Quarterly Air Quality Monitoring Report

October 2024 – December 2024

Prepared By:

Mid West Ports Authority

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1. Introduction

1.1 Purpose

Geraldton Port is a Prescribed Premises under the *Environmental Protection Act 1986* and as such operates under an Environmental Licence (L4275/1982/15) administered by the Department of Water and Environmental Regulation (**DWER**). The environmental licence sets emission concentration targets and limits for air quality at the prescribed premises boundary.

Mid West Ports Authority (MWPA) conducts a comprehensive air quality monitoring program to monitor and manage dust emissions associated with the operation of Geraldton Port. The location of the monitoring equipment is shown in **Figure 1**. For additional information on the monitoring program refer to the Air Quality Monitoring Sampling and Analysis Plan.

Condition 36 of the environmental licence requires MWPA to provide a Quarterly Air Quality Monitoring Report to DWER. Table 1 lists the reporting requirements under the Environmental Licence and identifies where this information can be found within this report.

The reporting period for this Quarterly Air Quality Monitoring Report is the inclusive period from 01 October 2024 to 31 December 2024.

TABLE 1 – AIR QUALITY REPORTING REQUIREMENTS

Condition	Requirement	Relevant Section(s)
Condition 27 (Table 4)	Ambient air quality target exceedances. Description of exceedances (including concentrations for all parameters specified in Table 4), dates of exceedances, operational description, and meteorological conditions at the time of exceedance, potential source(s) of exceedances, investigative and corrective actions taken.	Section 2 Real Time Air Quality Summary Section 3 High Volume (HVAS) Air Sampling Data Appendix A
Condition 27 (Table 4) Note 2	Continuous monitoring is permitted to include gaps equating to no more than two hours in every 24-hour averaging period, as required for the changing of HVAS sampler filter papers.	Section 4 Monitoring Equipment Incidents
DWER Letter Ref. 2011-000451 (22 June 2018)	24-hour averaged PM_{10} data for every monitor within the air quality monitoring network. Wind direction and speed data for that 24-hour period. Data may be tabulated or presented in figures at MWPAs discretion, provided the information requested above is presented together, for each individual day that an exceedance occurs.	Appendix A

Condition	Requirement	Relevant Section(s)
	A full description of all activities occurring within the premises that may have caused dust, for that 24-hour period (not just category 58 activities). MWPAs assessment of cause for the exceedance, and a clearly justified 'contributed' or 'not contributed' statement.	Section 2 Real Time Air Quality Summary Table 3
	Presented separately to the above in an Excel Spreadsheet or CSV file, DWER requests all air quality and meteorological time series data as five-minute averages (or next closer), for each site, for the entire quarterly reporting period.	Appendix B

2. Real Time Air Quality Summary

Each compliance air quality monitoring station has a Tapered Element Oscillating Microbalance (TEOM) real time air quality monitor which measures dust as PM_{10} (Figure 1). An additional reference offsite air quality monitoring station was commissioned in February 2013 which comprises a Beta Attenuating Monitor (BAM). This site is in the suburb of Bluff Point and is adjacent to the navigational aid.

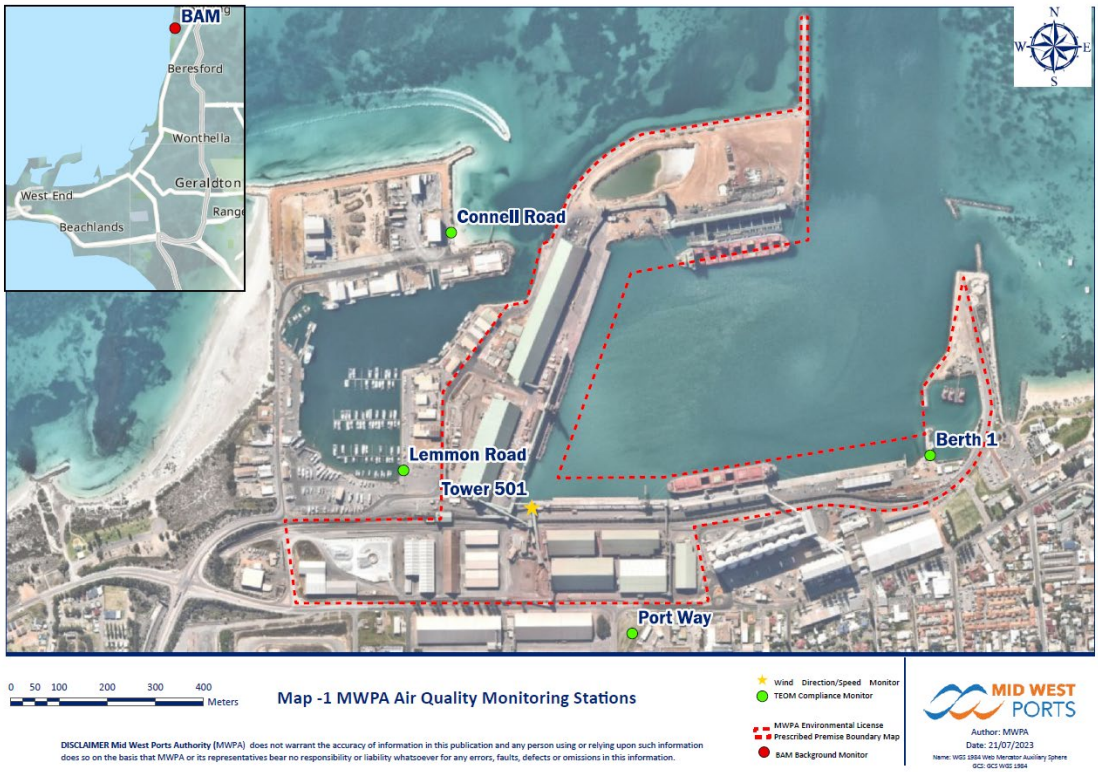

Figure 1 MWPA AIR QUALITY AND WIND MONITORING NETWORK

Daily average dust levels have been calculated over a 24-hour period from midnight to midnight and are presented in Appendix B. Table 2 provides a summary of results for the period.

TABLE 2 – PM_{10} DAILY AVERAGE DUST CONCENTRATIONS, OCTOBER TO DECEMBER 2024

Criteria	Compliance Monitoring Stations				Offsite (BAM Monitor)
	Berth 1	Port Way	Connell Road	Lemmon Road	
Total Exceedances	9	19	14	15	9
Port Influenced Exceedances[1]	1	3	4	2	0
Average (µg/m³)	30.7	38.9	35.7	34.8	23.6
Maximum (µg/m³)	60.2	107.0	92.4	76.1	68.3
Minimum (µg/m³)	8.6	13.0	9.0	11.4	16.4
No Data (days)	0	1	0	4	53

A total of 57 site exceedances were recorded over 32 monitoring days at compliance monitoring stations in this reporting period. 9 exceedances were also recorded at the offsite reference monitor during the period. MWPA uses the EnviroSuite Software to plot an "arc of influence." The software uses the wind direction and speed to project the area of influence up wind of the monitoring station, which helps to identify possible dust sources. A review of Port operations and wind conditions during each 24-hour period (Table 3) established that Port related operations contributing to 5 of these monitoring days (equalling 10 site exceedances).

5-minute average TEOM data, wind speed and wind direction data has been provided for each target exceedance event during this quarterly period (Appendix A, Figures 11 - 43 (exceedance graphs) and Appendix B (raw data)).

1 An exceedance is considered "Port Influenced" when the MWPA contribution is assessed to exceed 50% of the daily average target (i.e. greater than 25ug/m3 over 24 hours), excluding any background or off-site dust contribution.

