RBCAA MANCO BRIEFING

Monthly Air Quality Report

September 2026

Richards Bay Clean Air Association (RBCAA)

Technical report update



Project 2026001 | Report 026 | October 2026

AIMS

Executive snapshot

Eight $PM_{2.5}$ daily NAAQS exceedances were recorded in September (Scorpio 4, Brackenham 2, Felixton 2); all three remain above the four-day annual allowance YTD. PM_{10} and SO_2 had no NAAQS exceedances.

Signal	September outcome	Why it matters
Complaints	**3 received**	Down from 68 in August and 39 in September 2025; allocations: Mondi 2, Grindrod 1.
Rainfall	**169 mm average**	RBCT highest at 209 mm; South32 lowest at 90 mm; Meerensee gauge lost one day.
PM_{10}	**0 daily NAAQS**	No RSA events; 6 WHO 24-hour guideline days (CBD 2, Felixton 2, Scorpio 2).
$PM_{2.5}$	**8 daily NAAQS**	Scorpio 4, Brackenham 2, Felixton 2; 6 of 8 allocated to fires; 64 WHO guideline days.
SO_2	**0 NAAQS**	No RSA 24-hour, 1-hour or 10-minute events; 3 WHO guidance days (CBD, Harbour West, Scorpio).
TRS/H_2S	**0 OME 24h; 26 WHO 30m; 24 OME 10m**	No RSA ambient standard; guidance events indicate odour potential and source-control need.

Priority follow-up

Prioritise Scorpio, Brackenham and Felixton $PM_{2.5}$; evaluate the Scorpio co-location test and recalibration; restore Arboretum power and close the Felixton and eSikhaleni TRS analyser faults.

Source: RBCAA Monthly Air Quality Report - September 2026

September capture 80.2–100.0%; outages recorded at five sites

Network coverage

11 primary stations + 11 AirGradient screening monitors.
Stream capture ranged 80.2–100.0%; PM_{10} and $PM_{2.5}$ were 96.7–100.0%.

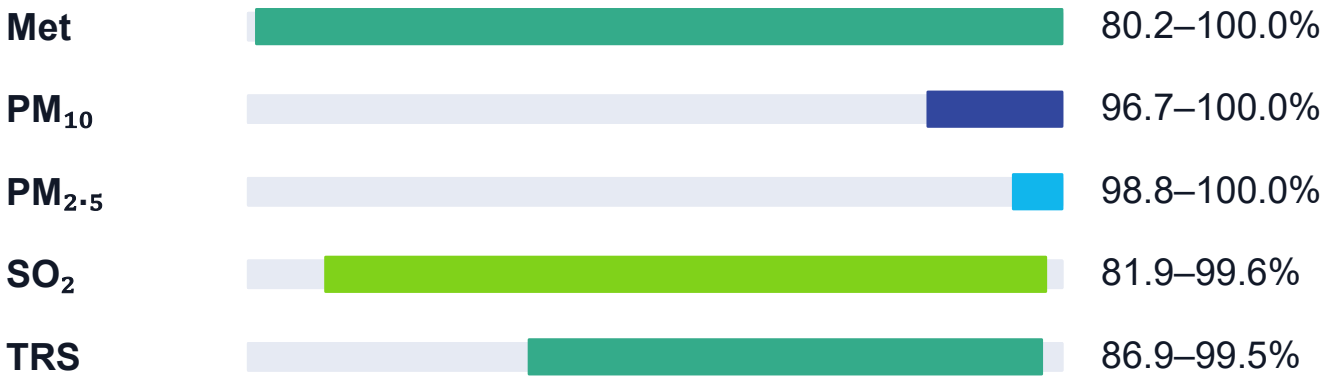
11
primary stations
RBCAA network

11
AirGradient monitors
screening network

Data caveats

Arboretum 10–11 and 26–30 Sep (logger PC, power, vandalism); Brackenham met 15–17 Sep; eSikhaleni to 1 Sep; Felixton TRS 22–25 Sep.

Capture range by stream (bar spans min–max; axis 80–100%)



Review note

September data are suitable for monthly review, subject to the Scorpio $PM_{2.5}$ instrument qualification and reduced Arboretum SO_2/wind (81.9–82.4%) and Felixton TRS (86.9%) records, below the 90% reporting threshold.

