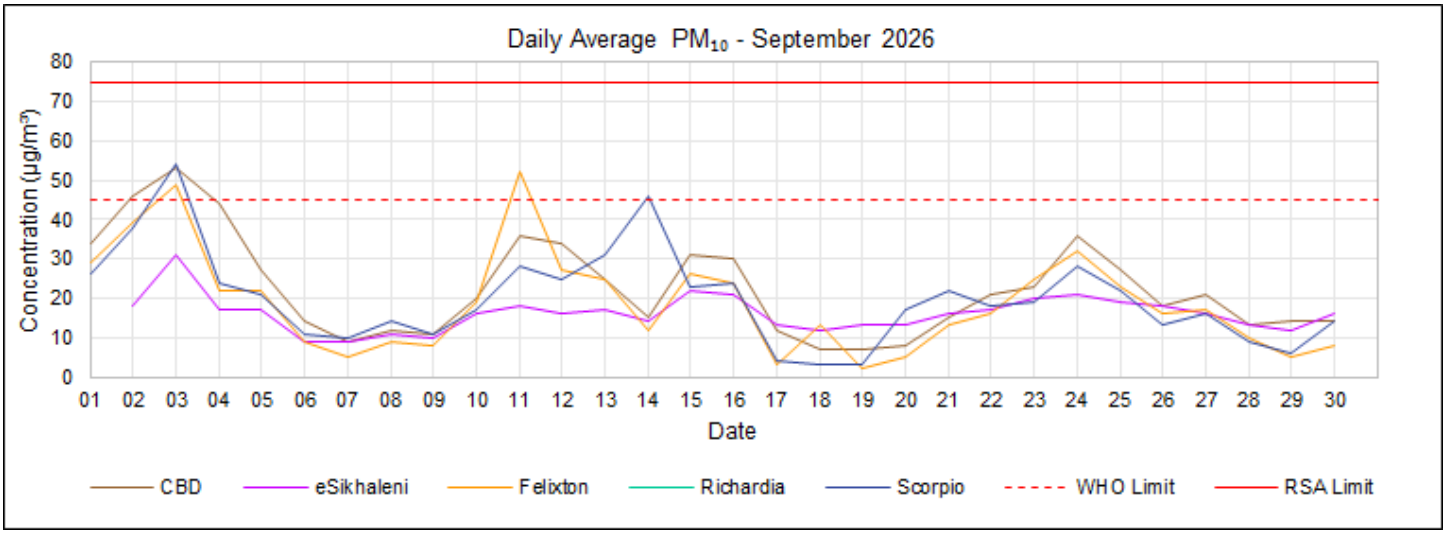


Figure 4.7: PM_{10} 24-hour average concentrations.

Missing Data (PM_{10}):

- eSk – 97% data capture (approximately 1 day of data lost); refer to section 4.2.

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

- Eight (8) measured exceedances of the RSA 24-hour standard (40 µg/m³); and
- Sixty-four (64) measured exceedance-days of the WHO 24-hour guideline (15 µg/m³).

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

$PM_{2.5}$ Daily RSA Limit (40 µg/m³)	**8**
THS	**1**
Process related	1
Felixton	1
Bushfire	**1**
bushfire	1
Scorpio	1
CoU wildfire	**1**
RBCAA allocation	1
Brackenham	1
Fire	**1**
RBCAA allocation	1
Brackenham	1
Unconfirmed source	**1**
RBCAA allocation	1
Felixton	1
CoU wildfire	**2**
RBCAA allocation	2
Scorpio	2
Fires - Meteorology	**1**
RBCAA allocation	1
Scorpio	1
$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	**64**
No response required	**64**
Brackenham	18
Felixton	13
Scorpio	21
Harbour West	5
Richardia	7

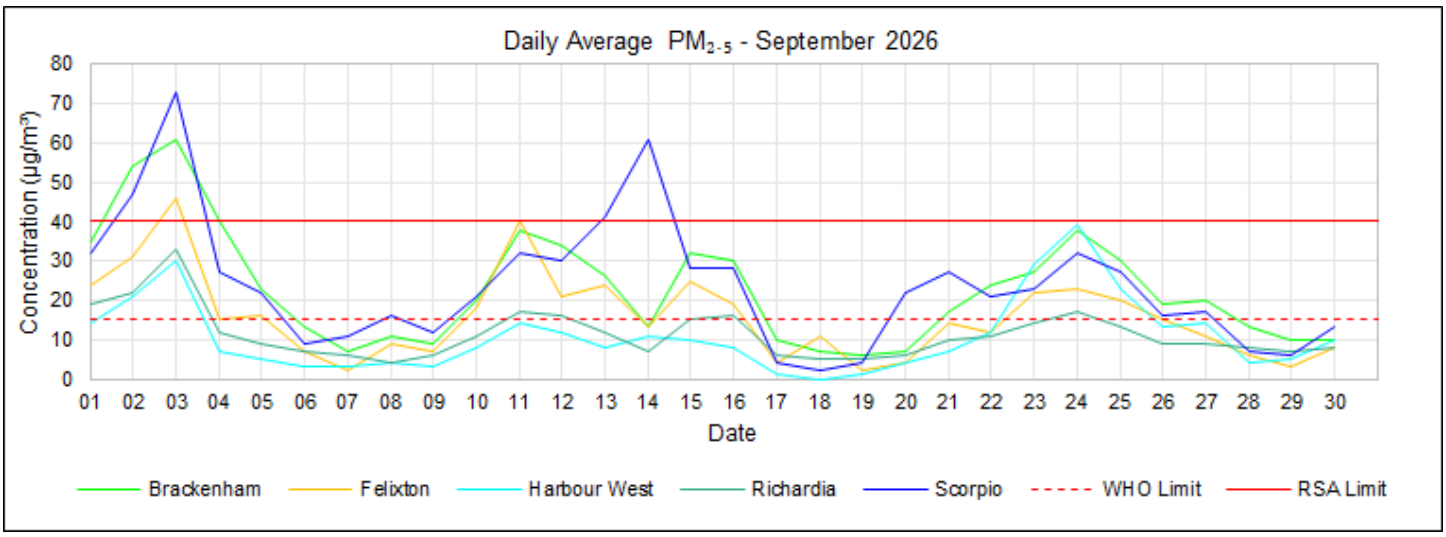


Figure 4.8: $PM_{2.5}$ 24-hour average concentrations.

Missing Data ($PM_{2.5}$):

- No day fell below 80% data capture (Report 025, Table 2.4).

4.6. Exceedances

The number of days on which exceedances occurred, together with comparisons to previous months for PM_{10} and $PM_{2.5}$ (see Appendix G for the PM_{10} exceedance log and Appendix H for the $PM_{2.5}$ exceedance log), is shown in Figure 4.9 and Figure 4.10. Summaries of PM_{10} and $PM_{2.5}$ exceedances by station are presented in Table 4.5 and Table 4.6, respectively. Where no exceedances were measured, no exceedance of the assessed criterion was identified for the reported averaging period and monitoring locations; this does not exclude unmonitored localised or shorter-duration impacts. Two distinct metrics are reported. An exceedance is a single averaging period whose value exceeds the criterion. An exceedance day is a calendar day at a given station on which one or more exceedances occurred, so multiple exceedances at that station within a day count once; station exceedance-day counts are therefore additive across stations. The figures in this section report exceedance days; the summary tables report exceedances.

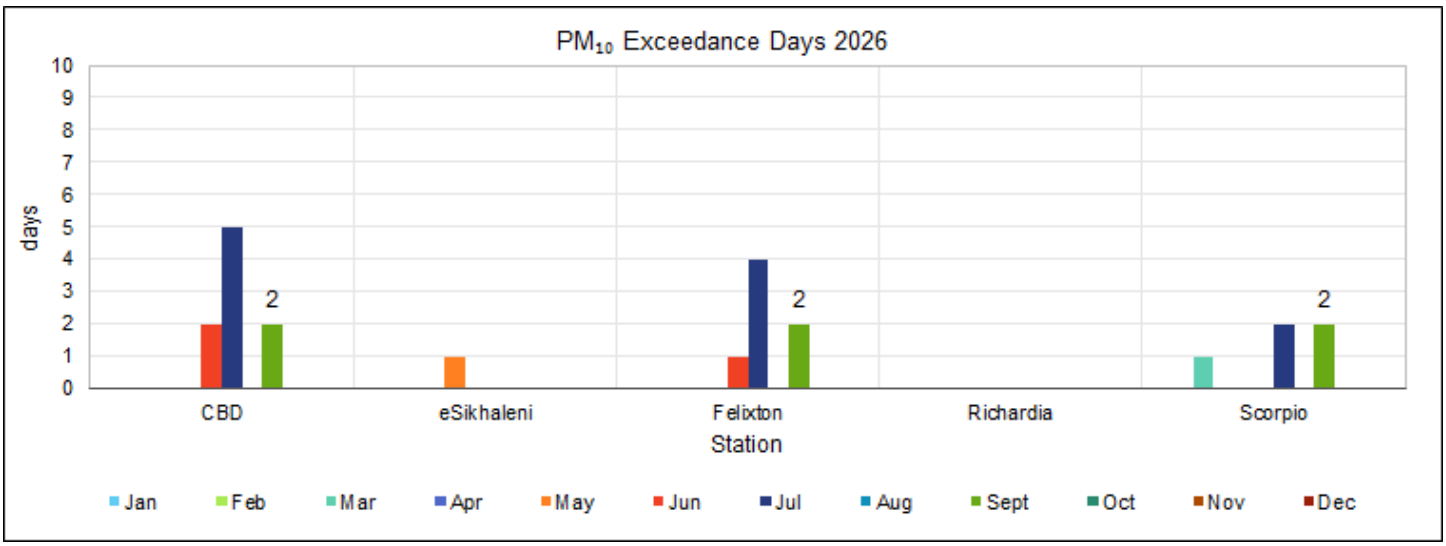


Figure 4.9: PM_{10} exceedance days.

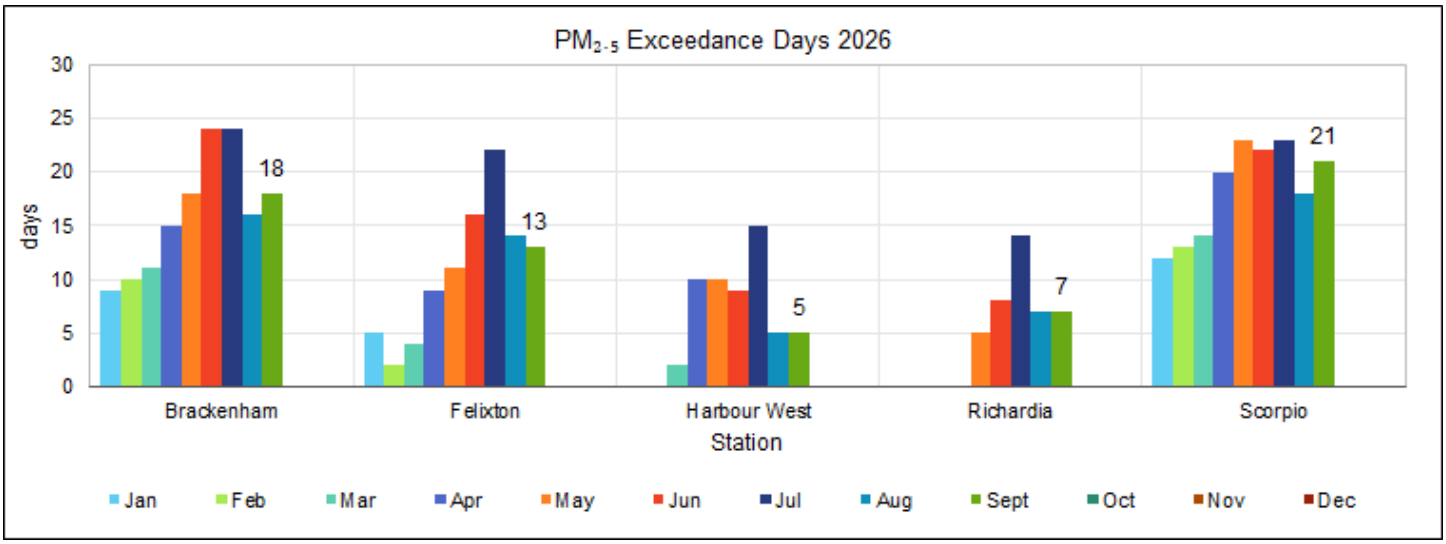


Figure 4.10: $PM_{2.5}$ exceedance days.

Table 4.5: PM_{10} exceedance summary.

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PM_{10} Daily RSA Limit (75 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	1	-	-	-	-	-	-	-	1
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	-	-	-	-	-	-	-	-	-	-	-	-	0
PM_{10} Daily WHO Limit (45 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	2	5	-	2	-	-	-	**9**
eSikhaleni	-	-	-	-	1	-	-	-	-	-	-	-	**1**
Felixton	-	-	-	-	-	1	4	-	2	-	-	-	**7**
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	-	-	1	-	-	-	2	-	2	-	-	-	**5**

Note: Richardia PM_{10} monitoring ceased on 2 March 2026 (last valid record 2 March 2026 10:40); shaded cells indicate periods in which no PM_{10} monitoring was undertaken, and the Richardia total is therefore a partial-year total. Brackenham does not operate a PM_{10} channel and is not listed.

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

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
$PM_{2.5}$ 24-hour RSA Limit (40 µg/m³)													
Brackenham	-	-	-	-	2	3	7	3	2	-	-	-	**17**
Felixton	-	-	-	-	1	1	3	-	2	-	-	-	**7**
Harbour West	-	-	-	-	-	-	1	-	-	-	-	-	1
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	-	-	1	-	3	3	6	2	4	-	-	-	**19**

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
$PM_{2.5}$ 24-hour WHO Limit (15 µg/m³)													
Brackenham	9	10	11	15	18	24	24	16	18	-	-	-	**145**
Felixton	5	2	4	9	11	16	22	14	13	-	-	-	**96**
Harbour West	-	-	2	10	10	9	15	5	5	-	-	-	**56**
Richardia	-	-	-	-	5	8	14	7	7	-	-	-	**41**
Scorpio	12	13	14	20	23	22	23	18	21	-	-	-	**166**

Note: Richardia $PM_{2.5}$ monitoring was commissioned in March 2026; dashes shown for January and February 2026 indicate that no monitoring was undertaken, whereas dashes at all other stations indicate that no exceedance was recorded. Richardia year-to-date totals are derived from a partial-year record and are not directly comparable with stations reporting a full record.