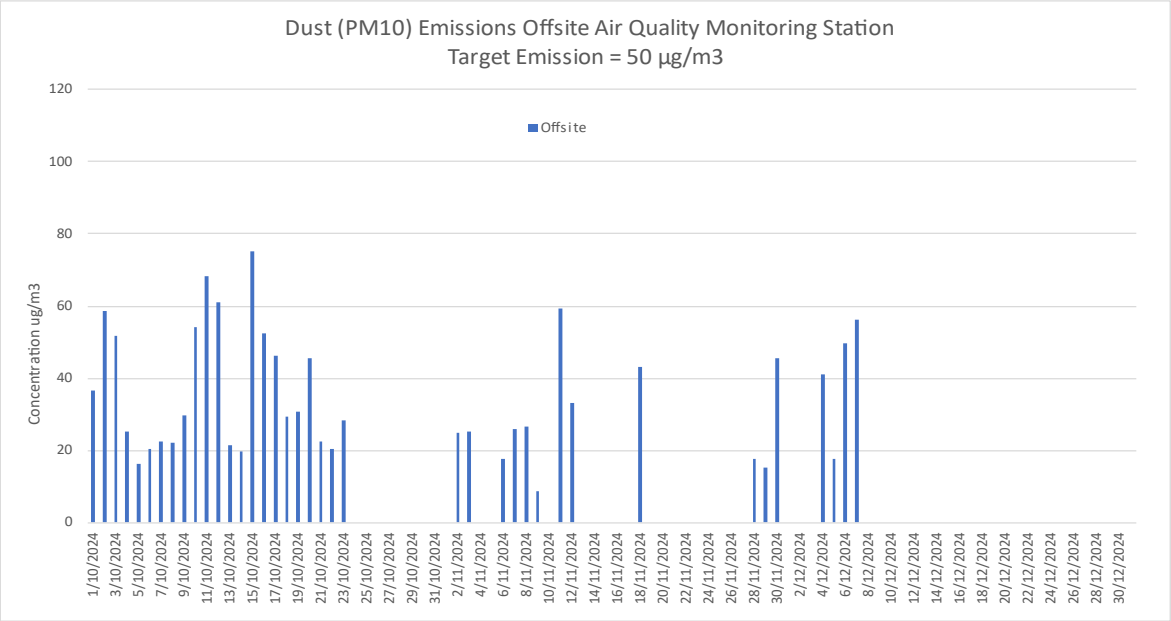

FIGURE 2 - OCTOBER - DECEMBER 2024 DAILY AVERAGE DUST (PM10) RECORDED AT OFFSITE AIR QUALITY MONITORING STATION

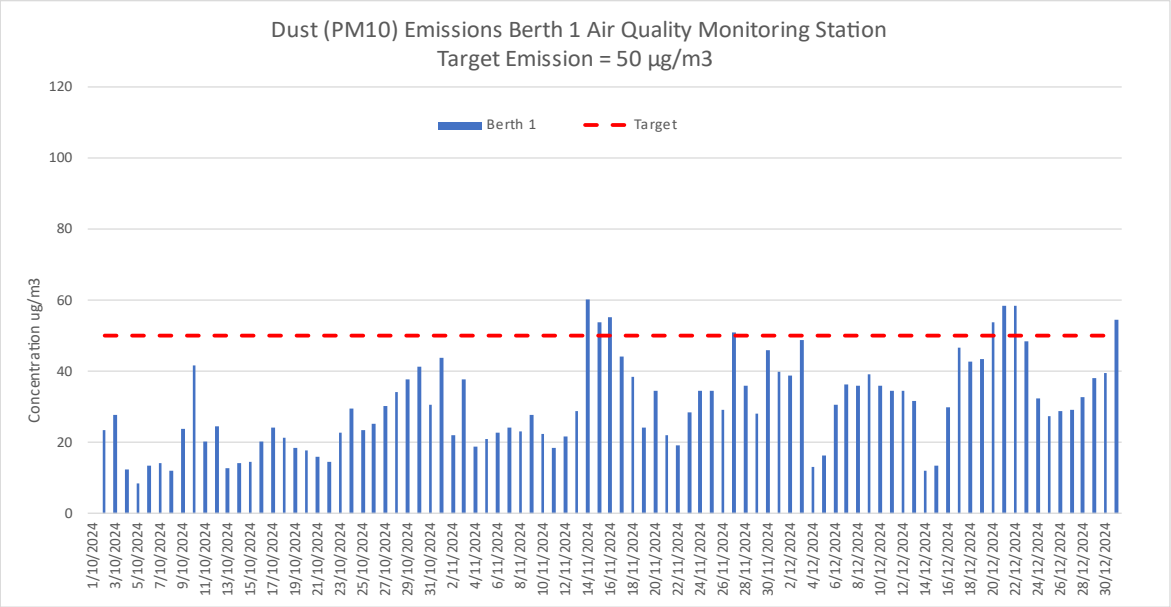

FIGURE 3 - OCTOBER - DECEMBER 2024 DAILY AVERAGE DUST (PM10) RECORDED AT BERTH 1 AIR QUALITY MONITORING STATION

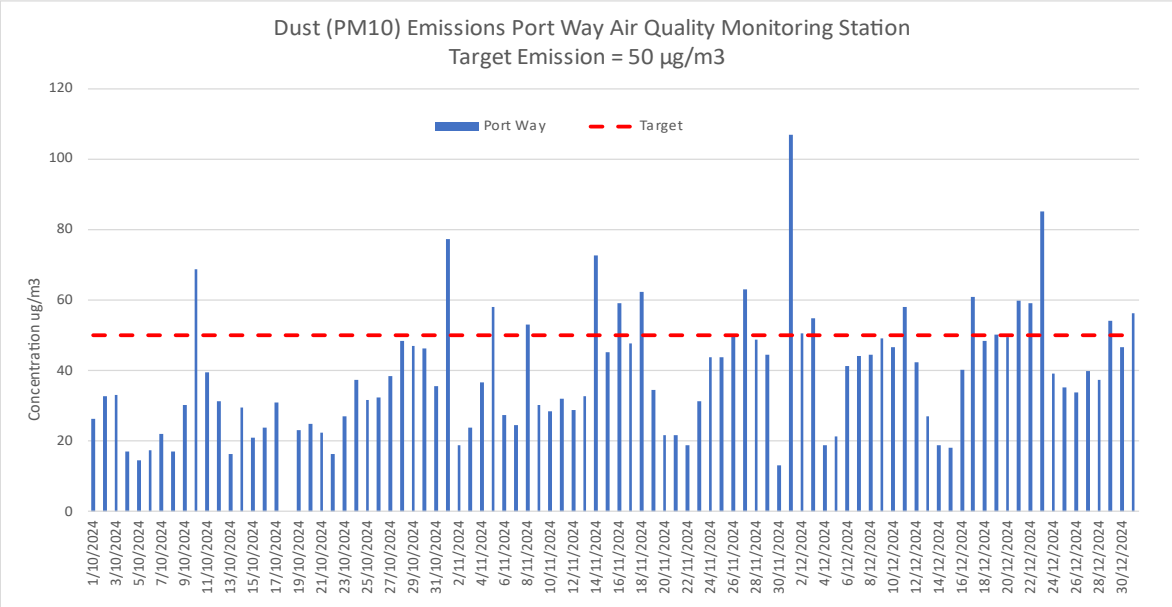

FIGURE 4 – OCTOBER - DECEMBER 2024 DAILY AVERAGE DUST (PM_{10}) RECORDED AT PORT WAY AIR QUALITY MONITORING STATION

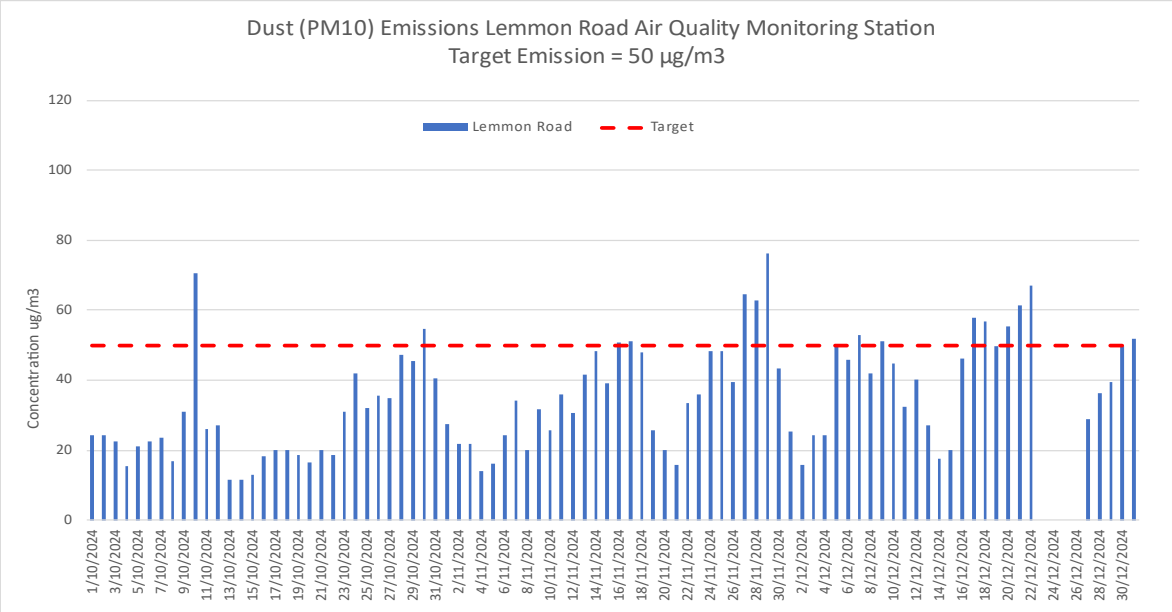

FIGURE 5 - OCTOBER - DECEMBER 2024 DAILY AVERAGE DUST (PM10) RECORDED AT LEMMON ROAD AIR QUALITY MONITORING STATION

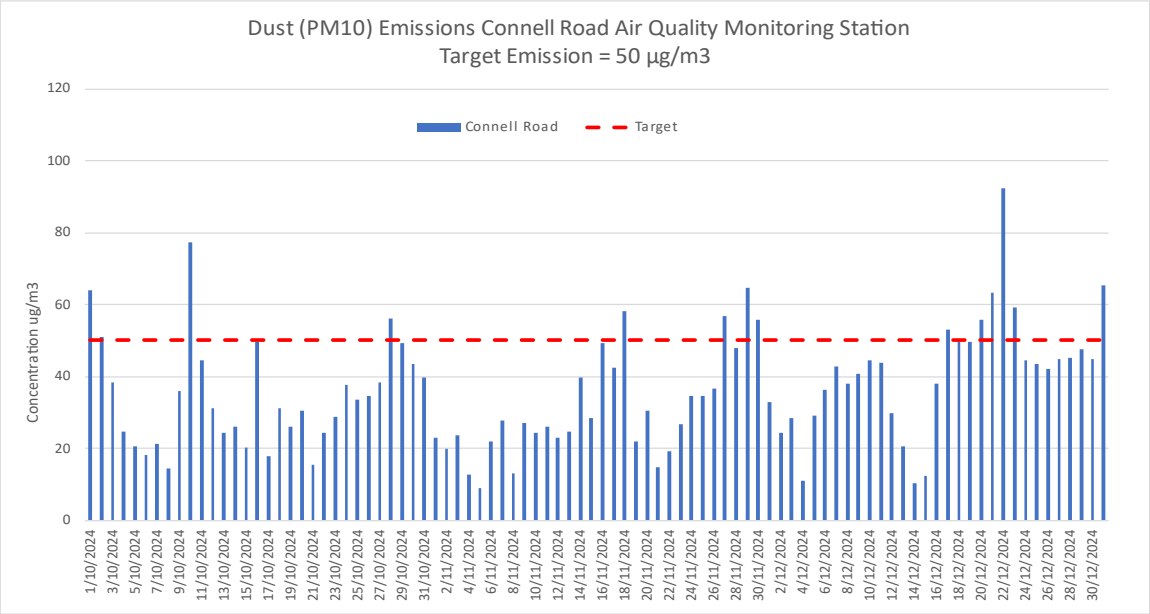

FIGURE 6 - OCTOBER - DECEMBER 2024 DAILY AVERAGE DUST (PM_{10}) RECORDED AT CONNELL ROAD AIR QUALITY MONITORING STATION

TABLE 3 – PM_{10} DUST RESULTS OCTOBER - DECEMBER 2024

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
1	1/10/2024	Not Contributed	Berth 1 (53.1µg/m³) and Connell Road (63.9µg/m³) exceeded on this date. Wind was light from the South to Southeast before 9am, and gentle from the West to West-Northwest for most of the rest of the day. No vessel loading occurred after 1300hrs due to a surge event. 67% of Connell Roads daily average was from offsite. 65% of Lemmon Roads daily average was from offsite or background dust.	B3: Wheat	Figure 11
2	2/10/2024	Not Contributed	Connell Road (51µg/m³) exceeded on this date. No vessel loading occurred due to a surge event. The exceedance was due to offsite dust from the West and Northeast of the monitor.	No Product Loaded	Figure 12
3	10/10/2024	Not Contributed	Connell Road (77.2µg/m³), Lemmon Road (70.4µg/m³) and Port Way (68.8µg/m³) exceeded on this date. Wind was from the South to Southwest for most of the day. 86% of Port Ways daily average was due to offsite dust from South of the Port, which contributed to Lemmon Road and Connell Roads daily averages also.	B4: Zircon/Ilmenite B6: Conc Zinc B7: Iron Ore	Figure 13
4	28/10/2024	Not Contributed	Connell Road (56.1µg/m³) exceeded on this date. Wind was from the Southeast to Southwest throughout the day. The daily average was not significantly higher than the upwind monitors Port way and Lemmon Road.	B7: Iron Ore	Figure 14

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
5	30/10/2024	Not Contributed	Lemmon Road (54.8µg/m³) exceeded on this date. Wind was fresh from the Southwest throughout the day. The P/Shed E-Sampler recorded similar levels to the Lemmon Road monitor indicating the exceedance was due to offsite dust from the Southwest of the Port.	B3: Wheat B4: Bulk Min Sands B7: Iron Ore	Figure 15
6	1/11/2024	Not Contributed	Port Way (77.3µg/m³) exceeded on this date. Wind was moderate from the Southwest for most of the day. The exceedance was due to offsite dust to the Southwest of the port.	B4: Bulk Min Sands B6: HPM B7: Iron Ore	Figure 16
7	5/11/2024	Not Contributed	Port Way (58.2µg/m³) exceeded on this date. Wind was moderate from the Southwest for most of the day. The exceedance was due to offsite dust to the Southwest of the port.	B4: Bulk Min Sands B6: General Cargo	Figure 17
8	8/11/2024	Not Contributed	Port Way (53µg/m³) exceeded on this date. Wind was moderate from the West-Southwest for most of the day. The exceedance was due to offsite dust to the West-Southwest of the port.	B3: Wheat B4: Spodumene B5: Iron Ore B6: General Cargo	Figure 18
9	14/11/2024	Not Contributed	Port Way (72.6µg/m³) exceeded on this date. Wind was moderate from the West-Southwest for most of the day. The exceedance was due to offsite dust to the West-Southwest of the port.	No Product Loaded	Figure 19
10	15/11/2024	Not Contributed	Berth 1 (54µg/m³) exceeded on this date. Wind was moderate to fresh from the Southwest throughout the day. The	No Product Loaded	Figure 20

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
			exceedance was due to offsite dust to the Southwest of the monitor.		
11	16/11/2024	Not Contributed	Berth 1 (54µg/m³), Lemmon Road (50.8µg/m³) and Port Way (59µg/m³) exceeded on this date. Wind was from the Southwest throughout the day. All monitors recorded daily averages near 50µg/m³, indicating a regional influence.	No Product Loaded	Figure 21
12	17/11/2024	Not Contributed	Lemmon Road (51µg/m³) exceeded on this date. Wind was gentle from the Southeast in the morning and moderate from the Southwest in the afternoon and evening. The exceedance was due to offsite dust from the Southwest of the Port.	B7: Iron Ore	Figure 22
13	18/11/2024	Not Contributed	Connell Road (58.1µg/m³) and Port Way (62.4µg/m³) exceeded on this date. Wind was gentle to moderate from the Southeast in the early morning and light in intensity from the South in the middle of the day and light in intensity from the North to Northeast in the afternoon and evening. Operations observed there was a high level of background dust throughout the day. Offsite dust from grain inloading likely contributed to the exceedance at Port Way.	B3: Wheat B7: Iron Ore	Figure 23
14	26/11/2024	Not Contributed	Berth 1 (50.9µg/m³), Connell Road (56.7µg/m³), Lemmon Road (64.4µg/m³) and Port Way (62.9µg/m³) exceeded on this date. Wind was from the South throughout the day. All monitors recorded daily averages above 50µg/m³. The exceedances were due to offsite dust from the south of the port.	No Product Loaded	Figure 24

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
15	27/11/2024	Not Contributed	Lemmon Road (62.7µg/m³) exceeded on this date. Wind was gentle from the South to Southeast in the morning and fresh from the Southwest for the remainder of the day. The exceedance was due to offsite dust from the South of the Port.	B3: Wheat	Figure 25
16	28/11/2024	Contributed	Connell Road (64.8µg/m³) and Lemmon Road (76.1µg/m³) exceeded on this date. Dust from the talc stockpile, groundwork near the BHF truck unloader and smoke from a bushfire near Cervantes all contributed to the exceedance. The leaseholder responsible for the stockpile was instructed to condition the talc stockpile to reduce dust liftoff.	B3: Wheat B5: Iron Ore	Figure 26
17	29/11/2024	Contributed	Connell Road (55.8µg/m³) and Port Way (129.6µg/m³) exceeded on this date. Smoke from a bushfire near Cervantes contributed to the elevated levels at all monitors. Grain loading on Berth 3 and groundwork near the BHF truck contributed to the exceedance at Port Way. The exceedance at Connell Road was due to particulates from offsite.	B3: Wheat B7: Iron Ore	Figure 27
18	30/11/2024	Contributed	Port Way (106.7µg/m³) exceeded on this date. Wind was light and variable in the morning and from the Northwest to Southwest through the rest of the day. Grain loading over Berth 3 and groundwork to the Northwest of the monitor contributed to the exceedance. The grain exporter was instructed to reduce dust levels from loading. A water truck was deployed to the groundwork area reduce dust liftoff.	B3: Wheat B6: Conc Copper B7: Iron Ore	Figure 28

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
19	1/12/2024	Not Contributed	Port Way (50.5µg/m³) exceeded on this date. Wind was from the West to Southwest throughout the day. The exceedance was due to offsite dust from the West of the monitor.	B3: Wheat B6: Conc Copper B7: Iron Ore	Figure 29
20	2/12/2024	Not Contributed	Port Way (55µg/m³) exceeded on this date. Wind was from the West to Southwest throughout the day. 90% of the daily average was from an offsite direction.	B3: Wheat B4: HMC B6: Conc Copper B7: Iron Ore	Figure 30
21	3/12/2024	Not Contributed	Port Way (50.7µg/m³) exceeded on this date. Wind was from the West for most of the day with a period from the Southeast in the morning. The exceedance was due to offsite dust from the West-Southwest of the monitor.	B3: Wheat B4: HMC B5: Iron Ore B6: Conc Copper	Figure 31
22	7/12/2024	Not Contributed	Lemmon Road (53µg/m³) exceeded on this date. Wind was from the South to Southwest throughout the day. Lemmon Roads daily average was not significantly higher than Port Ways indicating the main cause of the exceedance was offsite dust from the South of the Port.	B3: Wheat B4: HMC B5: Iron Ore B6: Conc Copper B7: Iron Ore	Figure 32
23	9/12/2024	Not Contributed	Lemmon Road (51.2µg/m³) exceeded on this date. Wind was fresh from the South-Southwest throughout the day. The P/Shed E-Sampler, upwind of Lemmon Road recorded a higher daily average indicating the exceedance was due to offsite dust from South-Southwest of the Port	B3: Wheat B4: Spodumene	Figure 33
24	11/12/2024	Not Contributed	Port Way (58µg/m³) exceeded on this date. Wind was from the East to Southeast in the morning and from the West to	B3: Wheat B4: Spodumene	Figure 34

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
			Southwest in the afternoon and evening. 76% of Port Ways daily average was an offsite direction.	B5: No Product Loaded B6: HPM Mineral Sands Concentrates Conc Zinc B7: Iron Ore	
25	17/12/2024	Not Contributed	Connell Road (52.9µg/m³) Lemmon Road (57.8µg/m³) and Port Way (60.8µg/m³) exceeded on this date. Wind was mostly from the Southeast in the morning and from the Southwest the rest of the day. The exceedance was due to offsite dust from the Southwest of the Port.	B3: Lupins B4: Bulk Min Sands B5: Iron Ore B6: HPM Mineral Sands Concentrates	Figure 35
26	18/12/2024	Not Contributed	Lemmon Road (56.8µg/m³) exceeded on this date. Wind was moderate from the West-Southwest throughout the day. Lemmon Roads daily average was not significantly higher than the daily average of Ports Way or P/Shed E-Sampler which is upwind of Lemmon Road and the Port. The exceedance was due to offsite dust.	B3: Lupins B4: Bulk Min Sands / Zircon B5: Iron Ore B6: HPM B7: Iron Ore	Figure 36
27	19/12/2024	Not Contributed	Port Way (50.1µg/m³) exceeded on this date. Wind was fresh from the West-Southwest throughout the day. The exceedance was due to offsite dust from the South of the Port.	B4: Mineral Sands / Zircon B6: Iron Concentrate / HPM	Figure 37
28	20/12/2024	Not Contributed	Berth 1 (53.8µg/m³), Connell Road (55.8µg/m³) and Lemmon Road (55.3µg/m³) exceeded on this date. Wind was light and generally from the south in the morning and fresh from the	B4: Bulk Min Sands B6: Iron Concentrate	Figure 38

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
			Southwest in the afternoon and evening. The exceedances were due to offsite dust from the South of the Port.		
29	21/12/2024	Not Contributed	Berth 1 (58.4µg/m³), Connell Road (63.3µg/m³), Lemmon Road (61.4µg/m³) and Port Way (59.9µg/m³) exceeded on this date. Wind was light to moderate and from the Southwest throughout the day. The exceedance was due to offsite dust from the Southwest of the Port.	B3: Wheat B4: Bulk Min Sands B5: Iron Ore B6: Iron Concentrate B7: Iron Ore	Figure 39
30	22/12/2024	Contributed	Berth 1 (58.5µg/m³), Connell Road (92.4µg/m³), Lemmon Road (67µg/m³) and Port Way (59.1µg/m³) exceeded on this date. The exceedance at Connell Road was due to Iron Concentrate loading and post loading cleanup on Berth 6. Trucks from the loading operation were using an unsealed area to queue causing visible dust. The company responsible was instructed to keep off the unsealed area. The exceedances at Berth 1, Lemmon Road and Port Way were due to offsite dust.	B3: Wheat B4: Bulk Min Sands B5: Iron Ore B6: Iron Concentrate B7: Iron Ore	Figure 40
31	23/12/2024	Contributed	Port Way (85.2µg/m³) and Connell Road (59.1µg/m³) exceeded on this date. Wind was light and variable for most of the day. The exceedance at Port Way was due to dust from grain loading over Berth 3. The grain exporter was instructed to reduce dust levels from loading. The exceedance at Connell Road was due to offsite dust.	B3: Wheat B4: Bulk Min Sands B5: Iron Ore B6: HMC B7: Iron Ore	Figure 41
32	29/12/2024	Not Contributed	Port Way (54.3µg/m³) exceeded on this date. Wind was variable in the morning and from the South to West in the	B3: Wheat Lupins B4: Rutile / Ilmenite /Hyti /Spodumene	Figure 42

No.	Target Exceedance Date	Contributed / Not contributed	Description & Prescribed / Operations Activities	Vessel Loading / Unloading	Figure Reference
			afternoon and evening. 71% of the daily average for Port Way was from an offsite direction.	B6: Conc Copper B7: Iron Ore	
33	31/12/2024	Not Contributed	Berth 1 (54.4µg/m³), Connell Road (65.3µg/m³), Lemmon Road (51.8µg/m³) and Port Way (56.4µg/m³) exceeded on this date. Wind was mostly from the South to West. The exceedance was likely due to high regional dust levels.	B3: Wheat / Lupins B4: Bulk Min Sands B6: Fertiliser / MAP / Fertiliser	Figure 43

3. High Volume (HVAS) Air Sampling Data

Samples collected from the MWPA HVAS dust monitors were analysed by MPL Laboratories which is a National Associated of Testing Authorities (NATA) accredited facility (NATA Accreditation No. 2901). HVAS samples are collected for 24-hour periods which commence at 12:00 noon. All references to the sample date are presented as the commencement date for the sample period.