Source: RBCAA Monthly Air Quality Report - September 2026

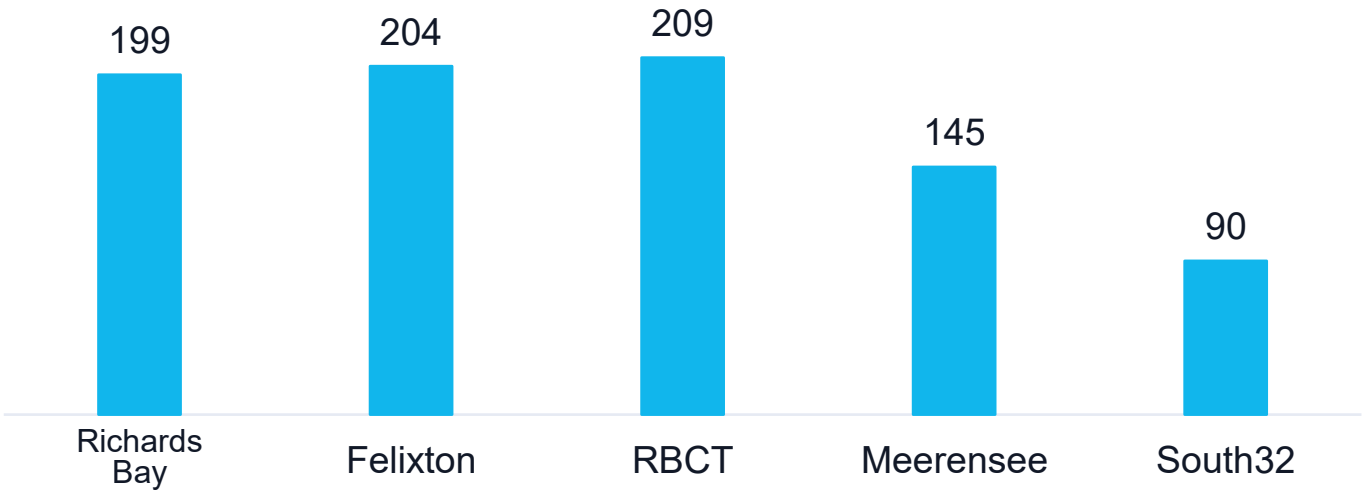
September winds favoured N–NE; rainfall averaged 169 mm

Arboretum wind regime

Predominant axis: N–NE; mean speed: 3.6 m/s.
Valid wind data: 81%; calms: 2%.

Period	Dominant sector	Sector 2	Calms
Sep 2025	N-NE 36%	SSW-WSW 33%	0%
Sep 2026	N-NE 40%	SW-WSW 25%	2%

Rainfall totals by reporting location, September 2026 (mm)



Rainfall

Average 169 mm across five gauges; RBCT highest at 209 mm and South32 lowest at 90 mm.

Use in review

Use dominant wind axes for source-to-receptor screening.

Source screening

Review wind, rainfall and complaint timing together.

Source: RBCAA Monthly Air Quality Report - September 2026

Complaints fell to 3 in September, down from 39 a year earlier

September 2026 complaint signal

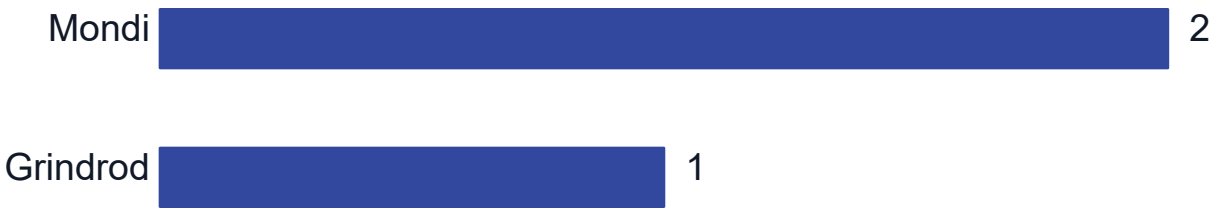
3 complaints versus 39 in September 2025 and 68 in August 2026.
Allocations: Mondi 2, Grindrod 1.
Types: odour 2, dust 1. Regions: one each.