4.7. Conclusion

4.7.1. Monthly Air Quality (September 2026)

- Data completeness: PM_{10} and $PM_{2.5}$ data capture ranged from 96.7% to 100.0% (lowest PM_{10} at eSikhaleni, 96.7%).
- Regulatory (RSA NAAQS): No (0) exceedances of the PM_{10} 24-hour standard (75 µg/m³) were recorded.
- Eight (8) exceedances of the $PM_{2.5}$ 24-hour standard (40 µg/m³) were recorded across Brackenham (2), Felixton (2) and Scorpio (4), including one at Scorpio attributed to a bushfire.
- Health guidance (WHO): Six (6) exceedance-days of the PM_{10} WHO 24-hour guideline (45 µg/m³) were recorded across CBD (2), Felixton (2) and Scorpio (2).
- $PM_{2.5}$ recorded 64 exceedance-days of the WHO 24-hour guideline (15 µg/m³) across Brackenham (18), Felixton (13), Harbour West (5), Richardia (7), and Scorpio (21). Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.

4.7.2. Year-to-Date (2026 Calendar Year)

- Regulatory (RSA NAAQS; maximum four 24-hour exceedances/year): PM_{10} remained within the annual allowable exceedance frequency at all reporting stations, with one (1) exceedance recorded at eSikhaleni year-to-date. $PM_{2.5}$ exceeded the annual allowable frequency at Brackenham (17), Felixton (7) and Scorpio (19); Harbour West (1) and Richardia (0) remained within the allowance. Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.
- Health guidance (WHO): PM_{10} WHO 24-hour guideline exceedance-days totalled CBD (9), eSikhaleni (1), Felixton (7), and Scorpio (5) year-to-date. $PM_{2.5}$ WHO 24-hour guideline exceedance-days totalled Brackenham (145), Felixton (96), Harbour West (56), Richardia (41), and Scorpio (166) year-to-date. Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.

5. SULPHUR DIOXIDE MONITORING

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

SO_2 is associated with adverse respiratory effects because it is highly soluble and readily absorbed by the mucous membranes of the nose and upper respiratory tract. Exposure to high concentrations may result in the following:

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

5.1. Ambient Air Quality Standards

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

Table 5.1: SO_2 ambient air quality limits.

Organisation	Limit	10-minute Average	1-hour Average	24-hour Average	Annual Average
RSA [a]	SO_2 Standard	500 µg/m³ [b]	350 µg/m³ [c]	125 µg/m³ [d]	50 µg/m³ [e]
		191 ppb [b]	134 ppb [c]	48 ppb [d]	19 ppb [e]
WHO [f]	SO_2 Guideline	500 µg/m³	-	40 µg/m³	-
		191 ppb	-	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 Organization global air quality guidelines, 2021, for the 24-hour guideline value (WHO, 2021)*; the 10-minute guideline value is from the WHO air quality guidelines, global update 2005, and was not retained in the 2021 update* (WHO, 2005).
All ppb values are converted from the stated mass concentrations at 25 °C and 101.325 kPa using the molar mass of sulphur dioxide (64.07 g/mol).

5.2. Data Completeness

SO_2 data completeness for September 2026, calculated from valid 10-minute records relative to scheduled 10-minute records, is shown in Table 5.2.

Table 5.2: SO_2 data capture.

Station	SO_2 (%)
Arboretum	***81.9***
Brackenham	99.4
CBD	99.4
eSikhaleni	95.9
Felixton	99.4
Harbour West	99.4
Richardia	99.6
Scorpio	99.5

Notes:

1. *Red – not acceptable for statistical purposes (<80%)*
2. *Orange – below the RBCAA SANAS-related reporting threshold (<90%)*
3. *Yellow – below the RBCAA operational target (<95%)*

Missing Data (SO_2):

- Arb – 82% data capture (approximately 5 days of data lost), below the RBCAA SANAS-related reporting threshold (90%); logger PC failure (10 September 10:10 to 11 September 07:50) and power interruptions on 26 September (01:00–09:30, and from 23:17 until 1 October owing to vandalism) (Report 025, Table 2.4).
- eSk – 96% data capture (approximately 1 day of data lost); power failure (substation vandalism) until 1 September 21:20 and C&M calibration on 9 September (Report 025, Table 2.4).

Zero and span checks are performed weekly. The acceptance, adjustment and invalidation criteria are set out in Appendix B (Quality Assurance) and are reported, with the September 2026 results, in Report 025, section 2 and Table 2.3. Zero offsets falling in the adjustment band of those criteria (±2 to ±5 ppb) are applied to the affected datasets during data validation, in accordance with Appendix B; the concentrations reported in this section are therefore the validated, zero-corrected values, and no further zero-offset adjustment is applied at reporting.

5.3. Monthly Concentrations

The monthly mean SO_2 concentration was below the South African annual standard at all stations, ranging from 0.6 ppb at Felixton to 4.2 ppb at Scorpio; this monthly comparison is indicative only and does not constitute an annual compliance determination (Figure 5.1). Comparisons to previous months are also provided (Figure 5.2).

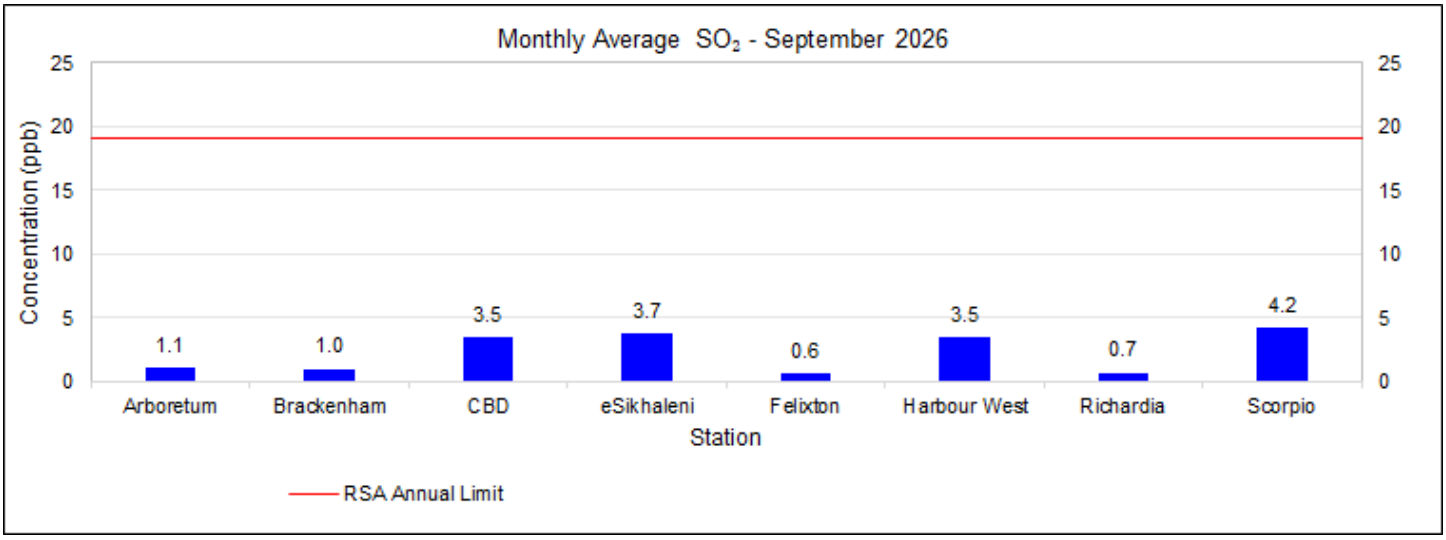


Figure 5.1: SO_2 monthly concentrations.

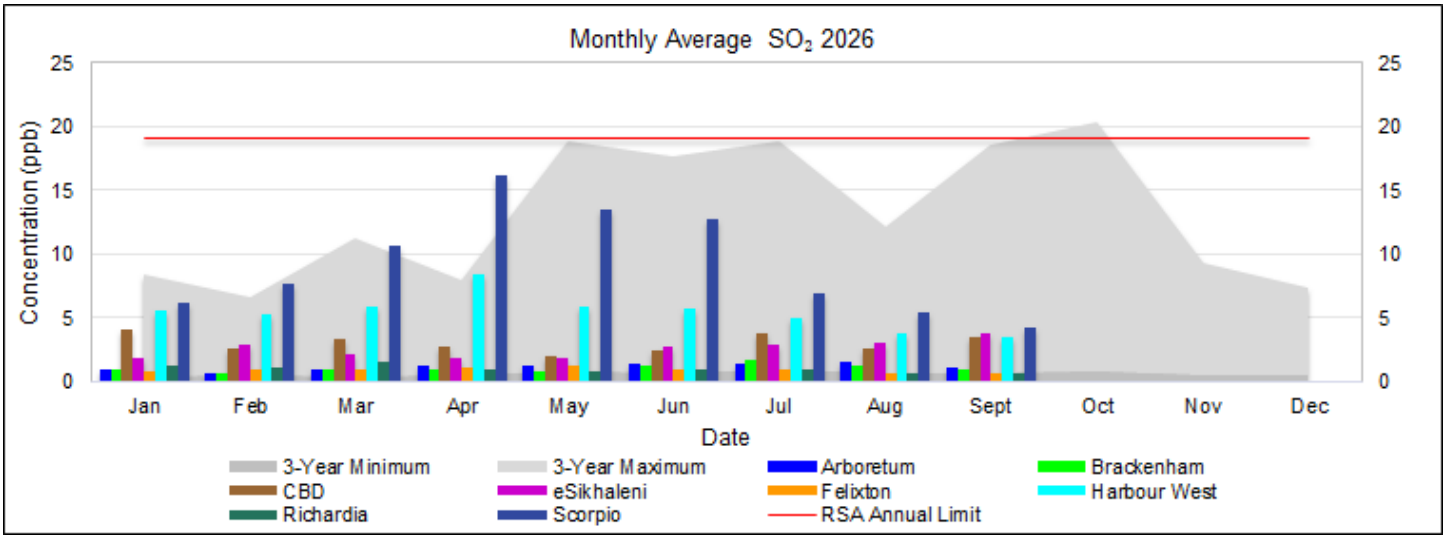


Figure 5.2: SO_2 monthly comparison.

5.4. Diurnal Concentrations

Diurnal SO_2 concentrations are shown below (Figure 5.3). The 24-hour values are included only as numerical visual references; hourly-of-day mean profiles cannot be used to determine 24-hour exceedances.

The SO_2 hourly-of-day profile remained below the numerical values of the RSA 24-hour criterion and the WHO 24-hour guideline.

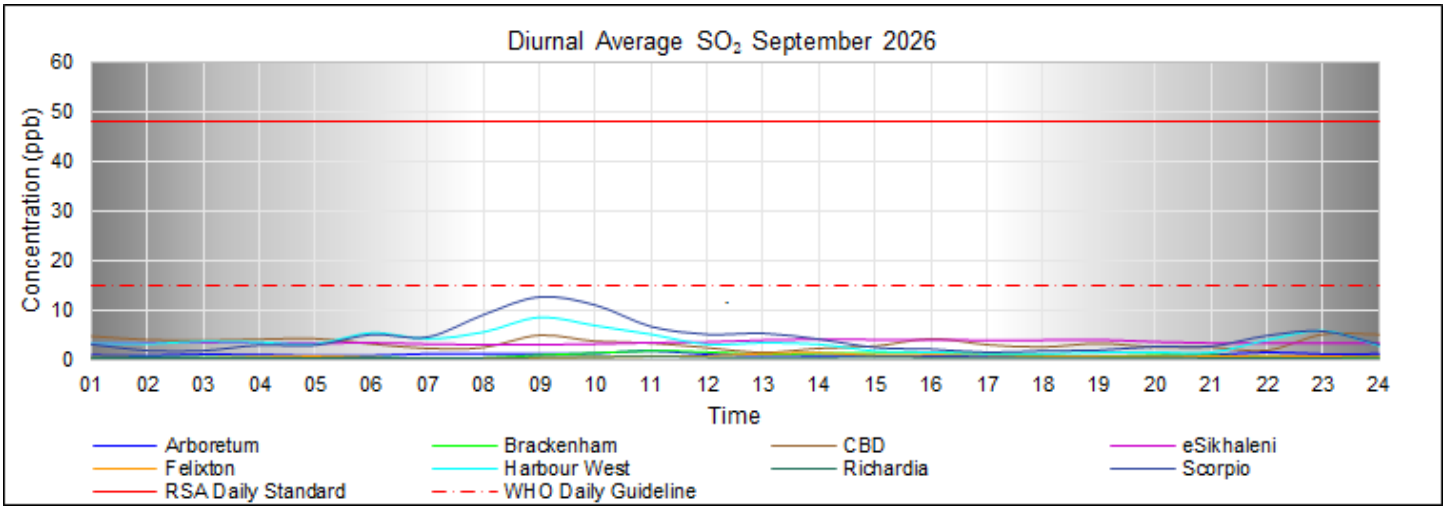


Figure 5.3: SO_2 diurnal concentrations.

5.5. 24-hour Concentrations

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

- No (0) measured exceedances of the RSA 24-hour standard (48 ppb); and
- Three (3) measured exceedance-days of the WHO 24-hour guideline (15 ppb).

Table 5.3: SO_2 24-hour average exceedances.