A summary of HVAS Data is presented in ***Table 4.***

TABLE 4 – SUMMARY OF HVAS MONITORING DATA

Criteria		Port Way	Connell Road	Lemmon Road	Berth 1
PM_{10}	PM_{10} Samples Analysed	49	49	49	49
	Count PM_{10} > 50 µg/m^3	5	5	5	3
	Average PM_{10}	33.8	32.8	33.1	30.5
	Maximum PM_{10}	120	62	53	63
	Minimum PM_{10}	10	12	16	9.3
Count Copper as PM_{10} > 1.0 µg/m^3		0	0	0	0
Count Lead as PM_{10} > Target [2]		0	0	0	0
Count Manganese as PM_{10} > 0.15 µg/m^3		0	0	0	0

[2] *The target for Lead as PM_{10} is 2.0 µg/m3 at the northern dust monitor (Connell Road) and 0.5 µg/m3 at all other monitoring stations.*

3.1 Nickel

The bulk handling and export of nickel concentrate is a regulated product permitted under MWPA's environmental licence. The environmental licence target for nickel in air quality monitoring is 0.02 µg/m^3 (PM_{10}) 12 month rolling average. Two nickel concentrate shiploading events occurred in Q2 2024/2025 FY.

- MV Fuga loaded 9,342 MT of nickel concentrate from 23 October to 24 October 2024.
- MV ASL Leban loaded 13,000 MT of lead concentrate from 04 December to 05 December 2024.

All nickel rolling average results for the quarter were below the licence target level. The rolling average for nickel samples during the quarter are presented in ***Figure 7.***

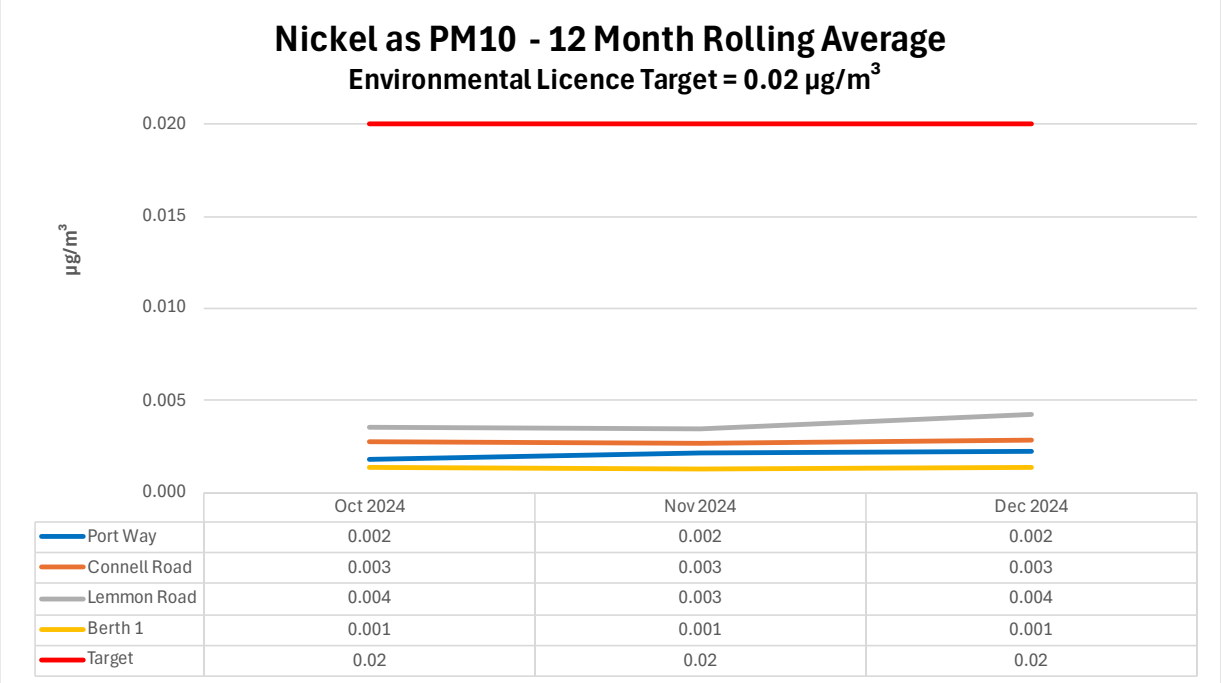

FIGURE 7 - OCTOBER TO DECEMBER 2024 – NICKEL (PM10) LEVELS DURING NICKEL LOADING AND BACKGROUND SAMPLING

3.2 Manganese

No manganese concentrate shiploading occurred during the reporting period. The MWPA environmental licence defines the emission concentration target for manganese as a daily average concentration of 0.15 µg/m3 (PM_{10}). The results for Manganese background monitoring is presented in ***Figure 8***. All data recorded was significantly lower than the stipulated licence target.

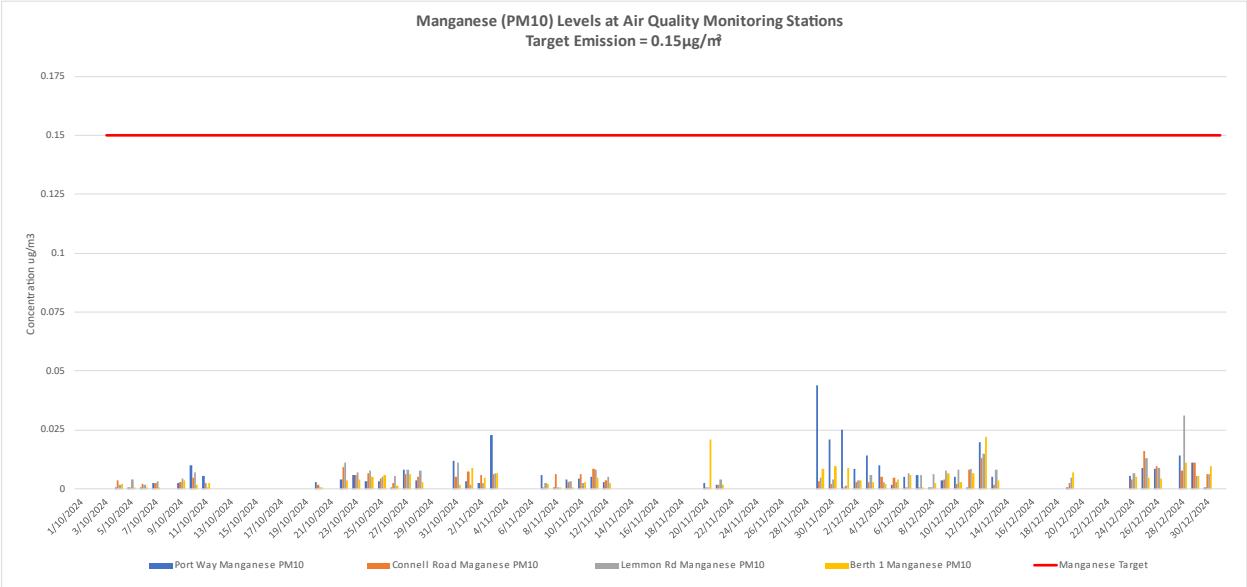

FIGURE 8 MANGANESE (PM10) LEVELS DURING METAL CONCENTRATE LOADING AND BACKGROUND SAMPLING

3.2 Lithium (Spodumene Concentrate)

Four spodumene concentrate shiploading events occurred in Q2 2024/2025 FY via Berth 4. No significant change from background concentrations of lithium was detected via HVAS sampling, as demonstrated by results presented in ***Figure 9***. There is no licence target applicable for lithium.

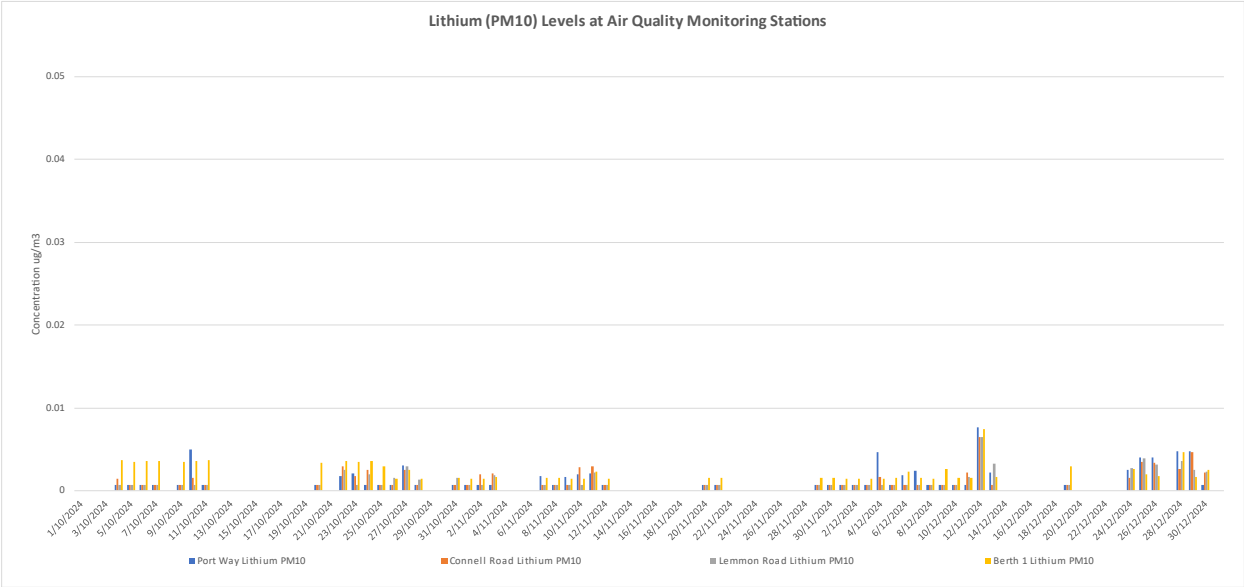

FIGURE 9 LITHIUM (PM10) LEVELS DURING METAL CONCENTRATE LOADING AND BACKGROUND SAMPLING

3.3 Lead

The bulk handling and export of lead concentrate is a regulated product permitted under MWPA's environmental licence. The MWPA environmental licence regulates a target for lead in air quality of 2.0 ug/m^3 at Connell Road and 0.5 µg/m^3 at Berth 1, Lemmon Road, and Port Way (PM_{10}) over a 24-hour period. Two lead concentrate shiploading events occurred in Q2 2024/2025 FY.

- MV Ken Kon loaded 10,663 MT of lead concentrate from 01 November to 02 November 2024.
- MV New Handy loaded 9,7578 MT of lead concentrate from 10 December to 11 December 2024.

All lead concentrate shiploading was conducted via rotainer loading over Berth 6. All lead results for the quarter were below the licence target level. Results for lead loading events, including background lead monitoring are presented in ***Figure 10.***

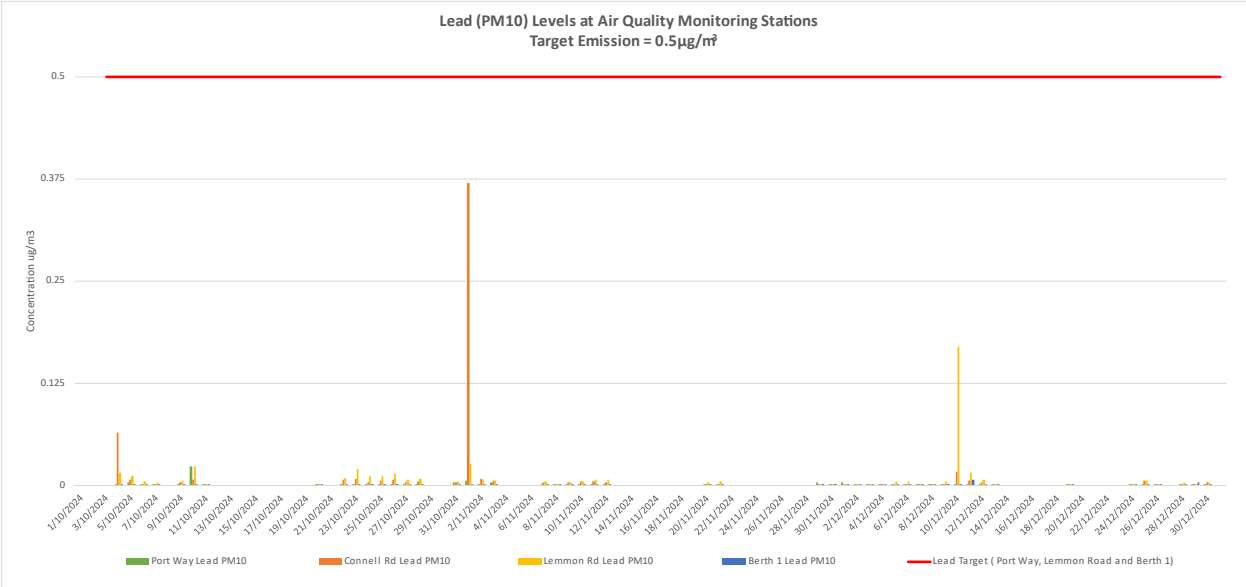

FIGURE 10 OCTOBER TO DECEMBER 2024 – LEAD (PM10) LEVELS DURING LEAD LOADING AND BACKGROUND SAMPLING

4. Monitoring Equipment Incidents

All monitoring equipment incidents throughout the quarter are recorded into the MWPA incident database (CAMMS) and investigated to determine the cause and identify improvement opportunities.