3
complaints

−36
vs September 2025

2
odour-related

Source allocations by complaint count



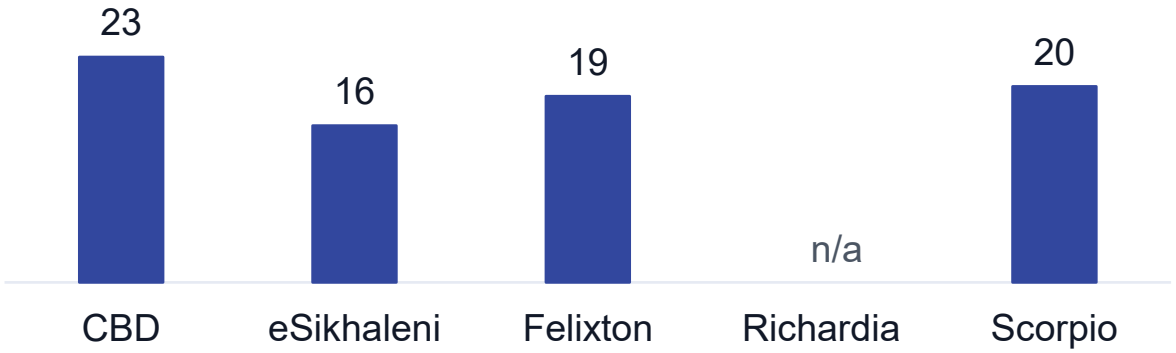
Distribution lens

Richards Bay 1 (dust, coal stockpiles, Grindrod, 3 Sep); Veldenvlei 1 (odour, Mondi, 15 Sep); Brackenham 1 (odour, Mondi, 17 Sep).

Source: RBCAA Monthly Air Quality Report - September 2026

PM_{10}: no NAAQS exceedances in September

Monthly average PM_{10} (µg/m³)



September outcome

Capture was 96.7–100.0%. No RSA 24-hour exceedances; 6 WHO 24-hour guideline exceedance-days (CBD 2, Felixton 2, Scorpio 2).

Review refinement

Richardia PM_{10} ceased on 2 March 2026 (last valid record 10:40) and Brackenham has no PM_{10} channel; neither is assessed.

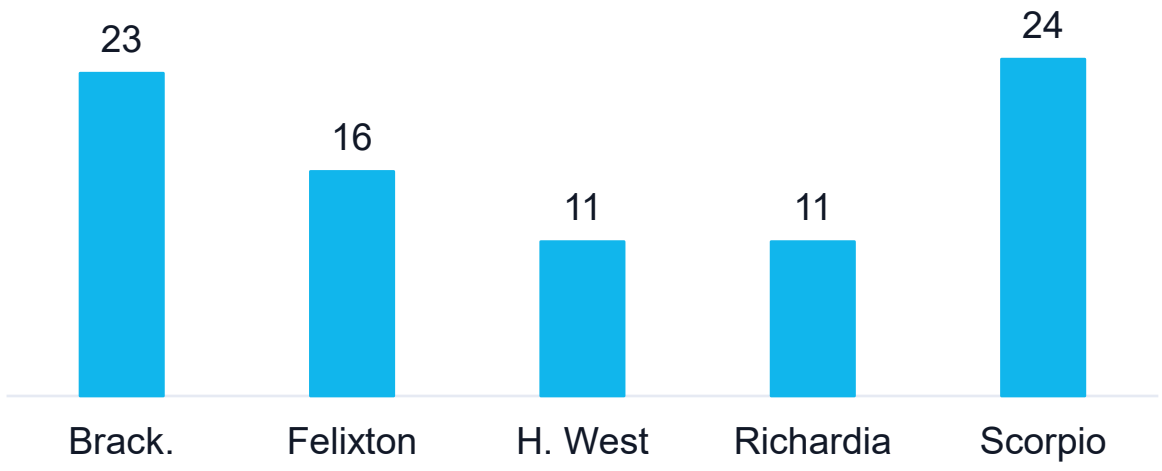
Assessment

September means were below the RSA annual standard. CBD, eSikhaleni, Felixton and Scorpio were above the WHO annual guideline as a screening comparison.