SO_2 Daily WHO Limit (15 ppb)	3
CBD	1
Harbour West	1
Scorpio	1

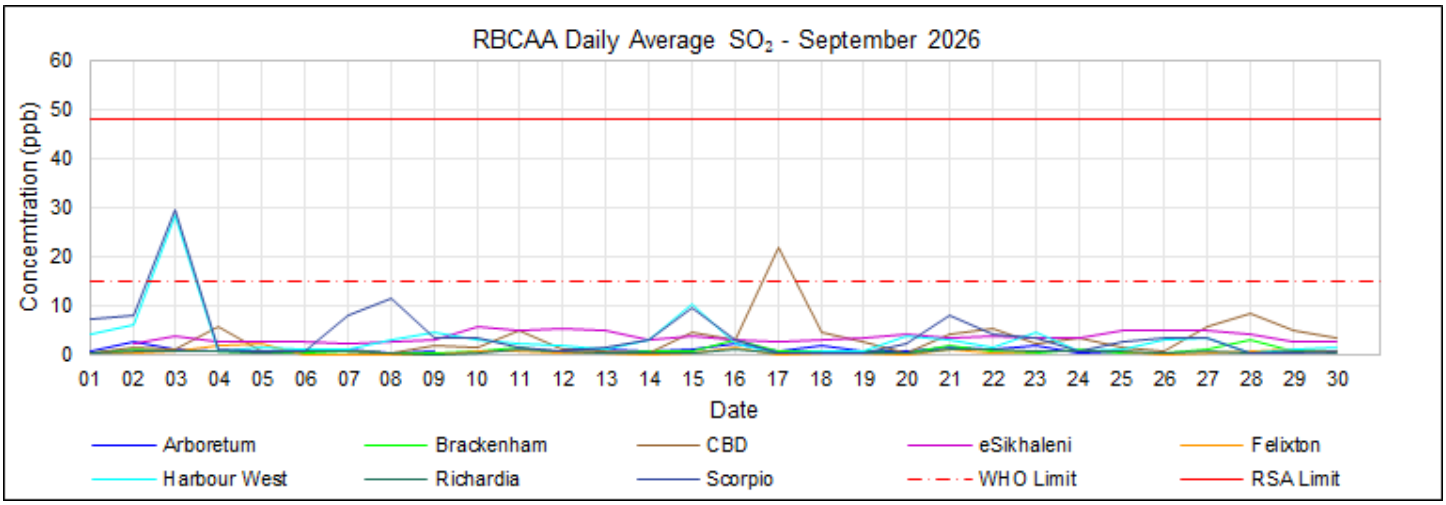


Figure 5.4: SO_2 24-hour average concentrations.

Missing Data (SO_2):

- eSk – 96% data capture (approximately 1 day of data lost); power failure (substation vandalism) until 1 September 21:20 and C&M calibration on 9 September (Report 025, Table 2.4).
- Arb – 82% data capture (approximately 5 days of data lost); refer to section 5.2.

5.6. 1-hour Concentrations

SO_2 hourly average concentrations are shown in Figure 5.5. No (0) measured exceedances of the RSA 1-hour limit (134 ppb) were recorded.

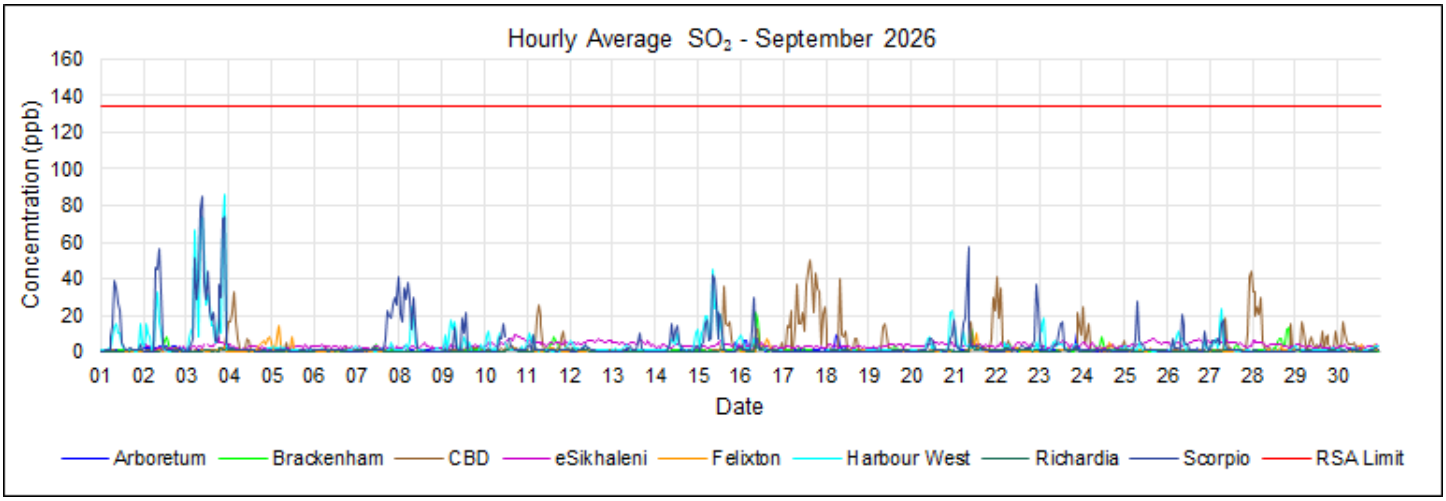


Figure 5.5: SO_2 1-hour average concentrations.

5.7. 10-minute Concentrations

SO_2 10-minute average concentrations are shown in Figure 5.6. No (0) measured exceedances of the RSA 10-minute standard and the WHO 10-minute guideline (191 ppb) were recorded.

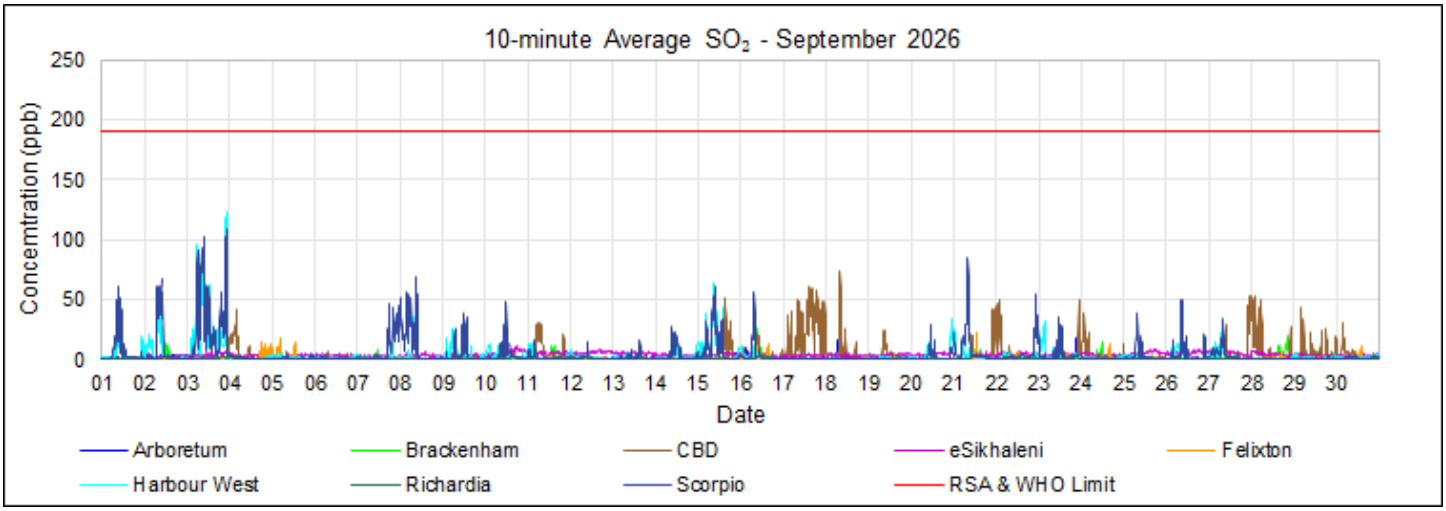


Figure 5.6: SO_2 10-minute average concentrations.

5.8. Exceedances

SO_2 exceedance days, together with comparisons to previous months, are shown in Figure 5.7. The SO_2 exceedance log is provided in Appendix I. A summary of SO_2 exceedances by station is presented in Table 5.4. SO_2 exceedances may be associated with emissions resulting from process upsets (e.g., planned maintenance, plant shutdowns, or start-ups), equipment leaks, fugitive emissions, fires, or emergency shutdowns. Where no exceedances were measured, no exceedance of the assessed criterion was identified for the reported averaging period and monitoring locations; this does not exclude unmonitored localised or shorter-duration impacts.

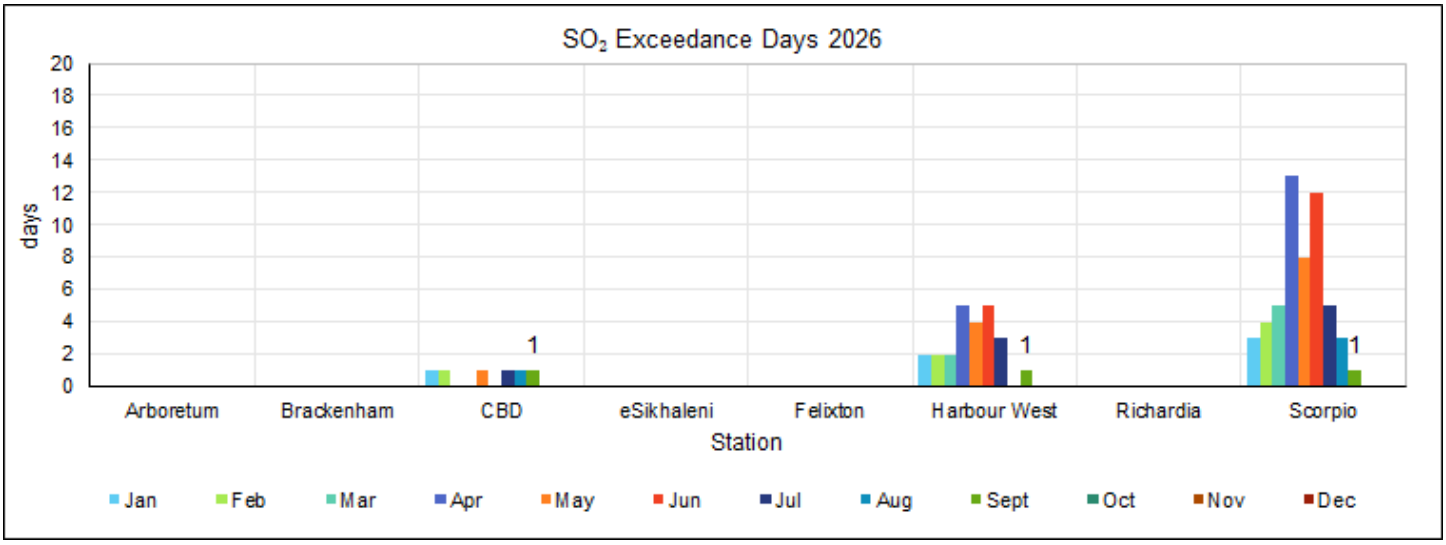


Figure 5.7: SO_2 exceedance days.

Table 5.4: SO_2 exceedance summary.

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SO_2 Daily RSA Limit (48 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	-	-	2	-	1	-	-	-	-	-	-	-	3
SO_2 Daily WHO Limit (15 ppb)													
CBD	1	1	-	-	-	-	1	1	1	-	-	-	**5**
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	2	2	2	5	4	5	3	-	1	-	-	-	**24**
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	3	4	5	13	8	12	5	3	1	-	-	-	**54**
SO_2 Hourly RSA Limit (134 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	1	-	-	-	-	-	-	-	-	-	1
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	-	-	2	6	-	-	-	-	-	-	-	-	8
SO_2 10-minute RSA & WHO Limit (191 ppb)													
CBD	-	-	-	-	1	-	-	-	-	-	-	-	1
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	3	-	-	-	-	-	-	-	-	-	3
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Scorpio	-	-	6	2	-	-	-	-	-	-	-	-	8

5.9. Conclusion

5.9.1. Monthly Air Quality (September 2026)

- Data completeness: SO_2 data capture ranged from 81.9% to 99.6% across the monitoring network; Arboretum (81.9%) was below the RBCAA SANAS-related reporting threshold (90%).
- Regulatory (RSA NAAQS): No (0) exceedances of the SO_2 24-hour standard (48 ppb), SO_2 1-hour standard (134 ppb), or SO_2 10-minute standard (191 ppb) were recorded.
- Health guidance (WHO): Three (3) exceedance-days of the WHO 24-hour guideline (15 ppb) were recorded across CBD (1), Harbour West (1) and Scorpio (1).

5.9.2. Year-to-Date (2026 Calendar Year)

- Regulatory (RSA NAAQS): SO_2 remained within the annual allowable exceedance frequencies year-to-date at all reporting stations. Year-to-date exceedances comprised 24-hour exceedance-days at Scorpio (3) against the annual allowance of four (4), 1-hour exceedances at Harbour West (1) and Scorpio (8) against the annual allowance of 88, and 10-minute exceedances at CBD (1), Harbour West (3), and Scorpio (8) against the annual allowance of 526.
- Health guidance (WHO): WHO 24-hour guideline exceedance-days totalled CBD (5), Harbour West (24), and Scorpio (54); all other stations recorded 0 exceedance-days year-to-date.

6. TOTAL REDUCED SULPHUR MONITORING

Total reduced sulphur compounds (TRS), often associated with rotten egg or cooked cabbage odour, comprise a gaseous mixture 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 environmental acidity. The most commonly 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 Organization (WHO) and the Ontario Ministry of the Environment (OME) have derived guidance values (Table 6.1).

Table 6.1: TRS ambient air quality limits.