During the reporting period two incident occurred in relation to air quality monitoring:

Date	Incident Number	Title	Summary of Incident	Actions Taken
10/11/2024	IN-27893	Monitoring Equipment Outage – Berth 1	Monitoring Outage: Berth 1 air quality station had greater than 2hrs downtime due to power outage and UPS fault.	New battery pack installed and sampler put back into service.
24/12/2024-28/12/2024	IN-27967	Monitoring Equipment Outage – Lemmon Road	Monitoring Equipment Outage: UPS fault on Lemmon Road monitor combined with power outage resulted in 4 days of invalid data.	UPS was initially bypassed then repaired and reinstalled.

5. Community Complaints

Condition 35 of the licence requires MWPA to maintain a complaints management system that records the number and details of complaints received concerning the environmental impact of port activities.

All community complaints received throughout the quarter were registered in the MWPA incident database (CAMMS) and investigated.

During the reporting period two complaints were received by MWPA in relation to dust emissions.

Date	Incident Number	Title	Summary of Complaint	Actions Taken
13/11/2024	IN-27885	Community Concern - Dust Complaint	FBH customer contacted MWPA via email with pictures of black dust on her car accumulated over a few days during strong winds.	Emailed back a confirmation response and logged on the dust map in GIS. FBH depositional dust investigation undertaken, upwind and downwind of rail corridor using XRD speciation.
26/11/2024	IN-27902	Community Concern - Dust Complaint	Customer reported a large dust cloud coming from the Talc pile behind the damaged portion of the dust tamer fence blowing over the FBH	Sent an email to customer reminding them to wet down talc pile ahead of strong wind forecasts

6. Definitions

PM_{10}	Particles with an aerodynamic diameter of less or equal to 10µm.
TEOM	Tapered Element Oscillating Microbalance
BAM	Beta Attenuation Monitor
HVAS	High Volume Air Sampler
Shiploading Event	The MWPA environmental licence defines a shiploading event as any shiploading where bulk metal concentrate product is loaded into in a ship or out of a ship
WS / WD	Wind Speed / Wind Direction
Port Way / PW	Port Way Air Quality Monitoring Station
Connell Road / CR	Connell Road Air Quality Monitoring Station
Lemmon Road / LR	Lemmon Road Air Quality Monitoring Station
Berth 1 / B1	Berth 1 Air Quality Monitoring Station
Offsite	Offsite background reference monitoring station, situated in Bluff Point
FBH	Fishing Boat Harbour