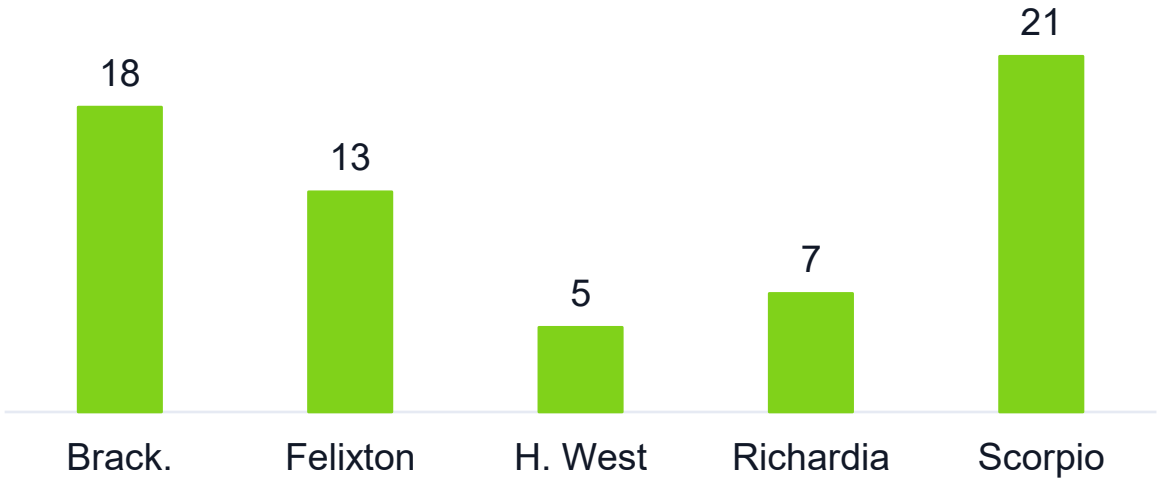
Source: RBCAA Monthly Air Quality Report - September 2026

$PM_{2.5}$: eight NAAQS exceedances in September

Monthly average $PM_{2.5}$ (µg/m³)



WHO $PM_{2.5}$ exceedance-days



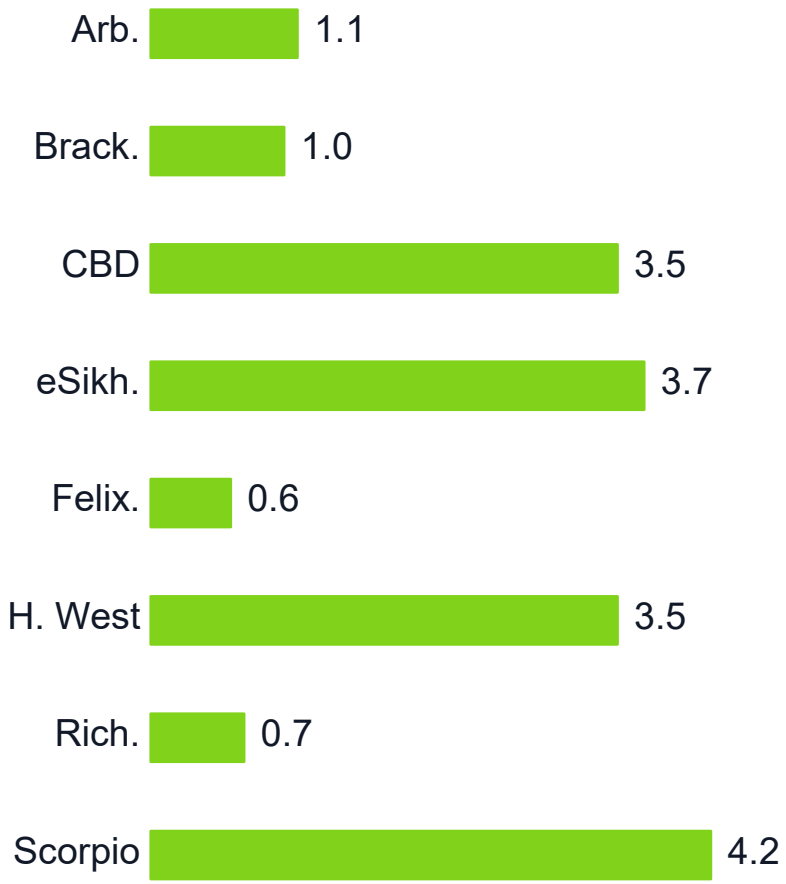
September outcome

Eight NAAQS exceedances: Scorpio 4, Brackenham 2, Felixton 2; 64 WHO exceedance-days.
Attribution: six to fires (CoU wildfire 3; bushfire, fire and fire-meteorology 3); Felixton 1 THS process-related, 1 unconfirmed.
Scorpio $PM_{2.5}$ exceeded co-located PM_{10} on 24 of 30 days; counts are provisional pending recalibration.