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

Notes:
a) World Health Organization recommendation to avoid substantial complaints about odour annoyance among the exposed population (WHO, 2000).
b) Based on odour effects (OME, 1999).
c) Based on the odour and health effects (OME, 1999).
d) Based on the adverse effects on the respiratory system (nasal lesions). All ppb values are converted from the stated mass concentrations at 25 °C and 101.325 kPa using the molar mass of hydrogen sulphide (34.08 g/mol); TRS is a mixture, so the conversion is exact only where H_2S dominates the measured signal. (OME, 1999).

RBCAA applies the following criteria:

- 30-minute WHO H_2S guideline; and
- 24-hour and 10-minute OME criteria for the pulp and paper sector.

6.2. Data Completeness

TRS data completeness for September 2026, calculated from valid 10-minute records relative to scheduled 10-minute records, is shown in Table 6.2.

Table 6.2: TRS data capture.

Station	TRS (%)
Brackenham	99.3
CBD	99.4
eSikhaleni	***90.3***
Felixton	***86.9***
Richardia	99.5

Notes:

1. *Red – not acceptable for statistical purposes (<80%)*
2. *Orange – below the RBCAA SANAS-related reporting threshold (<90%)*
3. *Yellow – below the RBCAA operational target (<95%)*

Missing Data (TRS):

- eSk – 90% data capture (approximately 3 days of data lost), below the RBCAA operational target (95%); power failure (substation vandalism) until 1 September 21:20; analyser T100 SN 4848 could not be calibrated on 9 September and was replaced with T100 SN 1049 on 10 September; maintenance and calibration on 22 September, 10:50–18:10 (Report 025, Table 2.4).
- Felixton – 87% data capture (approximately 4 days of data lost), below the RBCAA SANAS-related reporting threshold (90%); Felixton TRS analyser T102 SN 0165 fault; data invalidated from 22 September 02:30 to 25 September 17:50, when spare analyser T100 SN 6663 was installed (Report 025, Table 2.4).

6.3. Monthly Concentrations

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

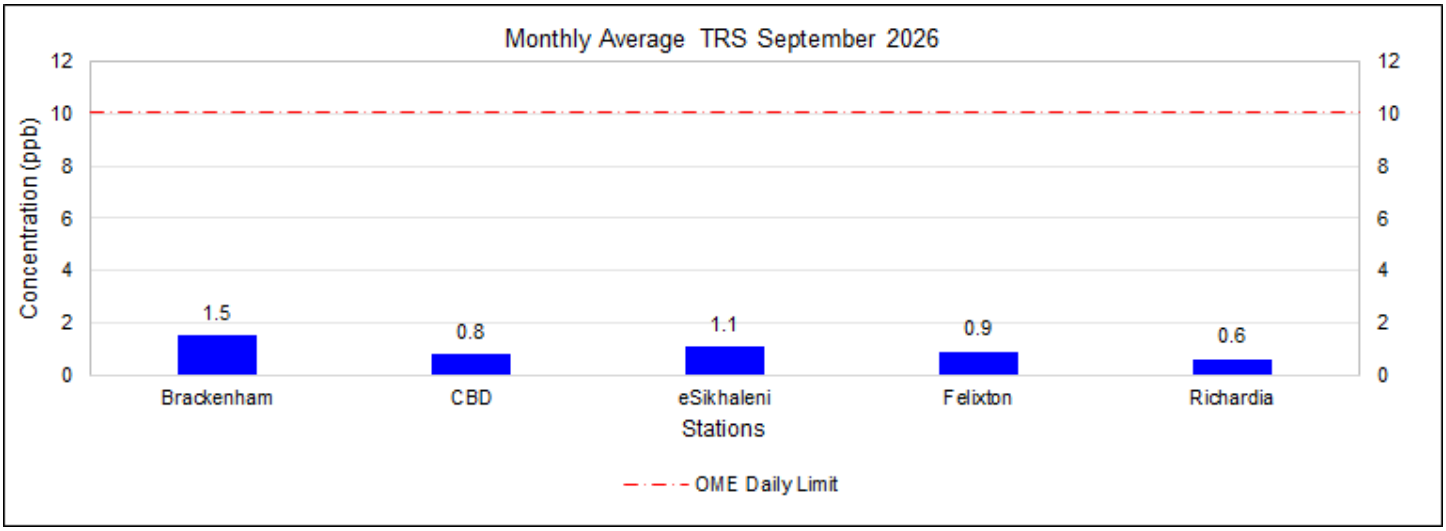


Figure 6.1: TRS monthly concentrations.

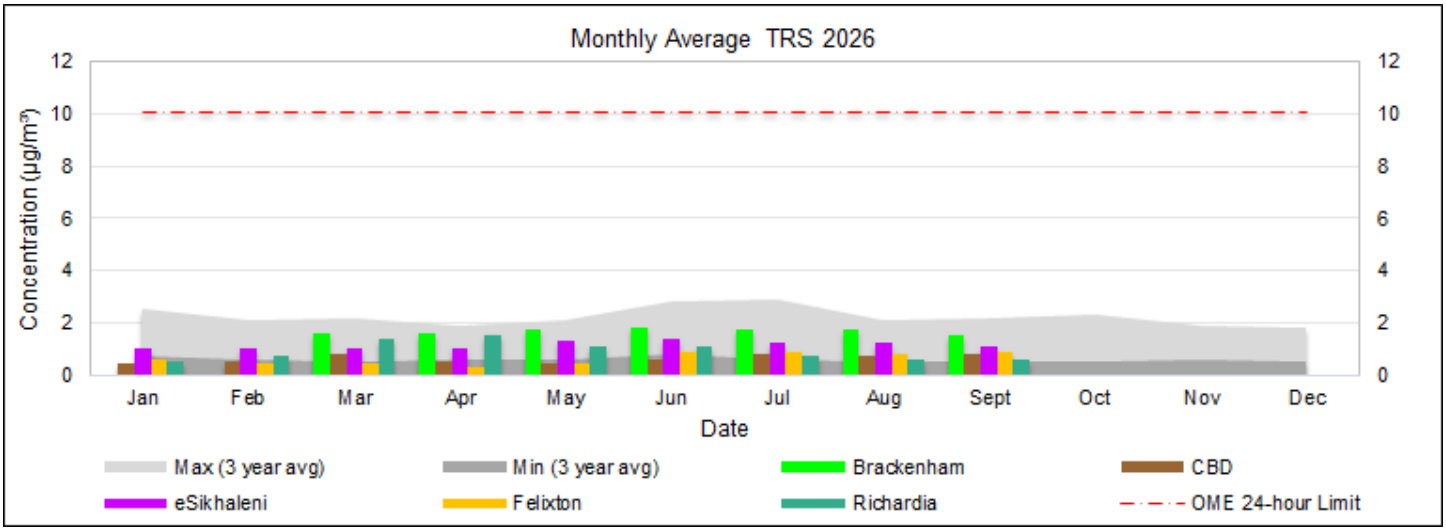


Figure 6.2: TRS monthly comparison.

6.4. Diurnal Concentrations

The diurnal TRS concentrations are shown below (Figure 6.3). The OME 24-hour value is included only as a numerical visual reference; hourly-of-day mean profiles cannot be used to determine 24-hour exceedances. The hourly-of-day profile remained below the numerical value of the OME 24-hour criterion.

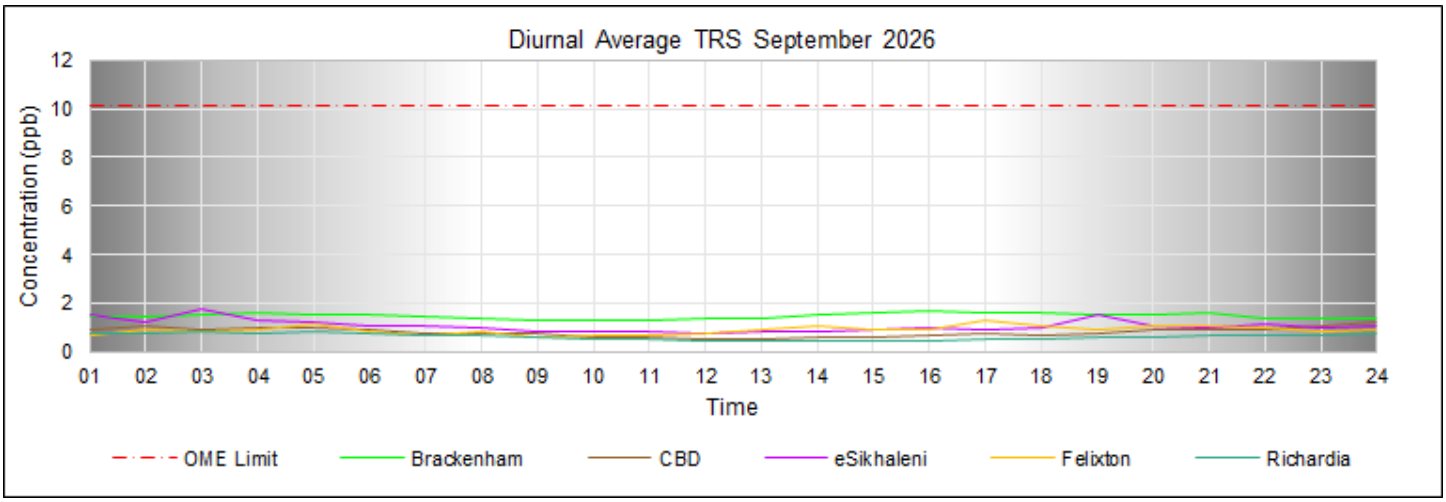


Figure 6.3: TRS diurnal concentrations.

6.5. 24-hour Concentrations

The TRS daily average concentrations are shown in Figure 6.4. No (0) exceedances of the OME 24-hour criterion (10.1 ppb) were measured.

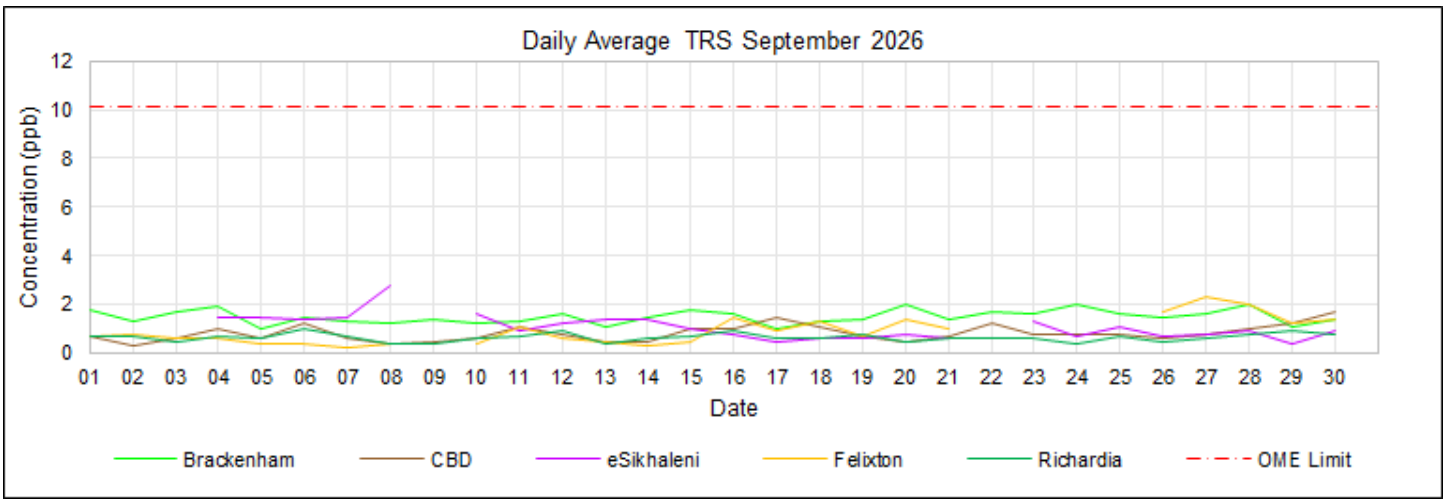


Figure 6.4: TRS 24-hour average concentrations.

Missing Data (TRS):

- eSk – 90% data capture (approximately 3 days of data lost); refer to section 6.2.
- Felixton – 87% data capture (approximately 4 days of data lost); refer to section 6.2.

6.6. 30-minute Concentrations

TRS 30-minute average concentrations are shown in Figure 6.5. Twenty-six (26) exceedances of the WHO 30-minute guideline (5.0 ppb) were measured (Table 6.3).

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

TRS 30-minute WHO H_2S Limit (5.0 ppb)	26
Mondi	**14**
SETP	6
CBD	2
eSikhaleni	3
Brackenham	1
Meteorology	6
eSikhaleni	6
Gases from the Hardwood process	2
eSikhaleni	2
THS	**12**
Effluent plant	10
Felixton	10
Startup - smuts clarifiers	2
eSikhaleni	1
Felixton	1

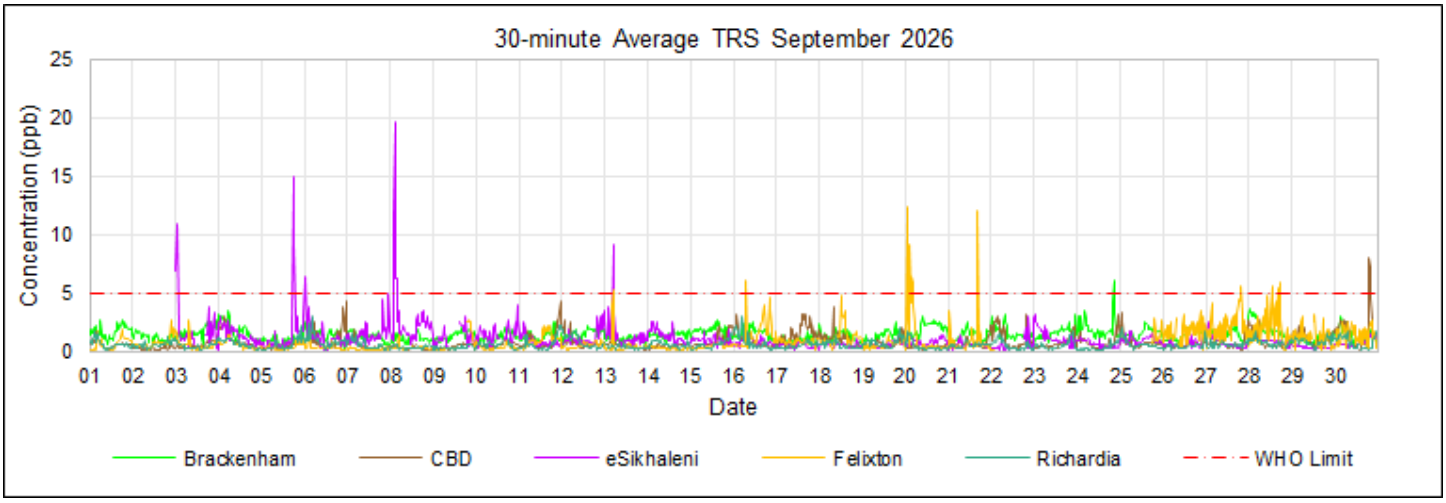


Figure 6.5: TRS 30-minute average concentrations.