7. Appendix

7.1 Appendix A – Exceedances of Air Quality Emission Targets

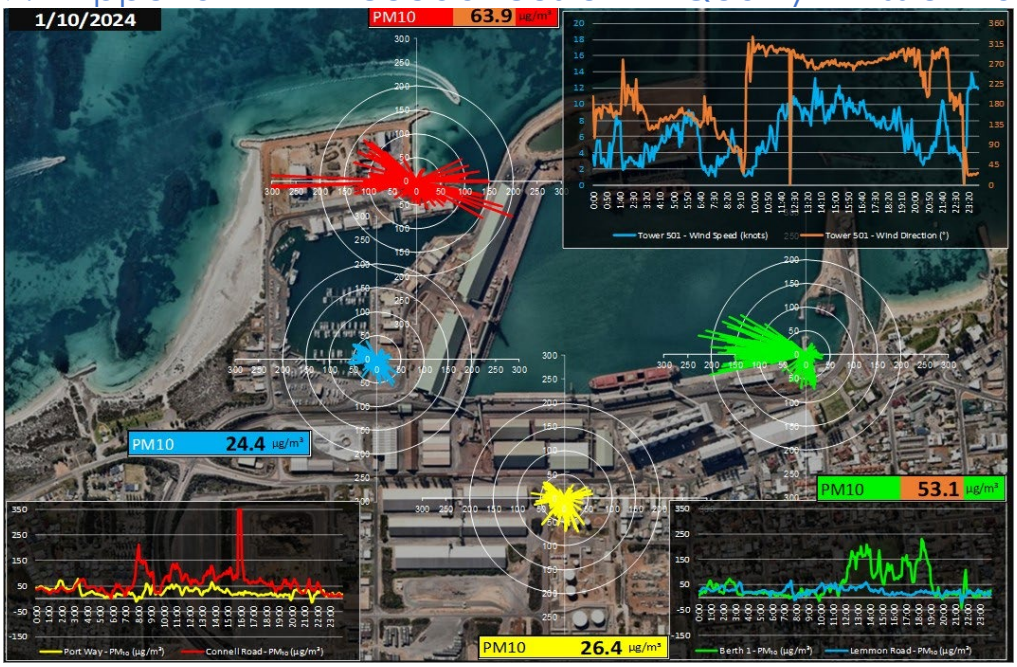

FIGURE 11 – 24-HOUR AVERAGED PM10 DATA FOR 01 OCTOBER 2024

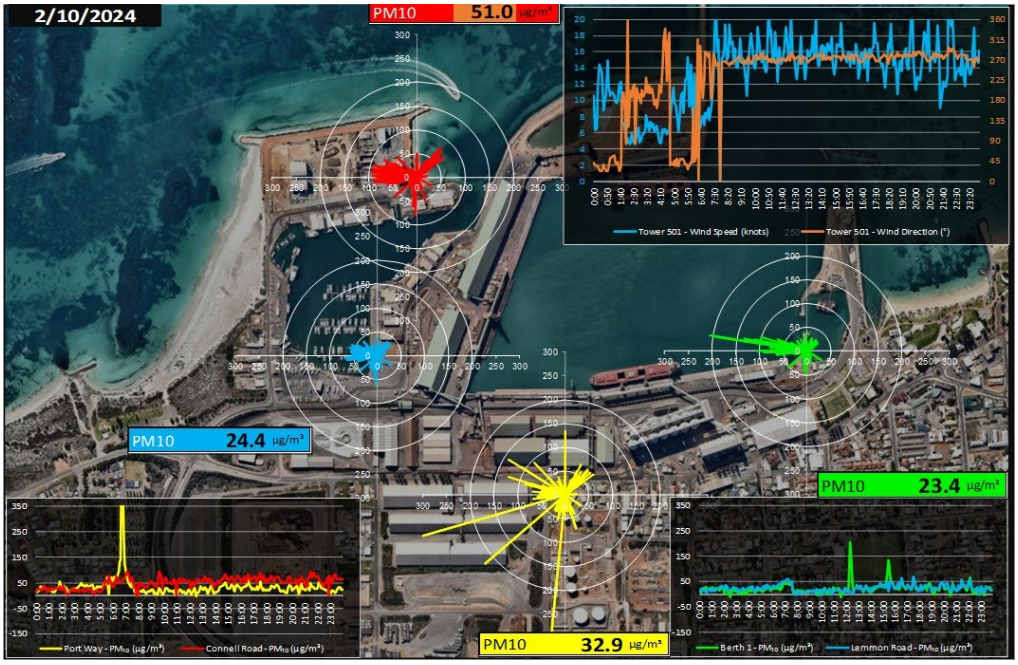

FIGURE 12 – 24-HOUR AVERAGED PM10 DATA FOR 02 OCTOBER 2024

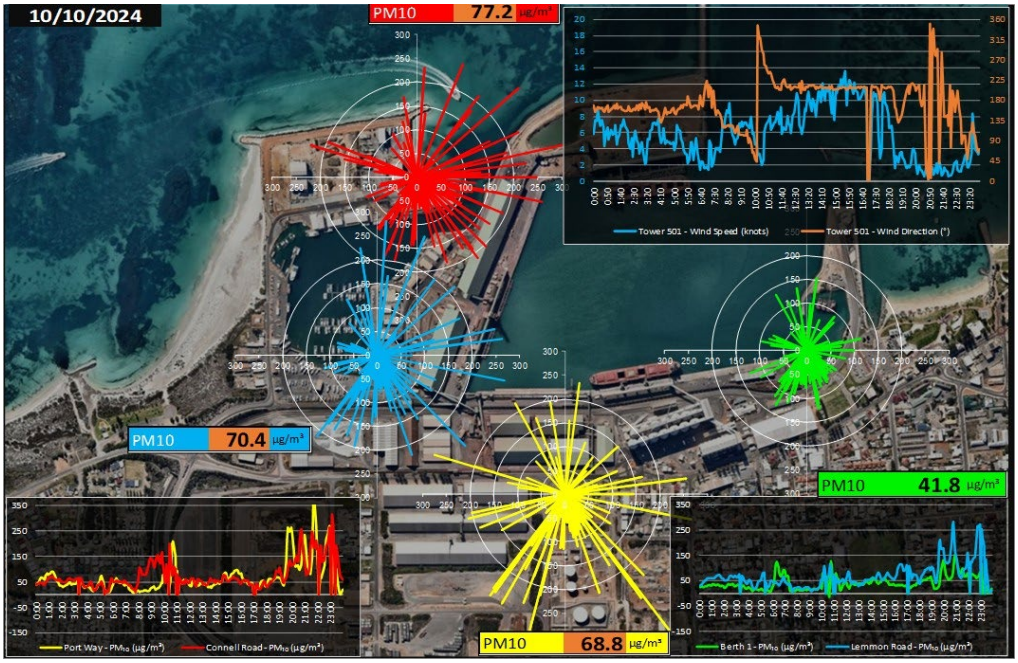

FIGURE 13 – 24-HOUR AVERAGED PM10 DATA FOR 10 OCTOBER 2024

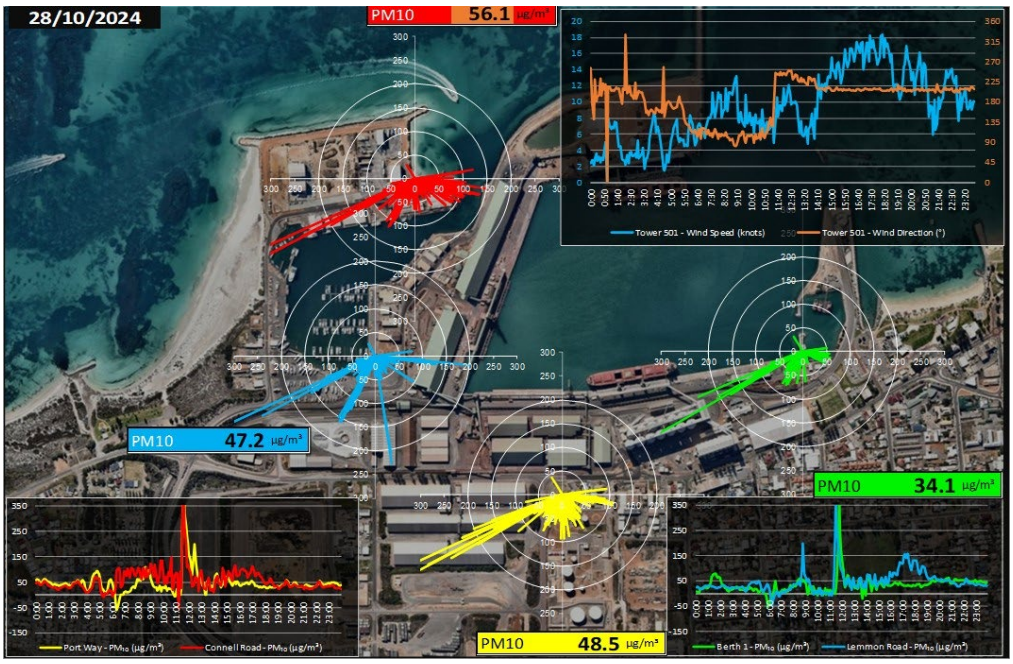

FIGURE 14 – 24-HOUR AVERAGED PM10 DATA FOR 28 OCTOBER 2024

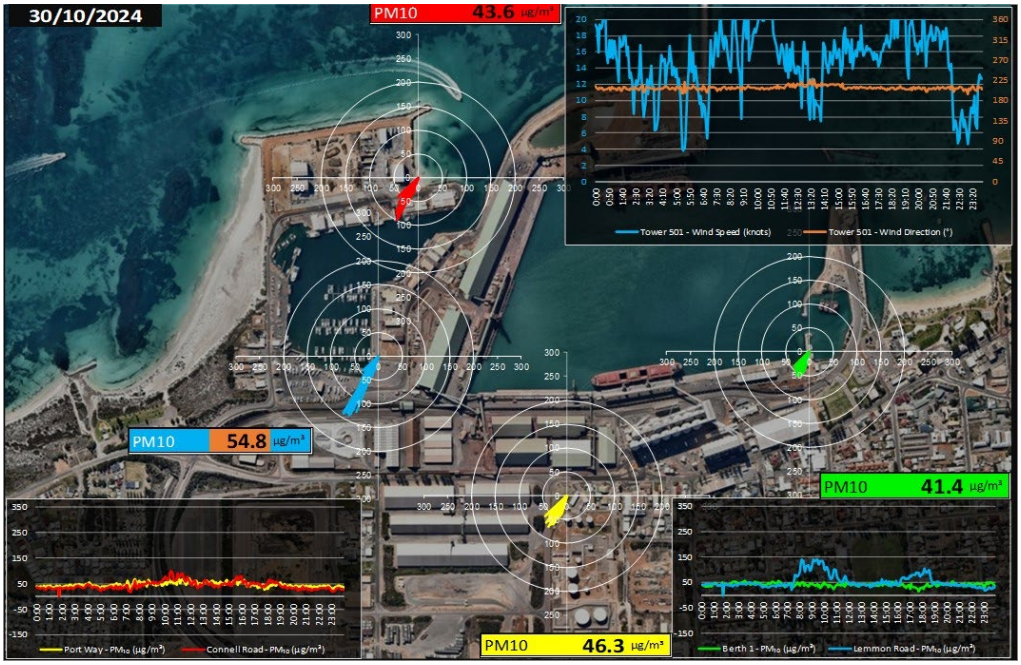

FIGURE 15 – 24-HOUR AVERAGED PM10 DATA FOR 30 OCTOBER 2024

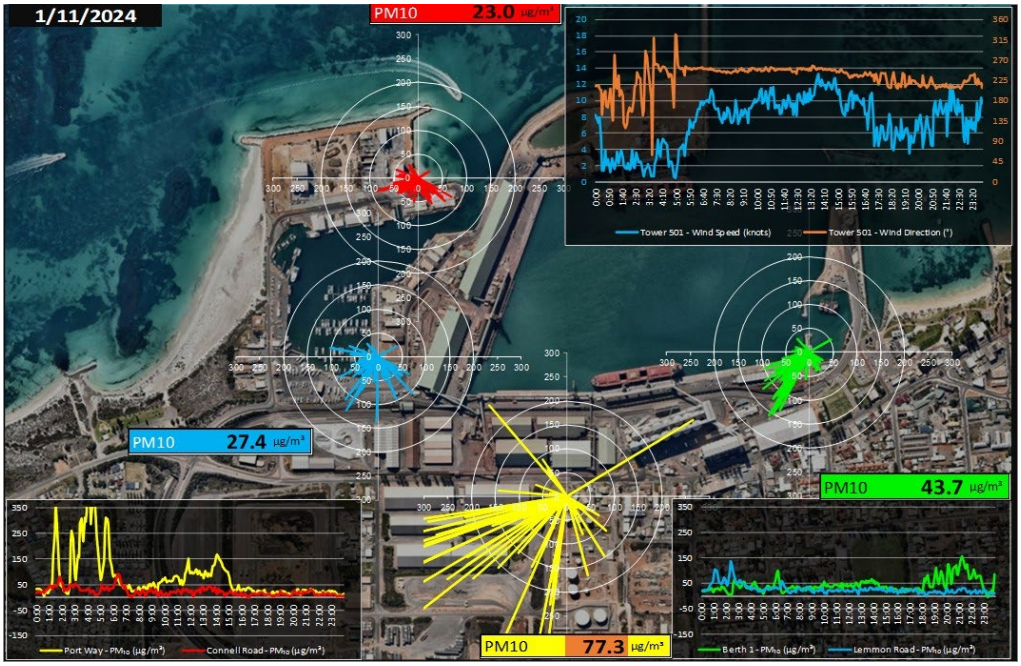

FIGURE 16 – 24-HOUR AVERAGED PM10 DATA FOR 01 NOVEMBER 2024

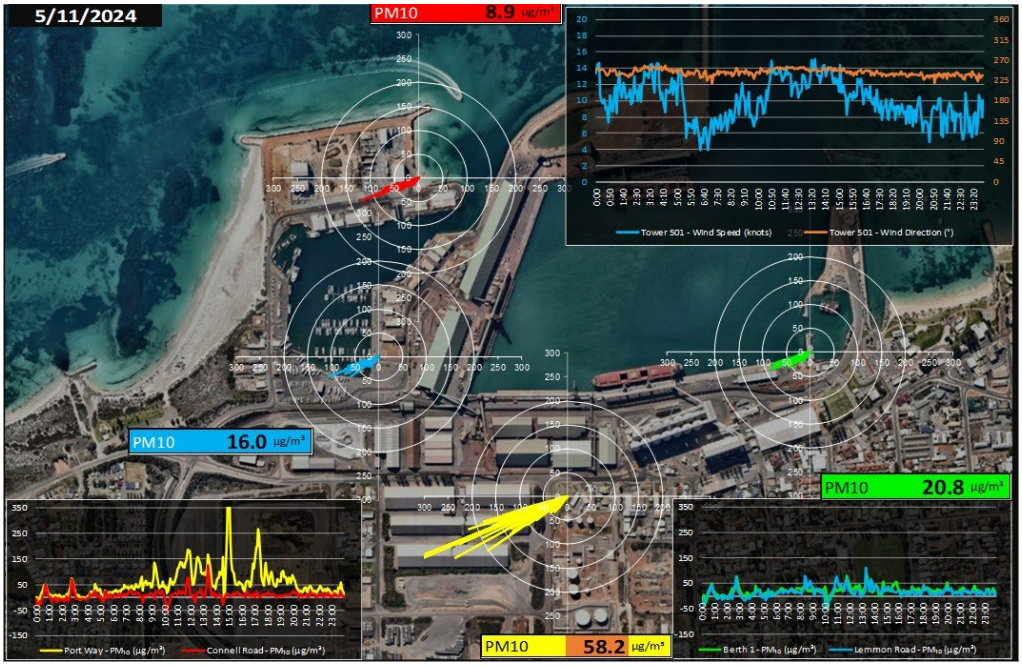

FIGURE 17– 24-HOUR AVERAGED PM10 DATA FOR 05 NOVEMBER 2024

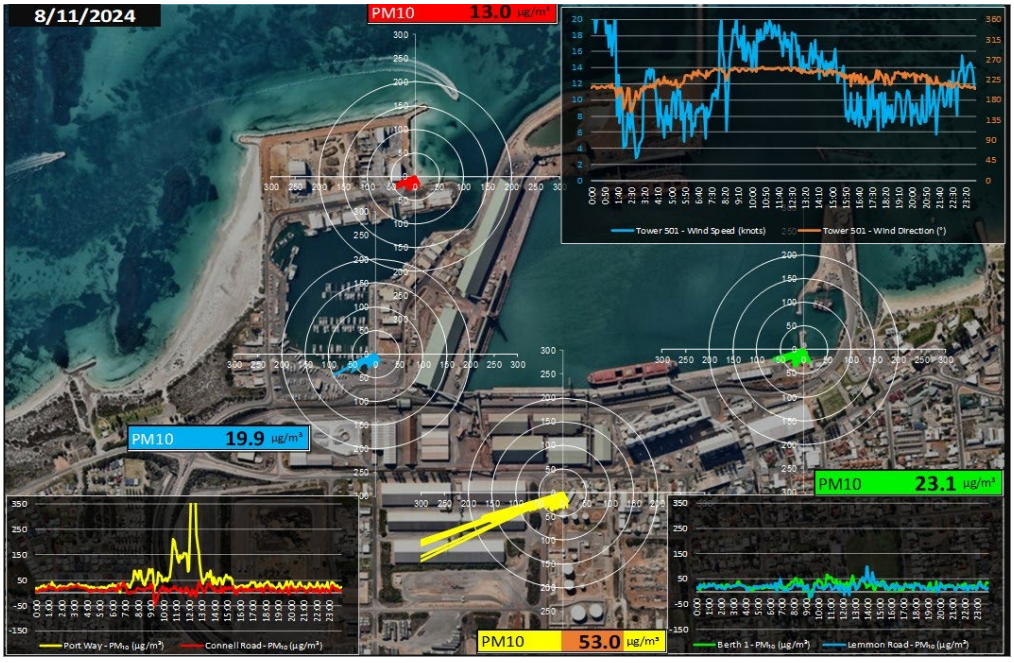