Source: RBCAA Monthly Air Quality Report - September 2026

SO_2: no NAAQS exceedances in September

Monthly average SO_2 (ppb)



September outcome

Capture: 81.9–99.6%. No RSA 24-hour, 1-hour or 10-minute exceedances.

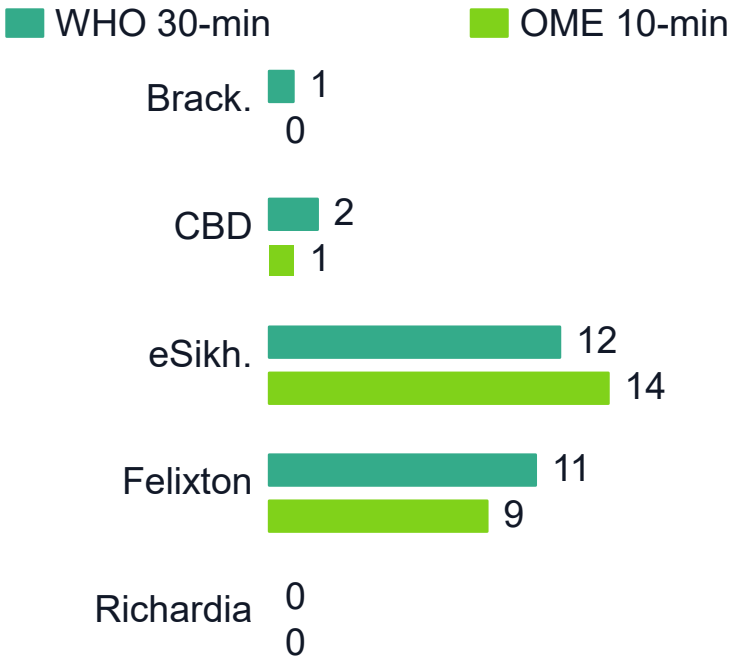
WHO 24-hour guidance

3 WHO guidance days: CBD 1, Harbour West 1, Scorpio 1.

Source: RBCAA Monthly Air Quality Report - September 2026

TRS/H_2S: short-term odour events, not non-compliance

TRS/H_2S exceedances by station, September 2026



September outcome

OME 24-hour events: 0;
WHO 30-minute: 26;
OME 10-minute: 24;
(mainly eSikhaleni and Felixton)

Interpretation

No South African NAAQS applies. These events signal odour-annoyance and source-control needs.

Operational implication

Mondi accounted for 14 of 26 WHO 30-minute and 14 of 24 OME 10-minute exceedances; THS (effluent plant, smut-clarifier start-up) for 12 and 10.

Source: RBCAA Monthly Air Quality Report - September 2026

2026 year-to-date status

PM_{10}

NAAQS (max 4 days/yr): within the allowance; 1 exceedance at eSikhaleni.
WHO 24-hour days: CBD 9, Felixton 7, Scorpio 5, eSikhaleni 1.

$PM_{2.5}$

NAAQS (max 4 days/yr): Scorpio 19, Brackenham 17, Felixton 7 exceed the allowance; Harbour West 1, Richardia 0 within.
WHO 24-hour days: Scorpio 166, Brackenham 145, Felixton 96, Harbour West 56, Richardia 41.

SO_2

NAAQS: within all frequencies. Scorpio 3/4 daily, 8/88 hourly, 8/526 10-minute; Harbour West 1/88 hourly, 3/526 10-minute; CBD 1/526 10-minute.
WHO 24-hour days: Scorpio 54, Harbour West 24, CBD 5.

TRS / H_2S

No South African ambient standard; no compliance determination.
OME 24-hour: 0. WHO 30-minute: Felixton 148, eSikhaleni 99, Brackenham 68, CBD 35, Richardia 33.
OME 10-minute: Felixton 173, eSikhaleni 57, Brackenham 43, CBD 11, Richardia 4.

Implication

Focus regulatory follow-up on Scorpio, Brackenham and Felixton $PM_{2.5}$, and complete the Scorpio $PM_{2.5}$ instrument verification. Guidance exceedances flag exposure or odour-annoyance; they are not NAAQS non-compliance.

Source: RBCAA Monthly Air Quality Report - September 2026