6.7. 10-minute Concentrations

TRS 10-minute average concentrations are shown in Figure 6.6. Twenty-four (24) exceedances of the OME 10-minute criterion (9.3 ppb) were measured (Table 6.4).

Table 6.4: TRS 10-minute average exceedances.

TRS 10-minute OME Limit (9.3 ppb)	24
Mondi	**14**
SETP	5
CBD	1
eSikhaleni	4
Meteorology	8
eSikhaleni	8
Gases from the Hardwood process	1
eSikhaleni	1
THS	**10**
Effluent plant	7
Felixton	7
Start-up - Smuts clarifiers	3
eSikhaleni	1
Felixton	2

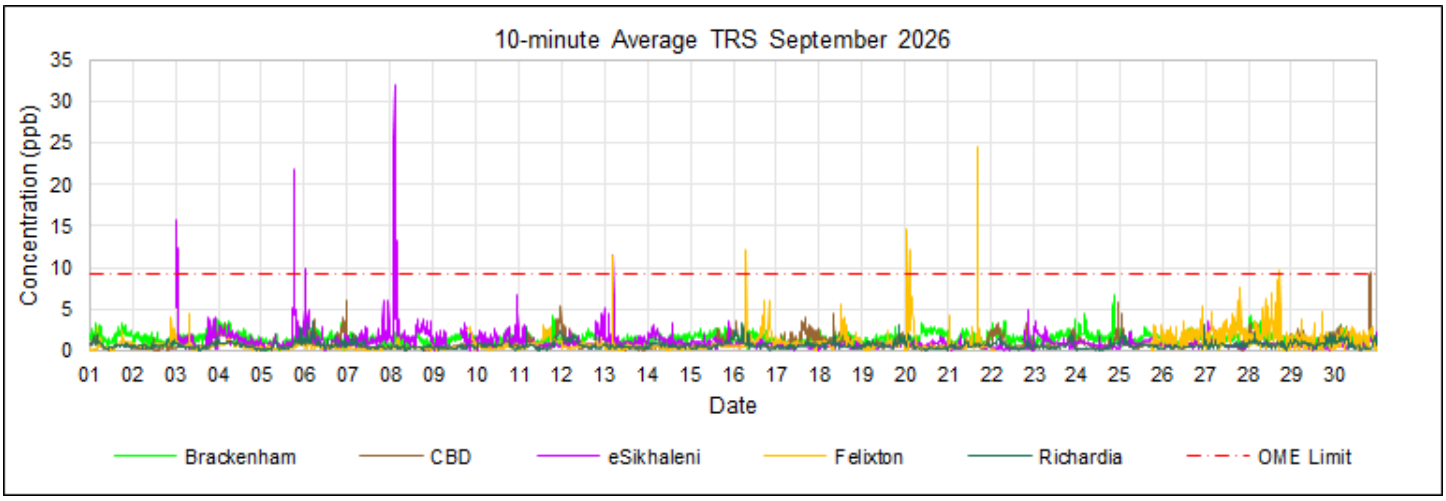


Figure 6.6: TRS 10-minute average concentrations.

6.8. Exceedances

TRS exceedance days, together with comparisons to previous months, are shown in Figure 6.7. The TRS exceedance log is provided in Appendix J. A summary of TRS exceedances by station is presented in Table 6.5. TRS exceedances may be associated with emissions resulting from process upsets (e.g., planned maintenance, plant shutdowns, or start-ups), equipment leaks, fugitive emissions, fires, or emergency shutdowns. Where no exceedances were measured, no exceedance of the assessed criterion was identified for the reported averaging period and monitoring locations; this does not exclude unmonitored localised or shorter-duration impacts.

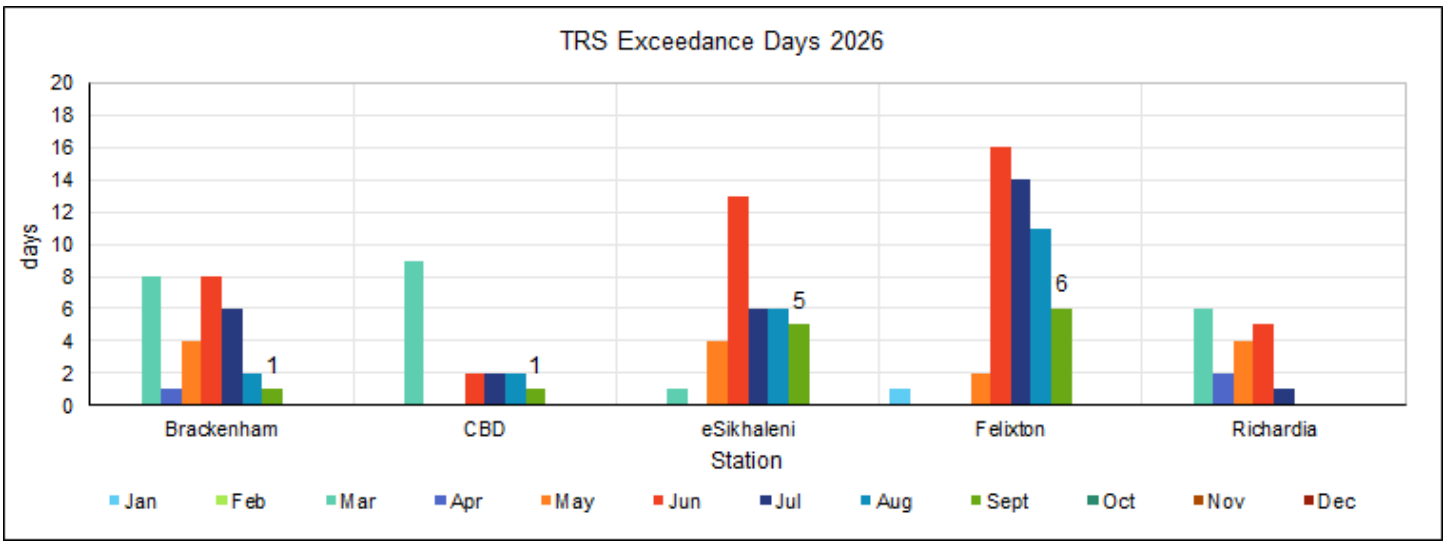


Figure 6.7: TRS exceedance days.

Table 6.5: TRS exceedance summary.

2026	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
TRS 24-hour OME Limit (10.1 ppb)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
TRS 30-minute WHO H_2S Limit (5.0 ppb)													
Brackenham	-	-	26	1	9	15	11	5	1	-	-	-	**68**
CBD	-	-	25	-	-	4	2	2	2	-	-	-	**35**
eSikhaleni	-	-	1	-	10	47	16	13	12	-	-	-	**99**
Felixton	1	-	-	-	4	43	54	35	11	-	-	-	**148**
Richardia	-	-	13	2	5	11	1	1	-	-	-	-	**33**
TRS 10-minute OME Limit (9.3 ppb)													
Brackenham	-	-	16	-	12	10	4	1	-	-	-	-	**43**
CBD	-	-	8	-	-	-	-	2	1	-	-	-	**11**
eSikhaleni	-	-	1	-	3	28	3	8	14	-	-	-	**57**
Felixton	2	-	-	-	10	70	55	27	9	-	-	-	**173**
Richardia	-	-	-	-	-	4	-	-	-	-	-	-	**4**

6.9. Conclusion

6.9.1. Monthly Air Quality (September 2026)

- Data completeness: TRS data capture ranged from 86.9% to 99.5% across the monitoring network; Felixton (86.9%) was below the RBCAA SANAS-related reporting threshold (90%), and eSikhaleni (90.3%) was below the RBCAA operational target (95%).
- No South African ambient air quality standard exists for TRS/H_2S; therefore, no regulatory compliance determination applies.
- Health/odour guidance (WHO + RBCAA-adopted OME criteria): No (0) exceedances of the OME 24-hour criterion (10.1 ppb) were recorded. Twenty-six (26) exceedances of the WHO 30-minute guideline (5.0 ppb) were recorded across Brackenham (1), CBD (2), eSikhaleni (12), and Felixton (11), allocated to Mondi (14) and THS (12).
- Twenty-four (24) exceedances of the OME 10-minute criterion (9.3 ppb) were recorded across CBD (1), eSikhaleni (14), and Felixton (9), allocated to Mondi (14) and THS (10).

6.9.2. Year-to-Date (2026 Calendar Year)

- Regulatory (RSA NAAQS): No South African ambient air quality standard exists for TRS/H_2S.
- Health/odour guidance (2026): OME 24-hour exceedances were 0 at all stations year-to-date.
- WHO 30-minute exceedances totalled Brackenham (68), CBD (35), eSikhaleni (99), Felixton (148), and Richardia (33).
- OME 10-minute exceedances totalled Brackenham (43), CBD (11), eSikhaleni (57), Felixton (173), and Richardia (4).

7. MONTHLY AIR QUALITY

Where possible, the RBCAA assesses data collected by its network against national standards, international guidelines, and local targets. WHO air quality guidelines (AQGs) are intended for global use and support actions to protect public health in different contexts. By contrast, air quality standards and local targets are set by individual countries or regions and are essential components of national risk management and environmental policy. They vary according to how health risks, technological feasibility, economic considerations, and political and social factors are balanced; these factors are influenced by the level of development and national air-quality management capability (WHO, 2005).

7.1. Conclusion

Regulatory assessment is based on comparison to the South African National Ambient Air Quality Standards (NAAQS). Health/odour assessment is based on WHO guidelines and RBCAA-adopted TRS/H_2S reference criteria; exceedances of these criteria do not constitute NAAQS non-compliance, but they indicate potential short-term exposure or odour-annoyance conditions requiring attention.

7.1.1. September 2026 – Monthly Conclusion

7.1.1.1. Regulatory (RSA NAAQS)

- PM_{10}: No (0) PM_{10} 24-hour NAAQS exceedances (75 µg/m³) were recorded.
- $PM_{2.5}$: Eight (8) 24-hour NAAQS exceedances (40 µg/m³) were recorded across Brackenham (2), Felixton (2) and Scorpio (4), including one at Scorpio attributed to a bushfire. Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.
- SO_2: No (0) 24-hour NAAQS exceedances (48 ppb) were recorded. No (0) 1-hour NAAQS exceedances (134 ppb) were recorded. No (0) 10-minute NAAQS exceedances (191 ppb) were recorded.
- TRS/H_2S has no South African NAAQS standard; therefore, no regulatory compliance determination applies for TRS/H_2S.

7.1.1.2. Health/odour guidance (WHO + RBCAA-adopted TRS/H_2S criteria)

- PM_{10}: Six (6) exceedance-days of the WHO 24-hour guideline (45 µg/m³) were recorded across CBD (2), Felixton (2) and Scorpio (2).
- $PM_{2.5}$: Sixty-four (64) exceedance-days of the WHO 24-hour guideline (15 µg/m³) were recorded across Brackenham (18), Felixton (13), Harbour West (5), Richardia (7), and Scorpio (21). Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.
- SO_2: Three (3) exceedance-days of the WHO 24-hour guideline (15 ppb) were recorded across CBD (1), Harbour West (1) and Scorpio (1). No (0) exceedances of the WHO 10-minute guideline (191 ppb) were recorded.
- TRS/H_2S: No (0) exceedances of the OME 24-hour criterion (10.1 ppb), twenty-six (26) exceedances of the WHO 30-minute guideline (5.0 ppb), and twenty-four (24) exceedances of the OME 10-minute criterion (9.3 ppb) were recorded during September 2026.

7.1.2. 2026 Calendar-Year Conclusion

7.1.2.1. Regulatory (RSA NAAQS)

- PM_{10} (24-hour NAAQS; max 4 exceedances/year): within the annual allowable exceedance frequency at all stations reporting PM_{10}; one (1) exceedance has been recorded at eSikhaleni year-to-date.
- $PM_{2.5}$ (24-hour NAAQS; max 4 exceedances/year): Brackenham (17), Felixton (7), and Scorpio (19) exceeded the annual allowable frequency of four (4) 24-hour exceedances; Harbour West (1) and Richardia (0) remained within the allowance. Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.

- SO_2 remained within the annual allowable exceedance frequencies year-to-date at all reporting stations: Scorpio recorded three (3) 24-hour exceedance-days against the annual allowance of four (4); Harbour West (1) and Scorpio (8) recorded hourly exceedances against the annual allowance of 88; and CBD (1), Harbour West (3), and Scorpio (8) recorded 10-minute exceedances against the annual allowance of 526.