FIGURE 18 – 24-HOUR AVERAGED PM10 DATA FOR 08 NOVEMBER 2024

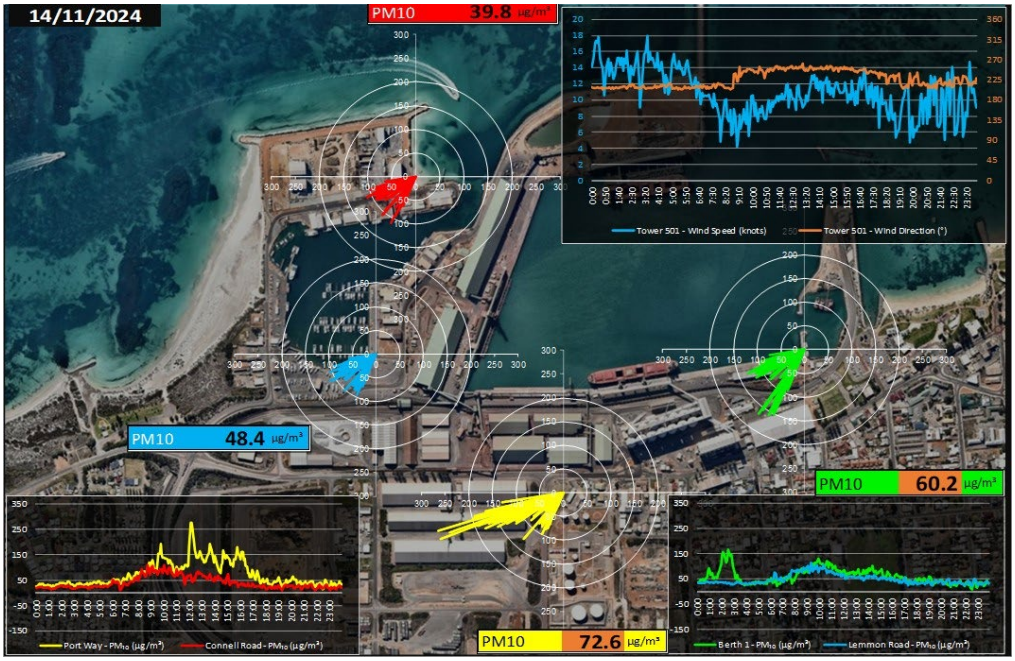

FIGURE 19 – 24-HOUR AVERAGED PM10 DATA FOR 14 NOVEMBER 2024

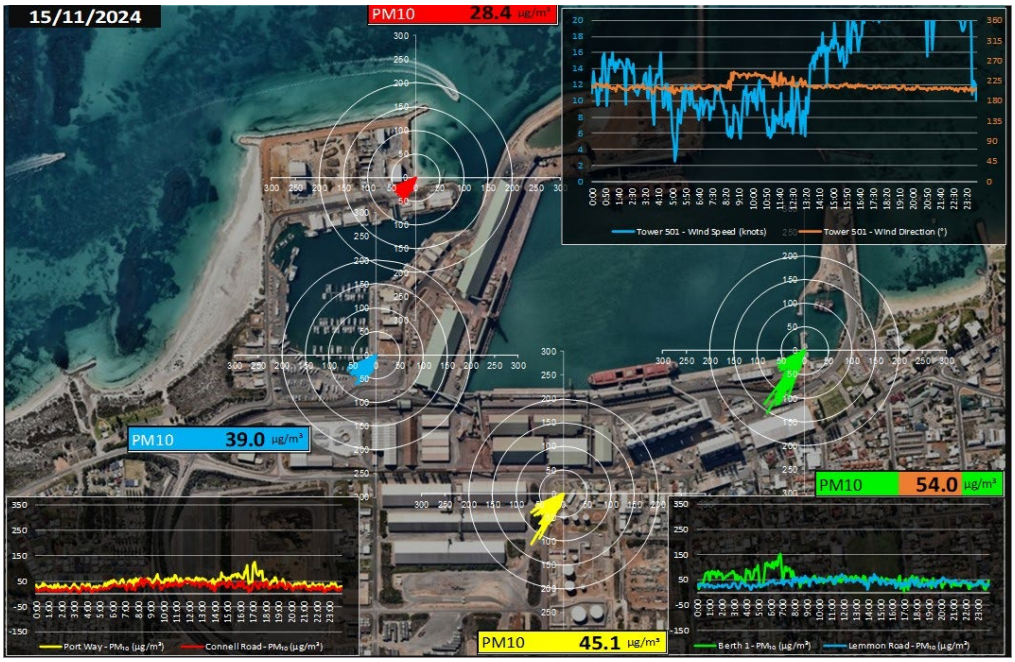

FIGURE 20 – 24-HOUR AVERAGED PM10 DATA FOR 15 NOVEMBER 2024

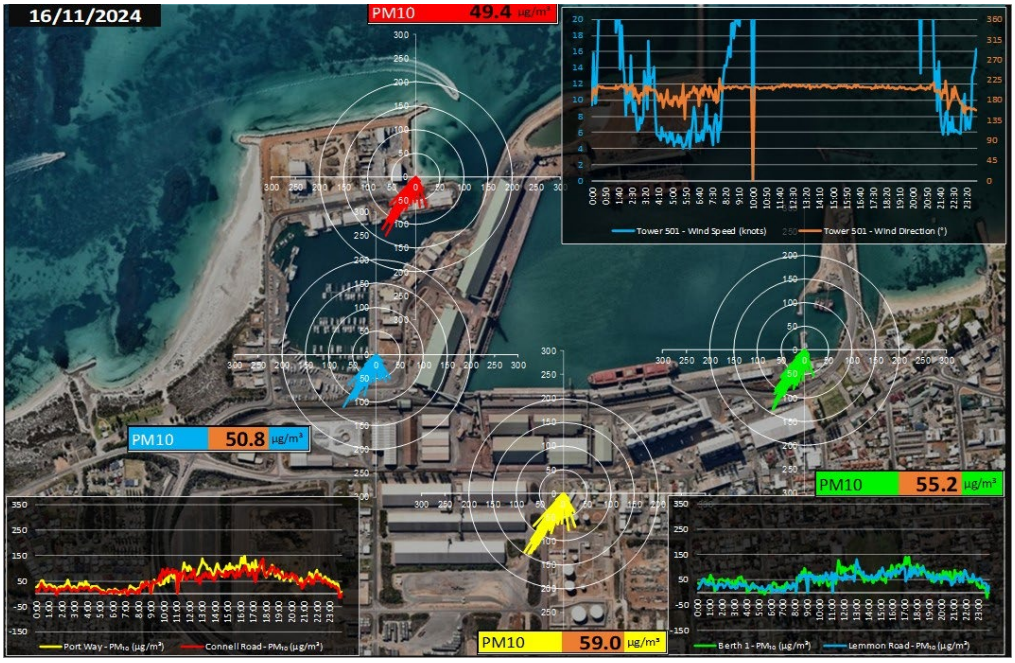

FIGURE 21 – 24-HOUR AVERAGED PM10 DATA FOR 16 NOVEMBER 2024

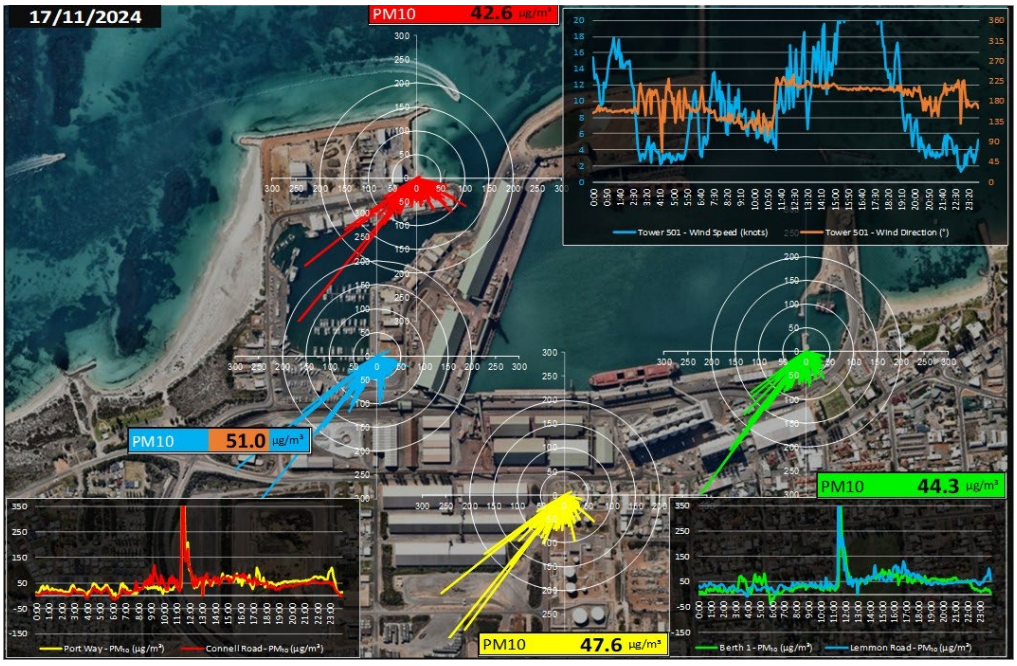

FIGURE 22– 24-HOUR AVERAGED PM10 DATA FOR 17 NOVEMBER 2024

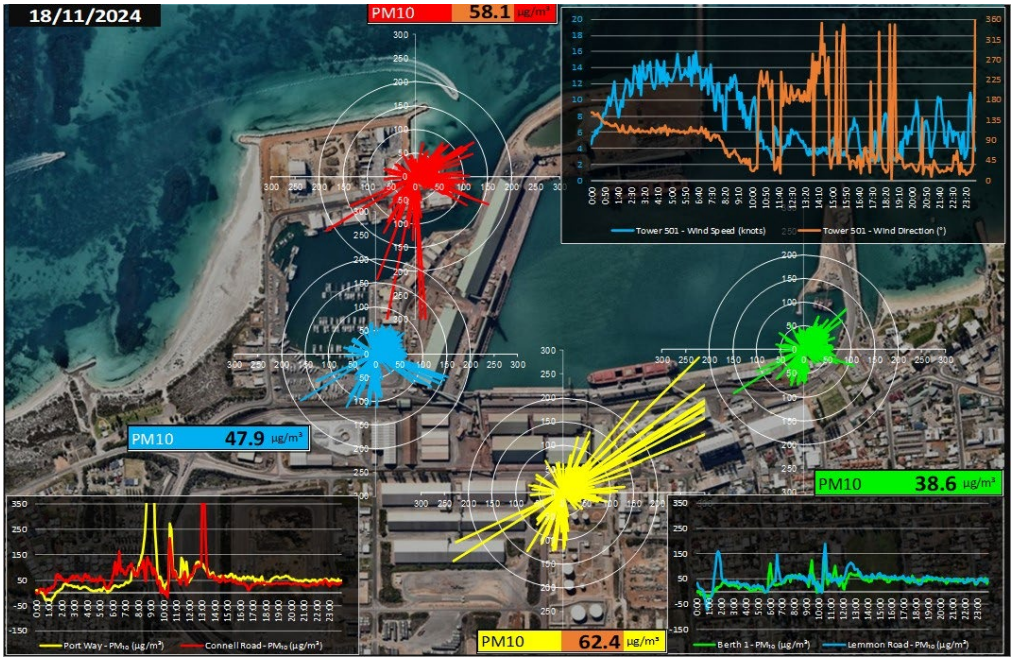

FIGURE 23 – 24-HOUR AVERAGED PM10 DATA FOR 18 NOVEMBER 2024

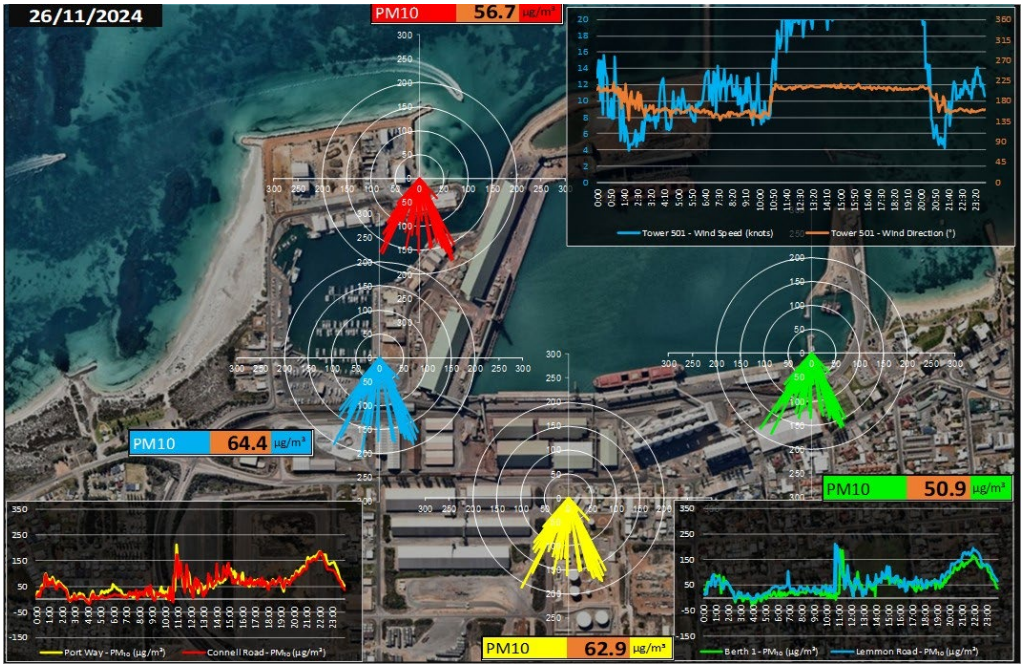

FIGURE 24 – 24-HOUR AVERAGED PM10 DATA FOR 26 NOVEMBER 2024

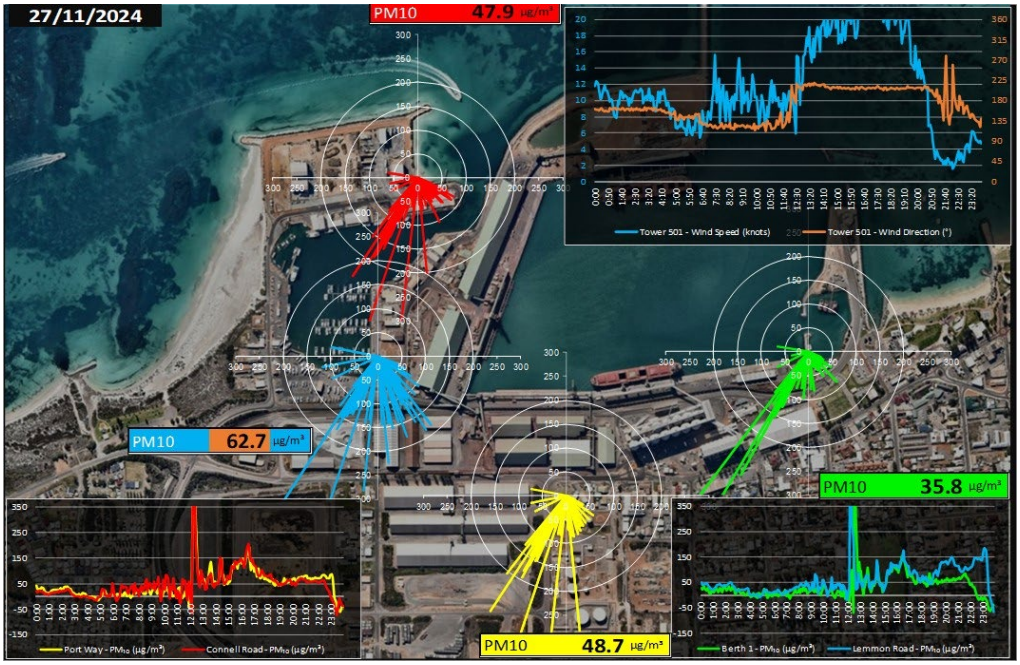

FIGURE 25– 24-HOUR AVERAGED PM10 DATA FOR 27 NOVEMBER 2024

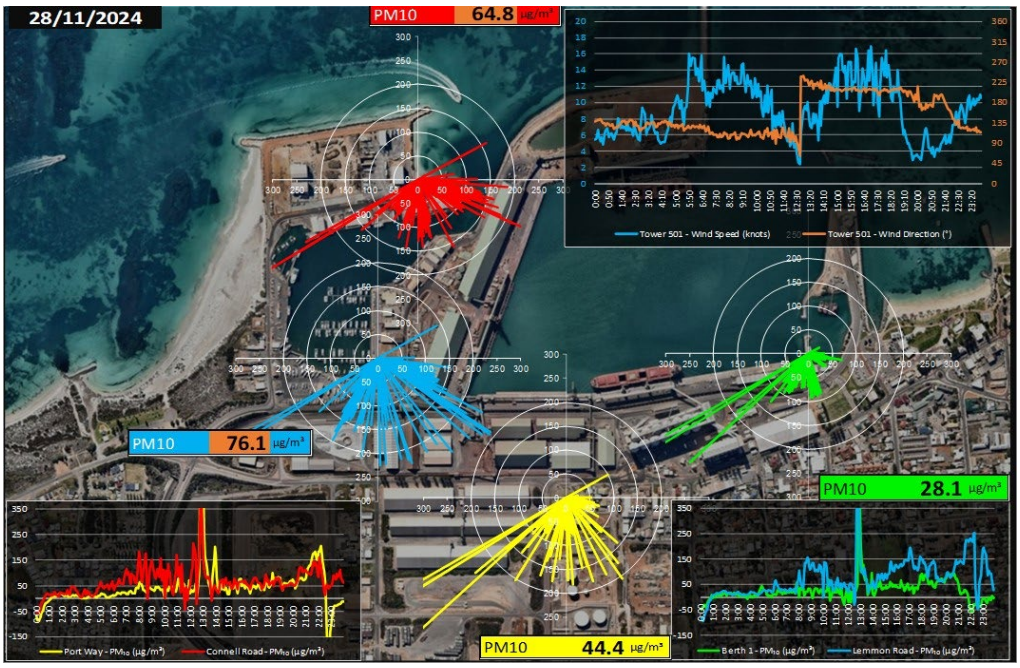

FIGURE 26– 24-HOUR AVERAGED PM10 DATA FOR 28 NOVEMBER 2024

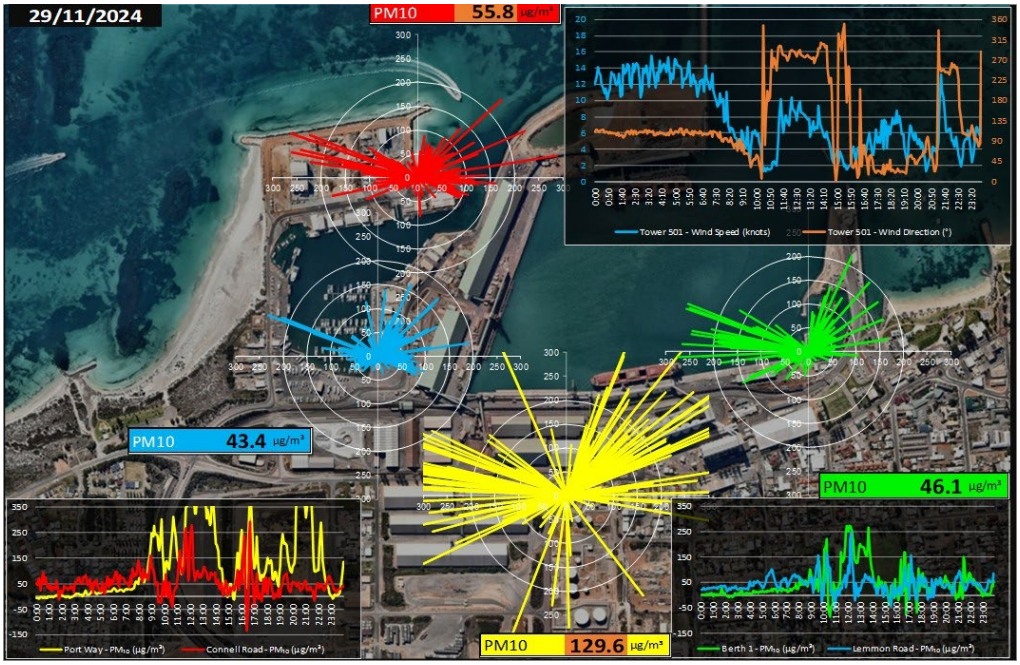

FIGURE 27– 24-HOUR AVERAGED PM10 DATA FOR 29 NOVEMBER 2024

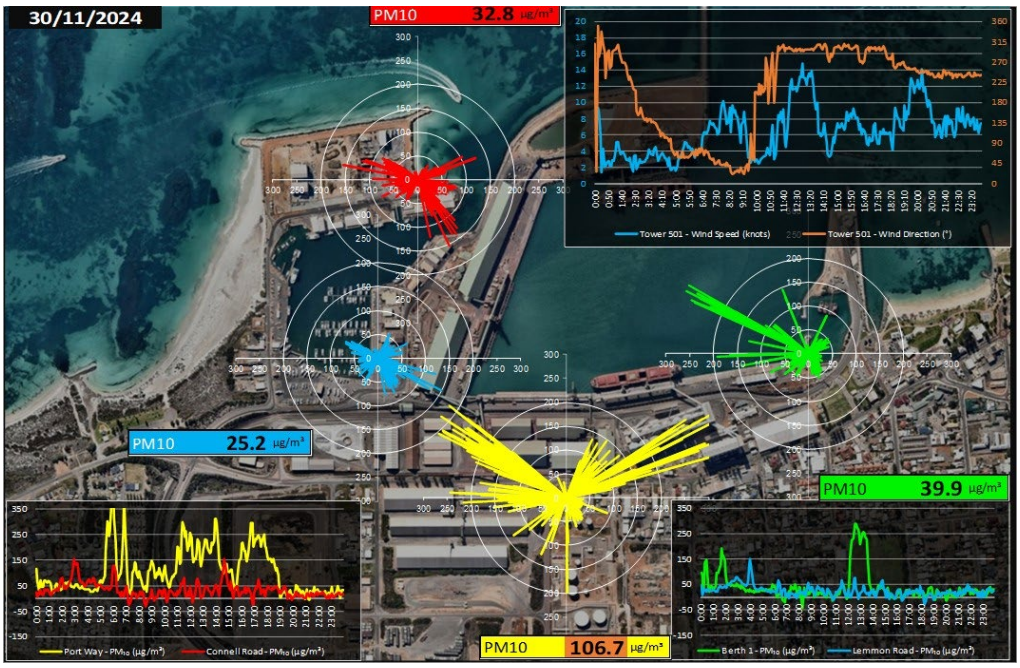

FIGURE 28– 24-HOUR AVERAGED PM10 DATA FOR 30 NOVEMBER 2024

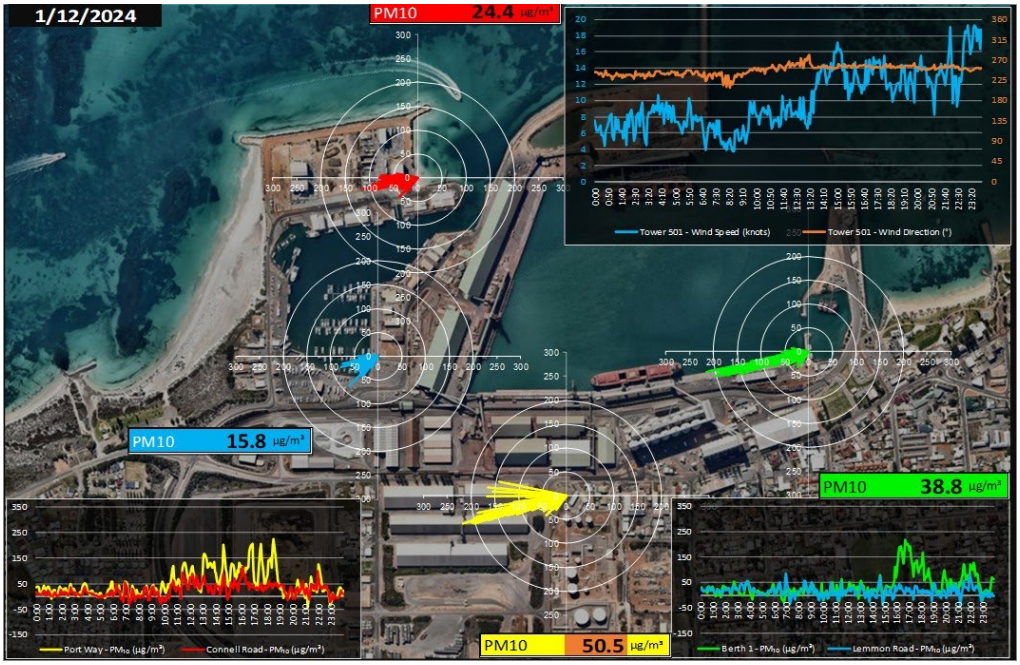

FIGURE 29– 24-HOUR AVERAGED PM10 DATA FOR 01 DECEMBER 2024

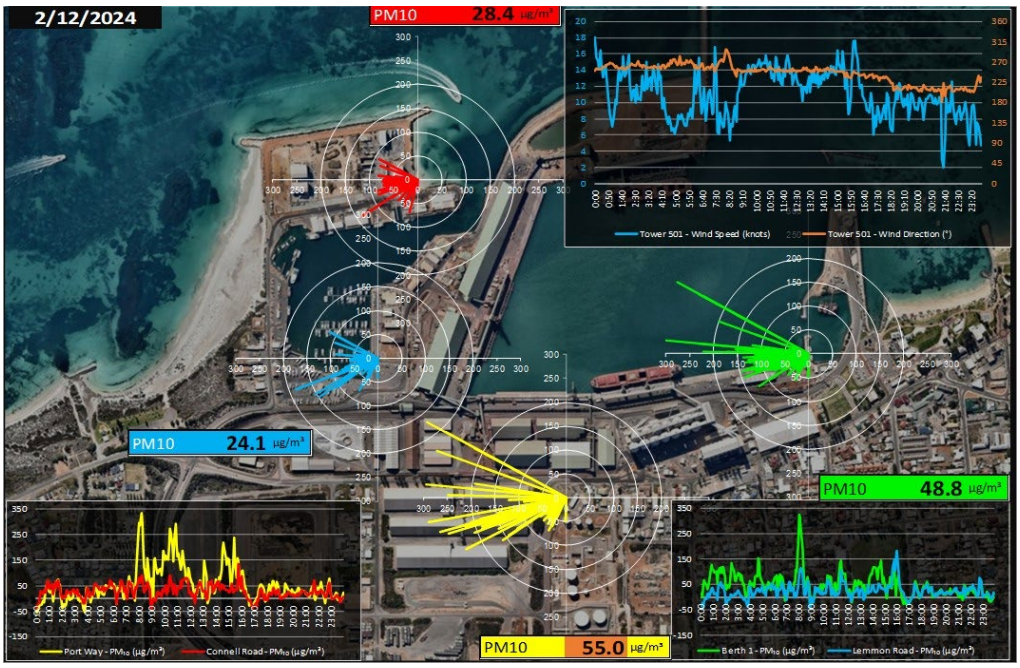

FIGURE 30– 24-HOUR AVERAGED PM10 DATA FOR 02 DECEMBER 2024

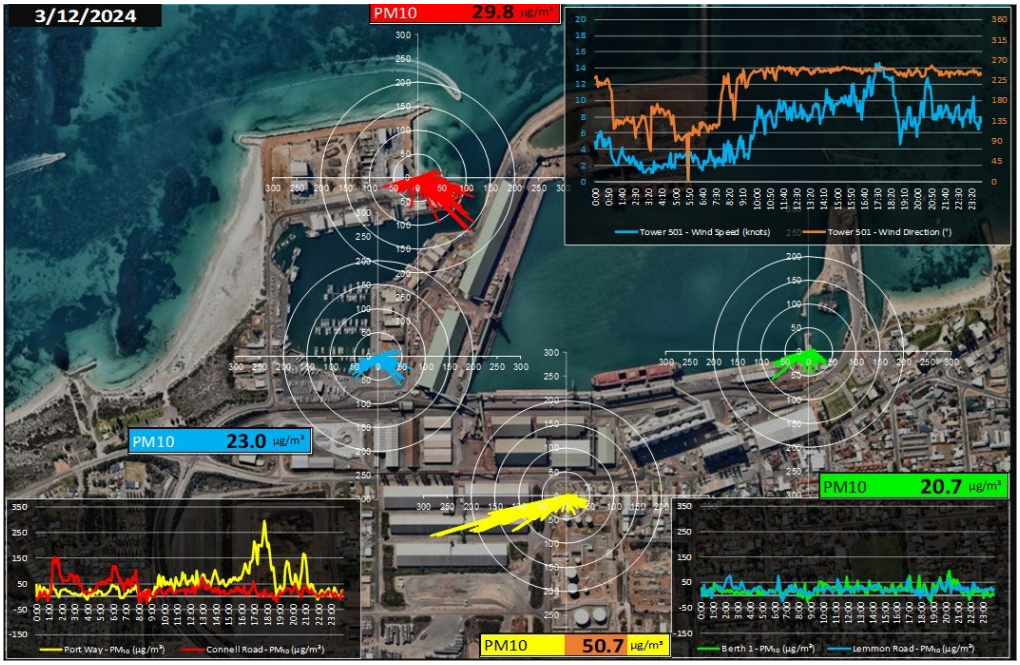

FIGURE 31– 24-HOUR AVERAGED PM10 DATA FOR 03 DECEMBER 2024

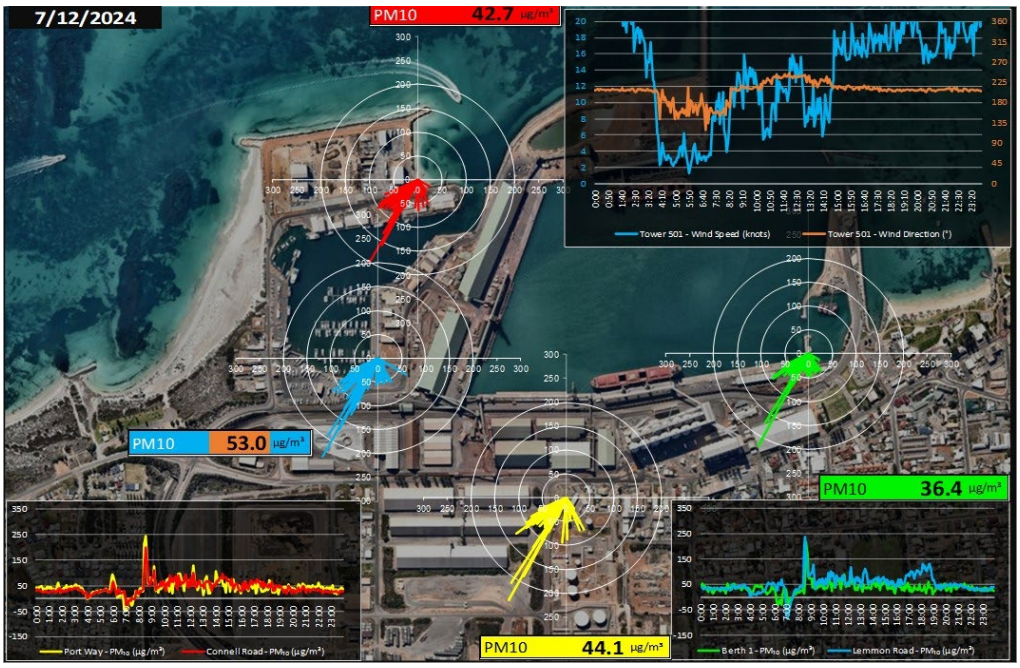

FIGURE 32– 24-HOUR AVERAGED PM10 DATA FOR 07 DECEMBER 2024

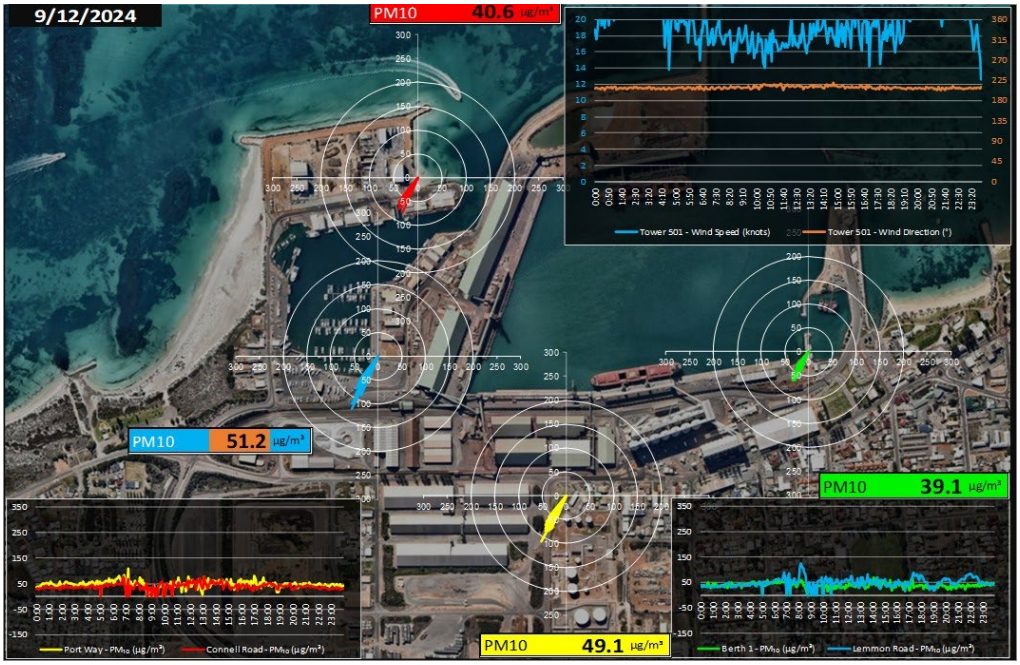

FIGURE 33– 24-HOUR AVERAGED PM10 DATA FOR 09 DECEMBER 2024

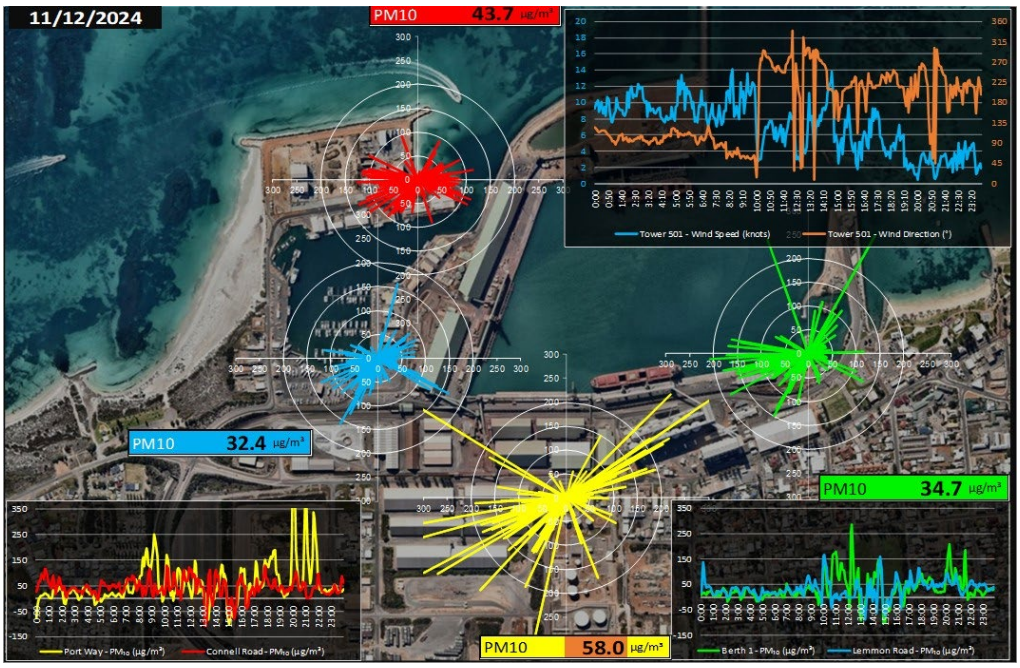

FIGURE 34– 24-HOUR AVERAGED PM10 DATA FOR 11 DECEMBER 2024