7.1.2.2. Health/odour guidance (WHO + RBCAA-adopted TRS/H_2S criteria)

- PM_{10} (WHO 24-hour guideline: 45 µg/m³): exceedance-days during 2026 year-to-date totalled CBD (9), eSikhaleni (1), Felixton (7), and Scorpio (5).
- $PM_{2.5}$ (WHO 24-hour guideline: 15 µg/m³): exceedance-days during 2026 year-to-date totalled Brackenham (145), Felixton (96), Harbour West (56), Richardia (41), and Scorpio (166). Scorpio $PM_{2.5}$ values are subject to the data qualification in section 4.2.
- SO_2 (WHO 24-hour guideline: 15 ppb): exceedance-days during 2026 year-to-date totalled CBD (5), Harbour West (24), and Scorpio (54); all other stations recorded 0 exceedance-days.
- TRS/H_2S: exceedances of RBCAA-adopted criteria during 2026 year-to-date comprised 0 OME 24-hour exceedances at all stations, WHO 30-minute exceedances at Brackenham (68), CBD (35), eSikhaleni (99), Felixton (148), and Richardia (33), and OME 10-minute exceedances at Brackenham (43), CBD (11), eSikhaleni (57), Felixton (173), and Richardia (4).

APPENDIX A
ABBREVIATIONS AND TERMS

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

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

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

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

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

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

APPENDIX B
QUALITY ASSURANCE

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

Table 1: Quality Assurance

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

APPENDIX C
EMISSION INVENTORY

Table 1: Emission Inventory – 2026.

Industry	Description	SO_2 Emission 2025 (t)	SO_2 Emission 2025 (t)	SO_2 Contribution (%)
Foskor	Acid Plant	2390	2401	13%
	Boiler	11		
Tongaat Hulett	Boiler	185	185	1%
Mondi	Flume 1	1417	3080	17%
	Flume 2	836		
	Power Boiler	795		
	Incinerator	8		
	Bleach Plant	24		
Mpact	Babcock	281	805	5%
	JT Boiler	524		
	Oil Burner	0		
RBM	Char Plant	468	542	3%
	Miscellaneous	34		
	MSP (Drier)	38		
	Smokers	1		
South32	FTC	1885	10561	59%
	GTC 1	1955		
	GTC 2	1680		
	GTC 3	1579		
	GTC 4	1579		
	GTC 5	1630		
	Potrooms	254		
Tronox	Tank 1	251	251	1%
Total		17825	17825	100%
Note: Tongaat Hullet shut down during the year's 1st quarter and last month.				

APPENDIX D
OPERATIONAL REPORT

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

RBCAA: Monthly Report						
PM_{10} daily averages						
Station	*Concentration (µg/m³)*	*% of the RSA Standard (75 µg/m³)*	*% of WHO Guideline (45 µg/m³)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
CBD ES1	53.0	71%	**118%**	2026/09/03 00:00	4.9	17
eSikhaleni	31.0	41%	69%	2026/09/03 00:00	3.7	7
Felixton ES1	52.0	69%	**116%**	2026/09/11 00:00	3.4	240
Richardia	54.0	72%	**120%**	2026/09/03 00:00	4.8	358
Scorpio ES1	53.0	71%	**118%**	2026/09/03 00:00	4.9	17
$PM_{2.5}$ daily averages						
Station	*Concentration (µg/m³)*	*% of the RSA Standard (40 µg/m³)*	*% of WHO Guideline (15 µg/m³)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Brackenham ES2	61.0	**153%**	**407%**	2026/09/03 00:00	4.1	5
Felixton ES2	46.0	**115%**	**307%**	2026/09/03 00:00	3.4	17
Harbour West ES2	39.0	98%	**260%**	2026/09/24 00:00	3.4	199
Scorpio ES2	33.0	83%	**220%**	2026/09/03 00:00	4.7	13

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

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

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

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

Table 2: Maximum concentrations for SO_2.

RBCAA: Monthly Report						
SO_2 10-minute averages						
Station	*Concentration (ppb)*	*% of RSA Standard & WHO Guideline (500 µg/m³ / 191 ppb)*		*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Arboretum	18.7	10%		2026/09/23 21:20	2.4	244
Brackenham	26.7	14%		2026/09/16 09:20	-	-
CBD	73.9	39%		2026/09/18 08:10	6.4	240
eSikhaleni	13.6	7%		2026/09/03 18:10	2.4	38
Felixton	23.0	12%		2026/09/21 13:20	2.7	179
Harbour West	123.6	65%		2026/09/03 22:30	3.1	329
Richardia	8.6	5%		2026/09/16 08:20	1.7	206
Scorpio	108.7	57%		2026/09/03 22:20	4.1	3
SO_2 hourly averages						
Station	*Concentration (ppb)*	*% of the RSA Standard (350 µg/m³ / 134 ppb)*	*No WHO Guideline*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Arboretum	11.7	9%	-	2026/09/23 21:00	2.4	250
Brackenham	21.6	16%	-	2026/09/16 09:00	-	-
CBD	50.4	38%	-	2026/09/17 15:00	5.2	239
eSikhaleni	9.6	7%	-	2026/09/10 17:00	4.3	32
Felixton	14.1	11%	-	2026/09/05 04:00	1.4	189
Harbour West	86.6	65%	-	2026/09/03 22:00	4.4	328
Richardia	4.6	3%	-	2026/09/16 08:00	1.7	231
Scorpio	84.8	63%	-	2026/09/03 09:00	4.3	343
SO_2 daily averages						
Station	*Concentration (ppb)*	*% of the RSA Standard (125 µg/m³ / 48 ppb)*	*% of WHO Guideline (40 µg/m³ / 15 ppb)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
Arboretum	2.7	6%	18%	2026/09/02 00:00	2.6	356
Brackenham	3.1	6%	21%	2026/09/16 00:00	-	-
CBD	22.0	46%	**147%**	2026/09/17 00:00	4.7	239
eSikhaleni	5.7	12%	38%	2026/09/10 00:00	4.4	19
Felixton	2.2	5%	15%	2026/09/05 00:00	1.6	198
Harbour West	28.3	59%	**189%**	2026/09/03 00:00	4.8	358
Richardia	1.2	3%	8%	2026/09/16 00:00	3.4	205
Scorpio	29.7	62%	**198%**	2026/09/03 00:00	4.8	358

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	6.8	-	73%	2026/09/24 20:50	1.1	212
eSikhaleni	9.5	-	**102%**	2026/09/30 20:20	0.6	296
Felixton	32.1	-	**345%**	2026/09/08 02:30	0.4	352
Richardia	24.6	-	**265%**	2026/09/21 16:40	3.1	219
TRS 30-minute averages						
Station	*Concentration (ppb)*	*No RSA Standard*	*% of WHO H_2S Guideline (7.0 µg/m³ / 5.0 ppb)*	*Time*	*Wind Direction (°)*	*Wind Speed (m/s)*
CBD	6.2	-	**124%**	2026/09/24 20:30	0.9	218
eSikhaleni	8.1	-	**162%**	2026/09/30 19:30	0.3	43
Felixton	19.7	-	**394%**	2026/09/08 02:30	0.3	357
Richardia	12.4	-	**248%**	2026/09/20 01:00	0.7	197
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	2.0	-	20%	2026/09/20 00:00	1.7	3
eSikhaleni	1.7	-	17%	2026/09/30 00:00	2.1	229
Felixton	2.8	-	28%	2026/09/08 00:00	3.9	18
Richardia	2.3	-	23%	2026/09/27 00:00	4.1	229

APPENDIX E
RAINFALL

Table 1: Daily Rainfall

Date	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	Meerensee (mm)	South32 (mm)
2026/09/01	0	0	0	0	0
2026/09/02	0	0	0	0	1
2026/09/03	0	0	0	0	0
2026/09/04	1	0	1	1	1
2026/09/05	0	3	0	0	0
2026/09/06	8	23	11	6	8
2026/09/07	1	0	0	1	0
2026/09/08	0	0	0	0	0
2026/09/09	0	0	0	0	0
2026/09/10	0	0	0	0	0
2026/09/11	0	0	0	0	0
2026/09/12	0	0	0	0	0
2026/09/13	0	0	0	0	0
2026/09/14	0	0	0	0	0
2026/09/15	0	0	0	0	0
2026/09/16	7	5	7	5	5
2026/09/17	22	21	30	26	21
2026/09/18	107	115	102	74	50
2026/09/19	10	4	10	12	1
2026/09/20	2	0	1	3	0
2026/09/21	0	0	0	0	0
2026/09/22	0	0	0	0	0
2026/09/23	0	0	0	0	0
2026/09/24	0	0	0	0	0
2026/09/25	0	0	0	0	0
2026/09/26	2	5	4	2	2
2026/09/27	12	14	20	7	1
2026/09/28	19	9	13	<Samp	0
2026/09/29	9	7	9	7	0
2026/09/30	0	0	0	0	0
Total	199	204	209	145	90

Table 2: Monthly Rainfall, Richards Bay

Month	Richards Bay (mm)							
	2019	2020	2021	2022	2023	2024	2025	2026
Jan	182	47	305	127	167	271	371	138
Feb	195	377	229	193	410	118	390	36
Mar	78	139	217	62	141	192	165	202
Apr	214	141	96	647	87	101	479	49
May	9	53	165	130	356	22	41	89
Jun	78	114	140	60	33	89	27	46
Jul	16	48	57	20	196	57	220	70
Aug	160	107	59	77	20	97	17	92
Sep	43	144	216	93	23	186	203	199
Oct	260	171	214	101	345	250	96	
Nov	296	122	72	131	61	103	176	
Dec	320	77	464	253	195	145	211	
Minimum	9	47	57	20	20	22	17	36
Average	154	128	186	158	169	136	200	102
Maximum	320	377	464	647	410	271	479	202
Total	1850	1540	2234	1893	2034	1630	2396	921

Table 3: Monthly Felixton

Month	Felixton (mm)							
	2019	2020	2021	2022	2023	2024	2025	2026
Jan	138	71	207	68	57	146	117	81
Feb	138	214	231	78	188	82	303	65
Mar	70	89	126	95	80	113	148	112
Apr	143	106	135	368	58	49	287	73
May	9	42	57	120	245	17	16	106
Jun	53	44	98	20	14	53	29	28
Jul	17	37	39	15	146	2.5	157	78
Aug	39	67	55	37	18	54	3	81
Sep	79	84	191	51	43	137	127	204
Oct	144	67	145	98	318	187	79	
Nov	121	106	35	174	34	78	131	
Dec	311	64	212	163	146	74	193	
Minimum	9	37	35	15	14	3	3	28
Average	105	82	127	107	112	83	133	92
Maximum	311	214	231	368	318	187	303	204
Total	1261	987	1530	1288	1347	992	1590	828

Table 4: RBCT

Month	RBCT (mm)							
	2019	2020	2021	2022	2023	2024	2025	2026
Jan	110	33	215	54	136	154	229	130
Feb	124	166	146	131	344	72	249	53
Mar	172	109	194	161	69	161	145	118
Apr	174	111	69	642	30	98	450	60
May	14	69	171	268	442	23	66	141
Jun	24	52	124	30	34	104	27	81
Jul	5	39	64	30	162	56	155	35
Aug	68	64	56	25	30	86	17	100
Sep	59	104	187	115	30	177	164	209
Oct	164	121	156	71	293	121	65	
Nov	186	77	43	129	42	89	166	
Dec	216	104	245	279	127	65	178	
Minimum	5	33	43	25	30	23	17	35
Average	110	87	139	161	145	100	159	103
Maximum	216	166	245	642	442	177	450	209
Total	1317	1049	1669	1934	1740	1205	1911	927

Table 5: South32

Month	South32 (mm)							
	2019	2020	2021	2022	2023	2024	2025	2026
Jan	-	-	-	-	91	120	232	117
Feb	-	-	-	115	256	-	241	30
Mar	-	-	-	149	51	144	137	105
Apr	-	-	-	505	43	-	363	40
May	-	-	-	106	230	-	23	27
Jun	-	-	-	25	11	-	16	26
Jul	-	-	-	12	165	-	98	25
Aug	-	-	-	30	13	-	8	43
Sep	-	-	-	64	18	129	35	90
Oct	-	-	-	64	271	-	30	
Nov	-	-	-	101	36	-	112	
Dec	-	-	-	163	95	92	132	
Minimum	-	-	-	12	11	92	8	25
Average	-	-	-	121	107	121	119	56
Maximum	-	-	-	505	271	144	363	117
Total	-	-	-	1336	1280	485	1427	503

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

Table 6: Meerensee

Month	Meerensee (mm)							
	2019	2020	2021	2022	2023	2024	2025	2026
Jan	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	31
Mar	-	-	-	-	-	-	-	80
Apr	-	-	-	-	-	-	-	56
May	-	-	-	-	-	-	-	101
Jun	-	-	-	-	-	-	-	51
Jul	-	-	-	-	-	-	-	49
Aug	-	-	-	-	-	-	-	99
Sep	-	-	-	-	-	-	-	145
Oct	-	-	-	-	-	-	-	
Nov	-	-	-	-	-	-	-	
Dec	-	-	-	-	-	-	-	
Minimum	-	-	-	-	-	-	-	31
Average	-	-	-	-	-	-	-	77
Maximum	-	-	-	-	-	-	-	145
Total	-	-	-	-	-	-	-	612

APPENDIX F
COMPLAINTS LOG

Note: Complainant descriptions (Table 1) and industry feedback (Table 2) are reproduced verbatim from the complaints log; spelling, grammar and punctuation are as submitted.

Table 1: Complaints

No	Date	Region	Type	Source	Description	Response
1	2026/09/03 12:40	Richards Bay	Dust	Grindrod	Excessive dust emanating from Coal stockpiles.	434, 435
2	2026/09/15 20:59	Veldenvlei	Odour	Mondi	“Strong smell, it smells like Mondi”	436
3	2026/09/17 08:31	Brackenham	Odour	Mondi	“Cat urine smell”	437

Table 2: Responses

No.	Industry Feedback
434	Grindrod - Sibahle Dladla responded (2026/09/10 20:46): "...ROOT CAUSE OF INCIDENTS: a) Meteorological conditions sourced from the Scorpio station on the date of the dust complaint do not support the movement of dust from either Kusasa or Navitrade towards John Ross Highway. The wind direction during the reported day was North on the 03rd of September 2026 at 4,8 m/s. Northerly winds from the terminals head towards the South. John Ross Highway is located north of the terminals, which means the recorded wind direction was moving away from the complaint area. Therefore, there was no credible pathway for dust from the terminals to travel towards John Ross Highway. The dust observed along the Highway was therefore unlikely to have originated from the terminals..." "... CONCLUSION: Based on the investigation conducted, the available evidence does not support Grindrod Terminals as the likely source of the dust observed along John Ross Highway. Meteorological data sourced from the Scorpio station indicated a wind speed of 4,8 m/s, with wind movement from the terminals directed southwards. John Ross Highway is located north of the terminals; therefore, the prevailing wind conditions were moving away from theGRiniDROD Although dust-generating activities were taking place at both Kusasa and Navitrade, the activities were being managed through existing controls. At Kusasa, product loading took place under an enclosed hopper with plastic curtains, skips were tarped before exiting the site, and offloading occurred undercover into silo systems. At Navitrade, coal handling took place within enclosed tipplers and conveyor systems, and dust suppression was applied through the use of a water tanker in the stockpiling area. Considering the wind direction, the location of John Ross Highway relative to the terminals, and the operational controls in place at the time, it is concluded that the dust observed along John Ross Highway was unlikely to have been caused by Grindrod Terminals..."
435	RBCAA Allocation- Sandy Camminga (2026/09/11 12:48): The dust was on Grindrod site.
436	Mondi - Candice Webb responded (2026/09/16 12:49): Source of Odour: Fugitive emissions from Mondi. Description of Incident: Mondi was notified by the Richards Bay Clean Air Association (RBCAA) of the complaints at 21:17 on 15 September 2026, following which an investigation was immediately initiated. Odour checklists were completed across all relevant plant areas, with no deviations identified. At the time of the complaint, non-condensable gases (NCGs) were stable in the designated burning zones, and the Secondary Effluent Treatment Plant (SETP) was offline in accordance with established odour management protocols between 20:00 and 23:00. Based on these observations, the SETP and burning zones were considered unlikely to have been the source of the complaints. However, the prevailing wind direction at the time indicates that a fugitive emission from within the Mill remains a possible and more likely source. No specific fugitive source has yet been identified, and Mondi will continue its investigation to determine whether a potential source can be established.
437	Mondi - Candice Webb responded (2026/09/18 12:30): Source of Odour: Non-Condensable Gases released to atmosphere due to burning zone trip.

APPENDIX G
PM_{10} EXCEEDANCE LOG

Table 1: PM_{10} exceedances.

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
1	PM_{10} Daily WHO Limit (45 µg/m³)	CBD	2026/09/02 0:00	46.0	32	2.2	No response required	None	2
2	PM_{10} Daily WHO Limit (45 µg/m³)	CBD	2026/09/03 0:00	53.0	17	4.9	No response required	None	2
3	PM_{10} Daily WHO Limit (45 µg/m³)	Felixton	2026/09/03 0:00	49.0	17	3.4	No response required	None	2
4	PM_{10} Daily WHO Limit (45 µg/m³)	Felixton	2026/09/11 0:00	52.0	240	3.4	No response required	None	2
5	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2026/09/03 0:00	54.0	358	4.8	No response required	None	2
6	PM_{10} Daily WHO Limit (45 µg/m³)	Scorpio	2026/09/14 0:00	46.0	22	5.5	No response required	None	2

Table 2: PM_{10} responses.

Response	Industry Feedback
2	No response required

APPENDIX H
$PM_{2.5}$ EXCEEDANCE LOG

Table 1:$PM_{2.5}$ Exceedances

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
1	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/01 00:00	35.0	12	2.4	No response required	None	2
2	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2026/09/02 00:00**	**54.0**	**340**	**2.5**	**CoU wildfire**	**RBCAA allocation**	**92, 94, 103,**
3	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/02 00:00	54.0	340	2.5	No response required	None	2
4	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Brackenham**	**2026/09/03 00:00**	**61.0**	**5**	**4.1**	**Fire**	**RBCAA allocation**	**93, 99, 104**
5	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/03 00:00	61.0	5	4.1	No response required	None	2
6	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/04 00:00	40.0	200	5.6	No response required	None	2
7	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/05 00:00	23.0	142	1.9	No response required	None	2
8	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/10 00:00	20.0	16	4	No response required	None	2
9	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/11 00:00	38.0	229	3.3	No response required	None	2
10	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/12 00:00	34.0	6	1.8	No response required	None	2
11	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/13 00:00	26.0	30	3.6	No response required	None	2
12	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/15 00:00	32.0	13	4.7	No response required	None	2
13	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/16 00:00	30.0	205	3.4	No response required	None	2
14	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/21 00:00	17.0	260	2.3	No response required	None	2
15	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/22 00:00	24.0	203	1.8	No response required	None	2
16	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/23 00:00	27.0	6	2.4	No response required	None	2
17	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/24 00:00	38.0	209	3	No response required	None	2
18	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/25 00:00	30.0	9	3	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
19	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/26 00:00	19.0	18	3.7	No response required	None	2
20	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Brackenham	2026/09/27 00:00	20.0	244	4.2	No response required	None	2
21	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/01 00:00	24.0	37	2.2	No response required	None	2
22	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/02 00:00	31.0	278	2.1	No response required	None	2
23	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Felixton**	**2026/09/03 00:00**	**46.0**	**17**	**3.4**	**Unconfirmed source**	**RBCAA allocation**	**93, 98, 99, 105**
24	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/03 00:00	46.0	17	3.4	No response required	None	2
25	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/05 00:00	16.0	198	1.7	No response required	None	2
26	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/10 00:00	17.0	32	4.5	No response required	None	2
27	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Felixton**	**2026/09/11 00:00**	**41.0**	**240**	**3.4**	**THS**	**Process related**	**106**
28	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/11 00:00	41.0	240	3.4	No response required	None	2
29	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/12 00:00	21.0	20	2.3	No response required	None	2
30	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/13 00:00	24.0	42	3.7	No response required	None	2
31	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/15 00:00	25.0	340	4.9	No response required	None	2
32	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/16 00:00	19.0	217	3.5	No response required	None	2
33	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/23 00:00	23.0	29	3	No response required	None	2
34	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/24 00:00	23.0	228	3.1	No response required	None	2
35	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Felixton	2026/09/25 00:00	20.0	53	3.7	No response required	None	2
36	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2026/09/02 00:00	21.0	343	2.5	No response required	None	2
37	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2026/09/03 00:00	30.0	358	4.8	No response required	None	2
38	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2026/09/23 00:00	29.0	9	2.9	No response required	None	2
39	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2026/09/24 00:00	39.0	199	3.4	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
40	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Harbour West	2026/09/25 00:00	23.0	9	3.2	No response required	None	2
41	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Richardia	2026/09/01 00:00	19.0	19	2.5	No response required	None	2
42	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Richardia	2026/09/02 00:00	22.0	355	2.7	No response required	None	2
43	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Richardia	2026/09/03 00:00	33.0	13	4.7	No response required	None	2
44	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Richardia	2026/09/11 00:00	17.0	219	4.5	No response required	None	2
45	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Richardia	2026/09/12 00:00	16.0	45	2.9	No response required	None	2
46	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Richardia	2026/09/16 00:00	16.0	205	3.4	No response required	None	2
47	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Richardia	2026/09/24 00:00	17.0	211	3.8	No response required	None	2
48	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/01 00:00	32.0	6	2.5	No response required	None	2
49	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Scorpio**	**2026/09/02 00:00**	**47.0**	**343**	**2.5**	**CoU wildfire**	**RBCAA allocation**	**92, 94, 107**
50	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/02 00:00	47.0	343	2.5	No response required	None	2
51	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Scorpio**	**2026/09/03 00:00**	**73.0**	**358**	**4.8**	**CoU wildfire**	**RBCAA allocation**	**93, 99, 107**
52	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/03 00:00	73.0	358	4.8	No response required	None	2
53	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/04 00:00	27.0	183	6	No response required	None	2
54	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/05 00:00	22.0	128	2.2	No response required	None	2
55	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/08 00:00	16.0	15	3.7	No response required	None	2
56	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/10 00:00	21.0	24	4.2	No response required	None	2
57	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/11 00:00	32.0	220	3.7	No response required	None	2
58	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/12 00:00	30.0	26	2.2	No response required	None	2
59	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Scorpio**	**2026/09/13 00:00**	**41.0**	**35**	**4**	**Fires - Meteorology**	**RBCAA allocation**	**100, 108**
60	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/13 00:00	41.0	35	4	No response required	None	2

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
61	**$PM_{2.5}$ Daily RSA Limit (40 µg/m³)**	**Scorpio**	**2026/09/14 00:00**	**61.0**	**22**	**5.5**	**Bushfire**	**bushfire**	**101**
62	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/14 00:00	61.0	22	5.5	No response required	None	2
63	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/15 00:00	28.0	329	5.3	No response required	None	2
64	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/16 00:00	29.0	198	3	No response required	None	2
65	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/20 00:00	22.0	24	1.9	No response required	None	2
66	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/21 00:00	27.0	237	2.3	No response required	None	2
67	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/22 00:00	21.0	161	2.2	No response required	None	2
68	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/23 00:00	23.0	9	2.9	No response required	None	2
69	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/24 00:00	32.0	199	3.4	No response required	None	2
70	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/25 00:00	27.0	9	3.2	No response required	None	2
71	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/26 00:00	16.0	19	4.2	No response required	None	2
72	$PM_{2.5}$ Daily WHO Limit (15 µg/m³)	Scorpio	2026/09/27 00:00	17.0	224	4.5	No response required	None	2

Table 2: PM 2.5 Responses

Response	Industry Feedback
2	No response required
92	Mondi - Candice Webb responded, (2026/09/03 14:01): Mondi has investigated the exceedances below: Based on wind direction it is unlikely that Mondi is the source.
93	Mondi - Candice Webb responded, (2026/09/04 11:04): Mondi has investigated, Based on wind direction and stable operating conditions. It is unlikely that Mondi is the source.
94	Grindrod - Nontokozo Dhlamini responded (2026/09/04 12:40): CONCLUSION Upon conducting an investigation, it is unlikely that the exceedance was caused by Grindrod terminals.
98	Tongaat Hulett - Nicolas Govender responded (2026/09/08 12:29): TH was no operating during this time, we have stopped since the 15 August 2026 due to an Employee Protected strike. Therefore it is unlikely that TH contributed to the Felixton PM2.5 exceedance.
99	Grindrod - Sibahle Dladla responded (2026/09/10 20:43): ROOT CAUSE OF INCIDENTS a) Meteorological conditions sourced from the Scorpio station on the date and time of the exceedance do not support the movement of dust from either Kusasa or Navitrade towards the monitoring station where the exceedance was observed. The wind direction during the reported period was northerly on 03 September 2026, with a wind speed of 4,8 m/s. Northerly winds would move emissions from the terminals towards the south, whereas the Scorpio station is located north-east of the terminals. Based on this wind direction and the relative location of the monitoring station, there was no credible pathway for dust from Kusasa or Navitrade to travel towards the Scorpio station during the exceedance period. b) Operational activities at the time of the incidents: At Kusasa, there were vessel offloading and loading activities. At Navitrade, there was offloading in enclosed tipplers and stockpiling. There were also vessel loading activities. c) Controls for operational activities: At Kusasa during loading of products into skips it occurs under a hopper that is enclosed by plastic curtains. Skips are securely tarped before they exist the site. Offloading of the mineral sands occurs undercover by a truck that offloads fromthe bottom into the silo systems. At Navitrade tipplers and the conveyor belt are enclosed and on the stockpiling area the water tanker was frequently suppressing dust during the activity. 4. CONCLUSION: Based on the investigation, there is insufficient evidence to attribute the reported PM2.5 exceedance to Grindrod Terminals. Meteorological data from the Scorpio station indicate that prevailing northerly winds (approximately 4.8 m/s) would have transported any potential emissions from Kusasa and Navitrade southwards, away from the monitoring station located north-east of the terminals. While dust-generating activities were underway at both terminals during the reported period, these activities were being conducted under established dust-control measures, including enclosed handling systems, tarping of skips, enclosed tipplers and conveyors, and water suppression of stockpiles. Considering the wind conditions, the relative location of the monitoring station, and the controls in place at the time, the available evidence does not support Grindrod Terminals as the source of the reported PM2.5 exceedance.
100	Mondi - Candice Webb responded, (2026/09/14 13:52): Dear Sandy, Mondi has investigated the PM2.5 exceedance below. Based on stable operating conditions and prevailing wind direction, it is unlikely that Mondi is the source.
101	South32 - Molebale, Londiwe responded via WhatsApp (2026/09/14 10:39): Our fire team has advised of a bushfire north of the ED village. The Umhlathuze fire team has been notified.
103	RBCAA Allocation -Sandy Camminga (2026/10/14 08:59): CoU wildfire Alton/Nzesi
104	RBCAA Allocation -Sandy Camminga (2026/10/14 08:59): ZFPA confirmed huge fire at Nsezi (Transnet area)
105	RBCAA Allocation -Sandy Camminga (2026/10/14 08:59): Unconfirmed source. Based on data Incident evident from approx. 18h30 to 22h30 – possibly controlled burn.
106	Tongaat Hulett - Nicolas Govender responded (2026/09/11 14:09): (Response supplied via WhatsApp) "…running one line crushing for now…"
107	RBCAA Allocation -Sandy Camminga (2026/10/14 08:59): RBCAA Allocation -Sandy Camminga (2026/10/14 08:59):
108	RBCAA Allocation -Sandy Camminga (2026/10/14 08:59): Based on WD likely fires to the NE

APPENDIX I
SO_2 EXCEEDANCE LOG

Table 1: SO_2 Exceedances.

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
1	SO_2 Daily WHO Limit (15 ppb)	CBD	2026/09/17 00:00	22.0	239	4.7	No response required	None	2
2	SO_2 Daily WHO Limit (15 ppb)	Harbour West	2026/09/03 00:00	28.3	358	4.8	No response required	None	2
3	SO_2 Daily WHO Limit (15 ppb)	Scorpio	2026/09/03 00:00	29.7	358	4.8	No response required	None	2

Table 2: SO_2 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_2S Limit (5.0 ppb)	Brackenham	2026/09/24 20:30	6.2	218	0.9	Mondi	SETP	1063, 1
2	TRS 30-minute WHO H_2S Limit (5.0 ppb)	CBD	2026/09/30 19:30	8.1	43	0.3	Mondi	SETP	1061, 1
3	TRS 30-minute WHO H_2S Limit (5.0 ppb)	CBD	2026/09/30 20:00	7.2	331	0.5	Mondi	SETP	1061, 1
4	TRS 10-minute OME Limit (9.3 ppb)	CBD	2026/09/30 20:20	9.5	296	0.6	Mondi	SETP	1061, 1
5	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/03 00:00	7.0	347	0.3	Mondi	SETP	1041, 1045, 1
6	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/03 00:30	15.8	14	1.4	Mondi	SETP	1041, 1045, 1
7	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/03 00:30	11.0	17	1.8	Mondi	SETP	1041, 1045, 1
8	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/03 00:40	11.9	11	1.6	Mondi	SETP	1041, 1045, 1
9	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/03 01:00	10.7	38	2.4	Mondi	SETP	1041, 1045, 1
10	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/03 01:00	10.6	33	2.0	Mondi	SETP	1041, 1045, 1
11	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/03 01:10	12.3	36	2.1	Mondi	SETP	1041, 1045, 1
12	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/05 18:00	14.9	24	1.1	Mondi	Meteorology	1043, 1046, 1
13	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/05 18:10	21.8	25	1.4	Mondi	Meteorology	1043, 1046, 1
14	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/05 18:20	18.7	28	1.0	Mondi	Meteorology	1043, 1046, 1
15	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/05 18:30	14.8	2	0.7	Mondi	Meteorology	1043, 1046, 1
16	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/05 18:30	8.9	13	0.5	Mondi	Meteorology	1043, 1046, 1
17	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/06 00:00	6.1	349	0.6	Mondi	Gases from the Hardwood process	1042, 1047, 1
18	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/06 00:20	9.9	347	0.4	Mondi	Gases from the Hardwood process	1042, 1047, 1
19	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/06 00:30	6.4	353	0.6	Mondi	Gases from the Hardwood process	1042, 1047, 1
20	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/08 02:00	12.0	34	0.5	Mondi	Meteorology	1048, 1049, 1
21	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/08 02:20	25.9	52	0.5	Mondi	Meteorology	1048, 1049, 1
22	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/08 02:30	32.1	352	0.4	Mondi	Meteorology	1048, 1049, 1
23	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/08 02:30	19.7	357	0.3	Mondi	Meteorology	1048, 1049, 1
24	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/08 02:40	18.4	22	0.3	Mondi	Meteorology	1048, 1049, 1
25	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/08 03:00	6.3	28	0.8	Mondi	Meteorology	1048, 1049, 1
26	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/08 03:20	10.4	15	0.9	Mondi	Meteorology	1048, 1049, 1
27	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/08 03:30	13.3	358	0.6	Mondi	Meteorology	1048, 1049, 1
28	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/08 03:30	6.3	350	0.8	Mondi	Meteorology	1048, 1049, 1
29	TRS 30-minute WHO H_2S Limit (5.0 ppb)	eSikhaleni	2026/09/13 04:30	9.1	23	1.6	THS	Start-up - smuts clarifiers	1050, 1051, 1064

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
30	TRS 10-minute OME Limit (9.3 ppb)	eSikhaleni	2026/09/13 04:50	11.4	22	1.2	THS	Start-up - smuts clarifiers	1050, 1051, 1064
31	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/13 04:20	10.8	49	0.7	THS	Start-up - smuts clarifiers	1050, 1051, 1064
32	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/13 04:30	11.5	27	1.3	THS	Start-up - smuts clarifiers	1050, 1051, 1064
33	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/13 04:30	5.3	44	0.9	THS	Start-up - smuts clarifiers	1050, 1051, 1064
34	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/16 07:00	6.2	240	2.0	THS	Effluent Plant	1052, 1054, 1064
35	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/16 07:10	12.1	241	1.7	THS	Effluent Plant	1052, 1054, 1064
36	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/20 01:00	12.4	197	0.7	THS	Effluent Plant	1053, 1055, 1064
37	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/20 01:10	14.7	207	1.0	THS	Effluent Plant	1053, 1055, 1064
38	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/20 01:20	13.4	195	0.4	THS	Effluent Plant	1053, 1055, 1064
39	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/20 02:30	10.5	187	1.1	THS	Effluent Plant	1053, 1055, 1064
40	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/20 02:30	9.1	177	0.8	THS	Effluent Plant	1053, 1055, 1064
41	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/20 02:40	12.1	176	0.9	THS	Effluent Plant	1053, 1055, 1064
42	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/20 03:30	6.4	63	1.1	THS	Effluent Plant	1053, 1055, 1064
43	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/20 04:00	6.0	55	1.1	THS	Effluent Plant	1053, 1055, 1064
44	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/21 16:30	12.0	221	2.8	THS	Effluent Plant	1056, 1062, 1064
45	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/21 16:40	24.6	219	3.1	THS	Effluent Plant	1056, 1062, 1064
46	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/27 19:30	5.7	218	4.9	THS	Effluent Plant	1057, 1059, 1064
47	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/28 13:00	5.6	215	4.3	THS	Effluent Plant	1058, 1060, 1064
48	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/28 16:00	5.4	221	2.6	THS	Effluent Plant	1058, 1060, 1064

No	Target / Guideline / Standard	Station	Date	Value (ppb)	Wind Direction (°)	Wind Speed (m/s)	Source	Comment	Response
49	TRS 30-minute WHO H_2S Limit (5.0 ppb)	Felixton	2026/09/28 17:30	5.9	219	3.2	THS	Effluent Plant	1058, 1060, 1064
50	TRS 10-minute OME Limit (9.3 ppb)	Felixton	2026/09/28 17:40	9.7	218	3.1	THS	Effluent Plant	1058, 1060, 1064

Table 2: TRS Responses

No	Industry Feedback
1	
1041	Mondi - Candice Webb responded, (2026/09/04 11:40): Both prior to and at the time of the exceedance, all odorous non-condensable gases (NCGs) were stable and being directed to their designated burning zones, with no process deviations identified that would indicate an abnormal release. However, the Secondary Effluent Treatment Plant (SETP) had been online since 23:00, and there had been some condensate flows to effluent pant prior to the exceedance. It is possible that the SETP was the source.
1042	Mondi - Candice Webb responded, (2026/09/07 14:43): Mondi has investigated the exceedance below. The elevated TRS levels measured at eSikhaleni station were most likely caused by the release of gases from the Hardwood process at approximately 23:13 on 5 September. The gases were released because a valve used to direct the gases to the correct incineration zone did not operate as intended. The fault was traced to a loose communication cable connected to the valve control system. The cable was replaced shortly afterwards, restoring normal operation. During the release, the gases passed through a carbon filter, which helped to reduce the concentration of odorous compounds before they were released to atmosphere.
1043	Mondi - Candice Webb responded, (2026/09/07 14:48): Mondi has investigated the exceedance below. Prior to the time of the exceedance, all Non-Condensable Gases were stable in the burning zones, the SETP was online, but there was no evidence of poor-quality condensate or low effluent pH sent to the effluent treatment plant which may have resulted in TRS emission. However, based on wind direction Mondi is the most likely source.
1045	Mpact -Traven Chetty responded, (2026/09/08 13:48): Mpact has conducted an investigation into the exceedances at eSikhaleni on the 3rd of September 2026. All plant process reports have indicated operations were stable with no upset conditions experienced. It is unlikely that Mpact is the cause of these exceedances.
1046	Mpact -Traven Chetty responded, (2026/09/09 10:08): Mpact has investigated these exceedances on the 5th of September at eSikhaleni Station. All plant process reports have indicated that operations were stable with no upset conditions. It's unlikely that Mpact is the cause of these exceedances.
1047	Mpact -Traven Chetty responded, (2026/09/09 14:58): Mpact has reviewed all plant process reports in regards to the exceedances at eSikhaleni on 6th September 2026. All processes were stable with no abnormal conditions. Based on this, it's unlikely that Mpact is the cause of these exceedances at eSikhaleni.
1048	Mpact -Traven Chetty responded, (2026/09/10 15:24): Mpact has investigated these exceedances at eSikhaleni on the 8th of September 2026. The plant process reports have indicated stable operations with no upset conditions experienced. It is unlikely that Mpact is the cause of these exceedances experienced at eSikhaleni station.
1049	Mondi - Candice Webb responded, (2026/09/11 14:31): Mondi has investigated the elevated TRS recorded at the eSikhaleni monitoring station. Based on the prevailing wind speed and the distance between the Mill and the monitoring station, the investigation considered potential sources and operational deviations during the period 17:00 on 7 September to 02:00 on 8 September. During this period, all Non-Condensable Gases (NCGs) remained stable within their designated burning zones, with no indication of venting or release from the NCG system. The Secondary Effluent Treatment Plant (SETP) was operational between approximately 23:00 on 7 September and 04:00 on 8 September. However, there was no evidence of poor-quality condensate or other abnormal conditions within the effluent treatment system that could be linked to the elevated TRS exceedance. However based on the prevailing wind direction, Mondi is the most likely source.
1050	Mondi - Candice Webb responded, (2026/09/14 13:50): Mondi has investigated the elevated TRS recorded at the eSikhaleni and Felixton monitoring stations. Based on the prevailing wind speed and the distance between the Mill and the monitoring station, the investigation considered potential sources and operational deviations during the period 23:00 on 12 September to 05:00 on 13 September. During this period, all Non-Condensable Gases (NCGs) remained stable within their designated burning zones, with no indication of venting or release from the NCG system. The Secondary Effluent Treatment Plant (SETP) was operational. However, there was no evidence of poor-quality condensate or other abnormal conditions within the effluent treatment system that could be linked to the elevated TRS exceedance. Based on the prevailing wind direction, Mondi is the most likely source. However, based on low wind speed at Felixton, a local source could also be possible.
1051	Mpact -Traven Chetty responded, (2026/09/16 10:50): Mpact has conducted an investigation into the exceedances at eSikhaleni and Felixton on the 13th of September2026. We have reviewed the plant process reports which indicated all processes were stable with no upset conditions experienced. Based on this review and investigation, it is unlikely that Mpact is the cause of both exceedances.
1052	Mondi - Candice Webb responded, (2026/09/17 10:34): Mondi has investigated the exceedance below. Based on wind direction, it is unlikely that Mondi is the source.
1053	Mondi - Candice Webb responded, (2026/09/21 14:26): Mondi has investigated the exceedances below. Based on fluctuating wind direction, low wind speeds, and stable operating conditions at Mondi. Mondi feels that it is most likely that a local source contributed to the TRS exceedances.
1054	Mpact -Traven Chetty responded, (2026/09/21 16:02): Mpact has reviewed the exceedance on 16th of September 2026 at Felixton station. All plant process reports have indicated stable operations were no abnormal conditions experienced. Furthermore, the wind direction is not in support of emissions from Mpact. Based on this, it's unlikely that Mpact is the cause of this exceedance.

No	Industry Feedback
1055	Mpact -Traven Chetty responded, (2026/09/23 12:40): Mpact has investigated the exceedances at Felixton on the 20th of September 2026. All plant process reports indicated that operations were stable with no abnormal or upset conditions experienced. It is unlikely that Mpact is the cause of these exceedances.
1056	Mpact -Traven Chetty responded, (2026/09/23 12:40): Mpact has reviewed the plant process reports in regards to this exceedance at Felixton, which indicated stable operations and no abnormal/upset conditions experienced. The wind direction indicated (SW) is not in support of emissions from Mpact. Based on this, it's unlikely that Mpact is the cause of this exceedance at Felixton.
1057	Mpact -Traven Chetty responded, (2026/09/29 11:55): Mpact has reviewed all plant process reports in regards to this exceedance at Felixton on the 27th of September 2026. All processes were stable with no abnormal conditions. Furthermore, the wind direction is not in favour of emissions from Mpact. Based on this, it's unlikely that Mpact is the cause of this exceedance.
1058	Mondi - Candice Webb responded, (2026/09/30 13:48): Mondi has investigated the exceedance below. Based on wind direction it is unlikely that Mondi is the source.
1059	Mondi - Candice Webb responded, (2026/09/30 13:49): Mondi has investigated the exceedance below. Based on wind direction, it is unlikely that Mondi is the source.
1060	Mpact -Traven Chetty responded, (2026/10/01 12:04): Mpact has investigated the exceedances experienced on the 28th of September at the Felixton station. All plant process reports have indicated that operations were stable. The wind direction is also not in favour of emissions from Mpact. Based on this, it is unlikely that Mpact is the cause of these exceedances at Felixton.
1061	Mondi - Candice Webb responded, (2026/10/02 10:17): Mondi has investigated the exceedance below. Based on low wind speeds and prevailing wind direction prior to the exceedances, it is mostly that Mondi contributed to the TRS. However, root cause has been difficult to trace due to stable operating conditions. However, it is possible that fugitive emissions from the SETP were a contributing factor.
1062	Mondi - Candice Webb responded, (2026/10/02 13:15): Mondi has investigated he exceedance. Based on wind direction it is unlikely that Mondi is the source.
1063	Mondi - Candice Webb responded, (2026/10/02 13:22): Mondi has investigated the exceedance below. Based on wind direction, Mondi is the most likely source. Root cause has been difficult to trace due to stable operating conditions. However, it is possible that fugitive emissions from the SETP were a contributing factor.
1064	Tongaat Hulett - Nicolas Govender responded (2026/10/05 12:21): Lines 3971 to 3975 – TH was still starting up after the strike, this may have caused upset conditions around the smuts clarifiers and caused the TRS exceedances. Line 3976 to 3992 – The plant took a few days to settle down after the long stop. A lot of effluent was generated and sent down to the treatment plant, this may caused the exceedances.

8. REFERENCES

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