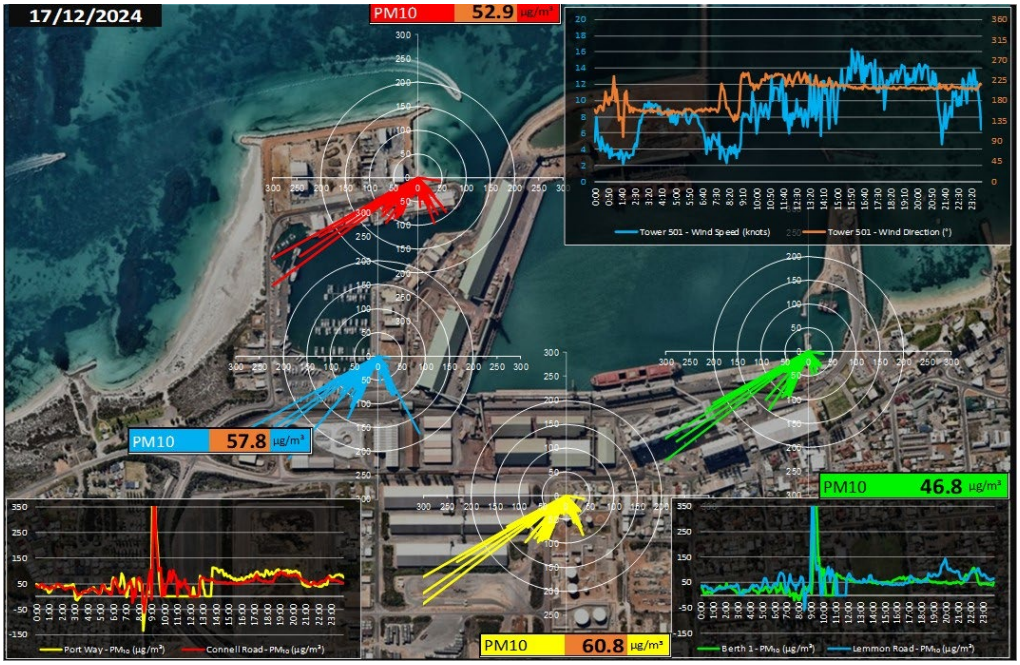

FIGURE 35– 24-HOUR AVERAGED PM10 DATA FOR 17 DECEMBER 2024

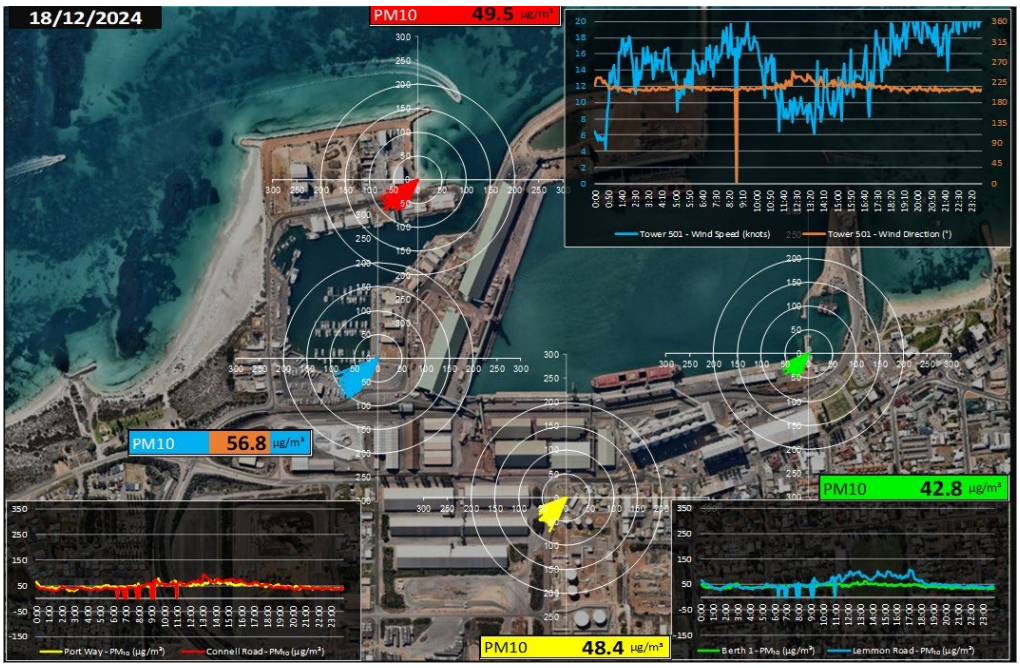

FIGURE 36– 24-HOUR AVERAGED PM10 DATA FOR 18 DECEMBER 2024

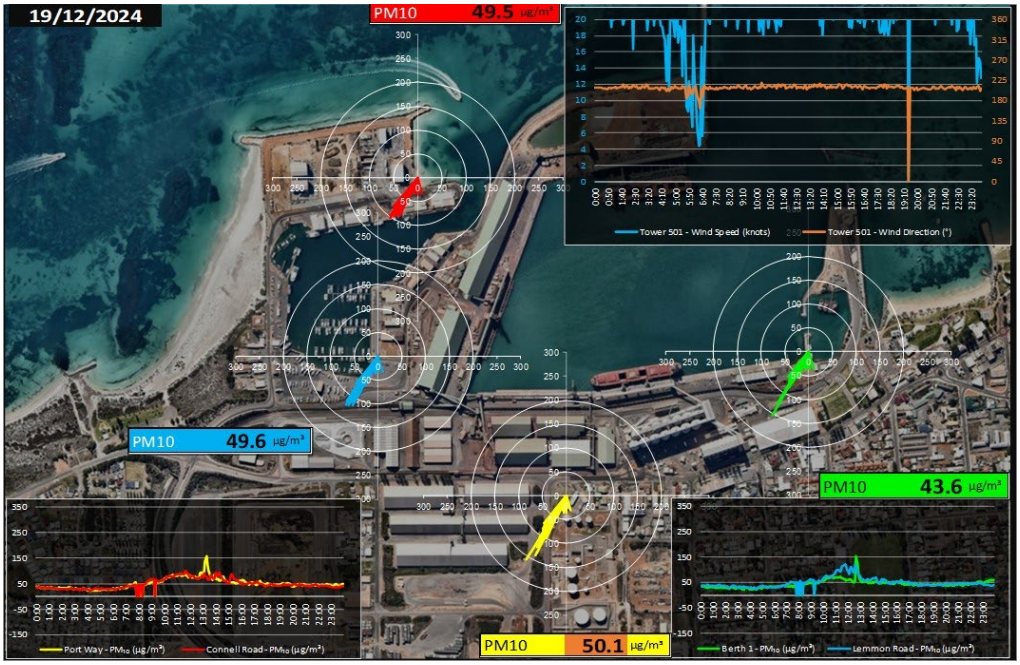

FIGURE 37– 24-HOUR AVERAGED PM10 DATA FOR 19 DECEMBER 2024

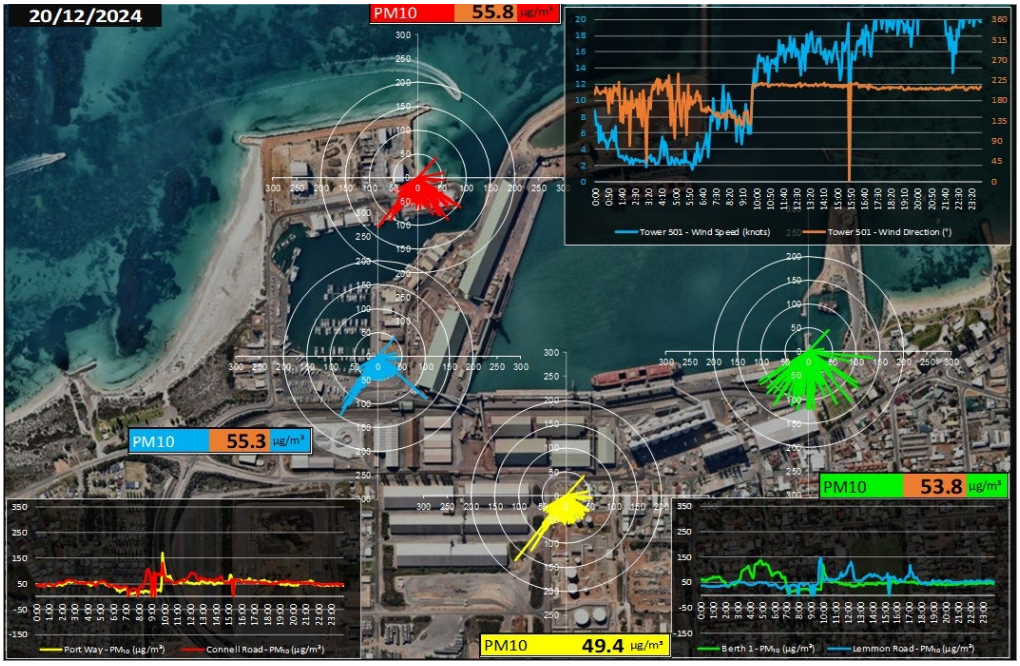

FIGURE 38– 24-HOUR AVERAGED PM10 DATA FOR 20 DECEMBER 2024

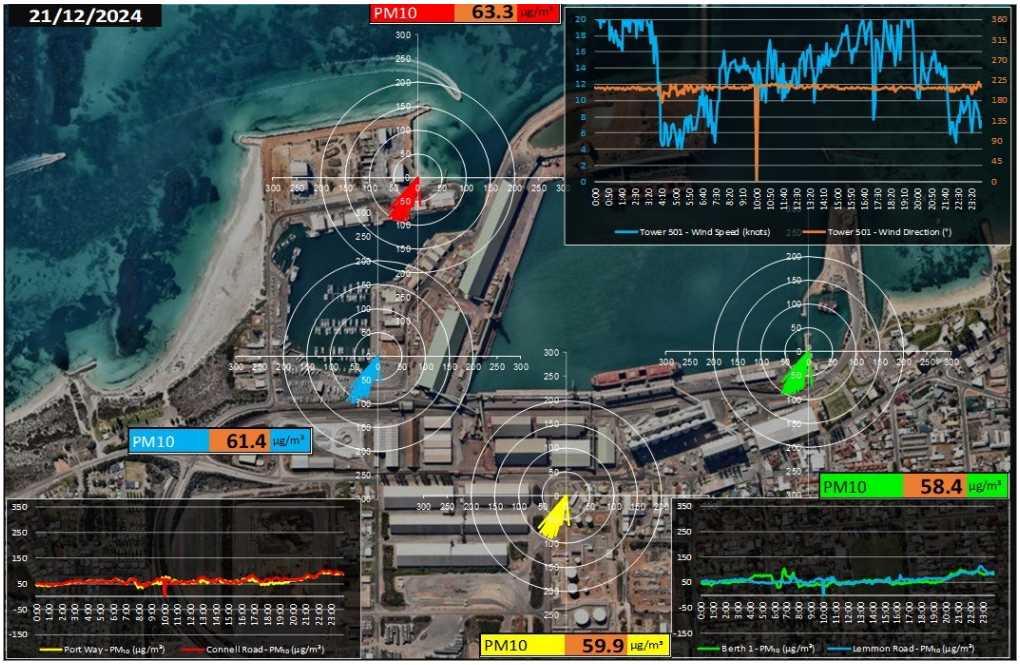

FIGURE 39– 24-HOUR AVERAGED PM10 DATA FOR 21 DECEMBER 2024

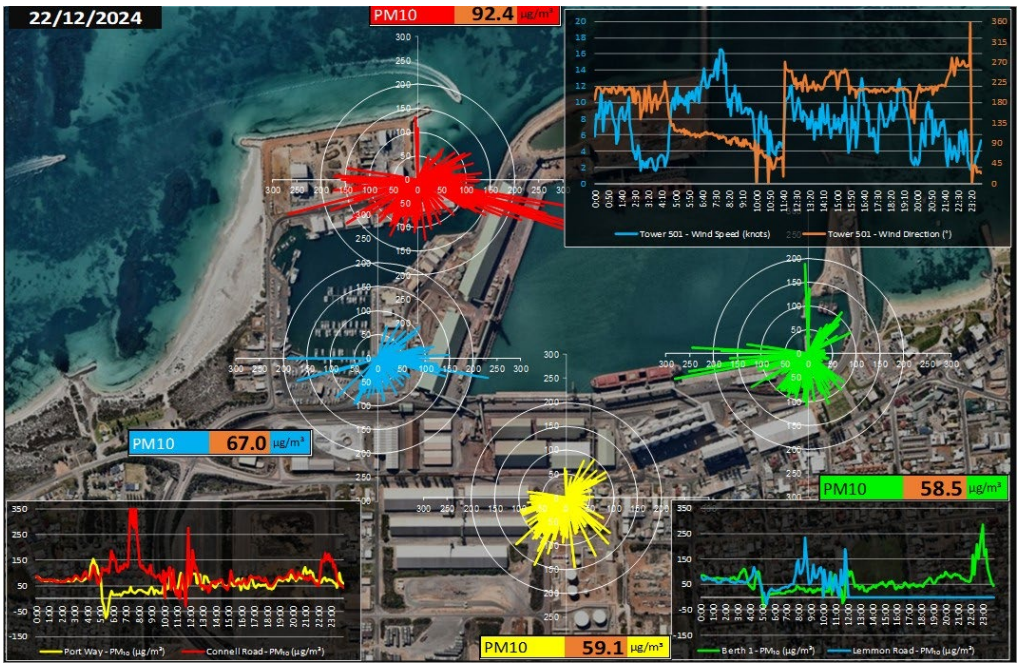

FIGURE 40– 24-HOUR AVERAGED PM10 DATA FOR 22 DECEMBER 2024

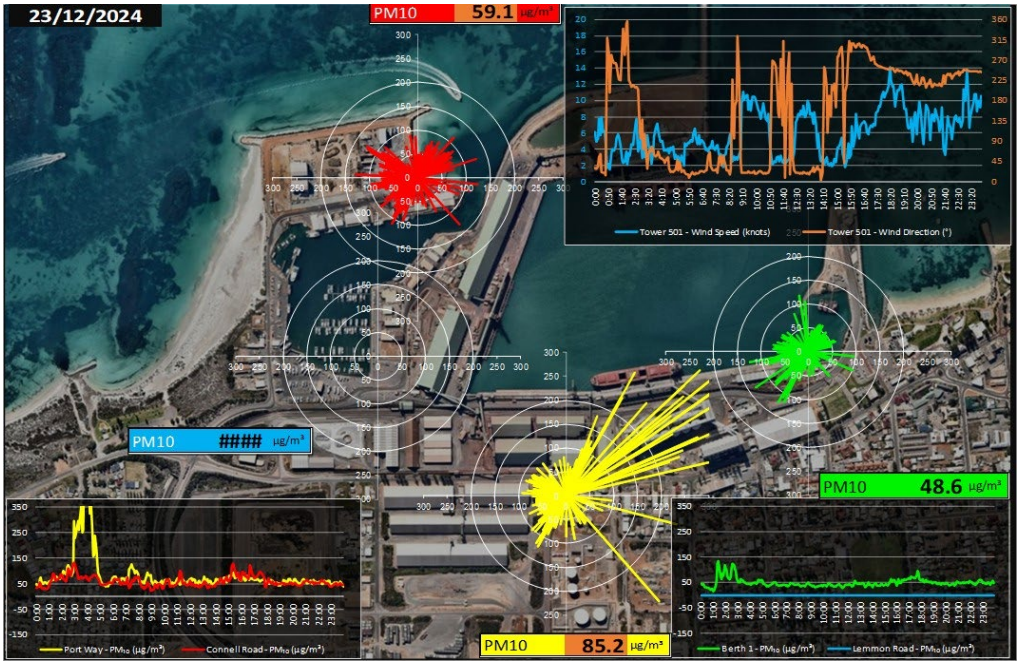

FIGURE 41– 24-HOUR AVERAGED PM10 DATA FOR 23 DECEMBER 2024

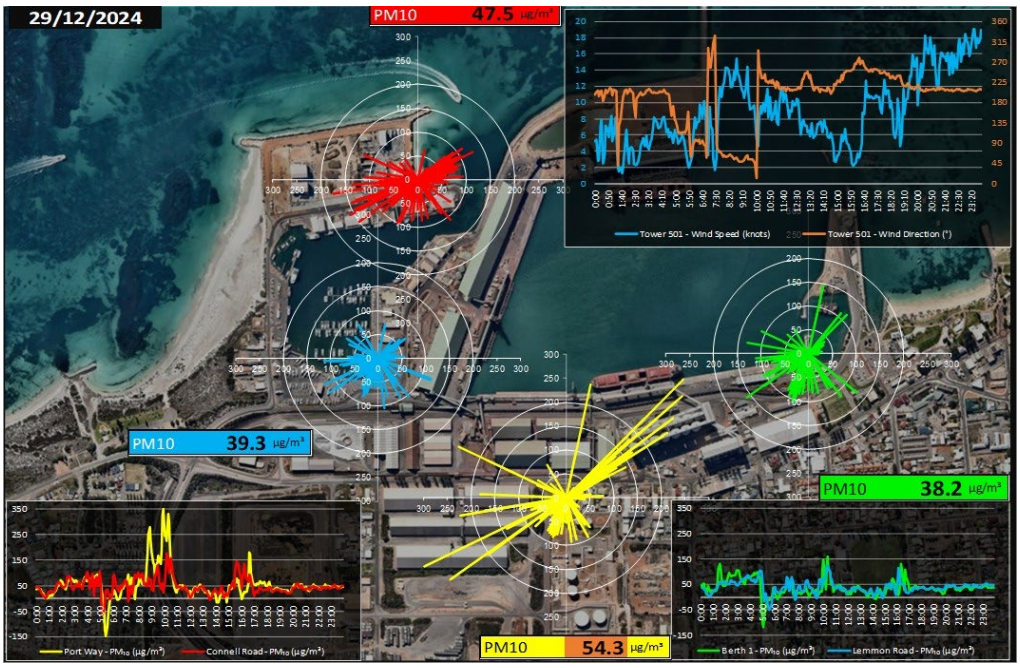

FIGURE 42– 24-HOUR AVERAGED PM10 DATA FOR 29 DECEMBER 2024

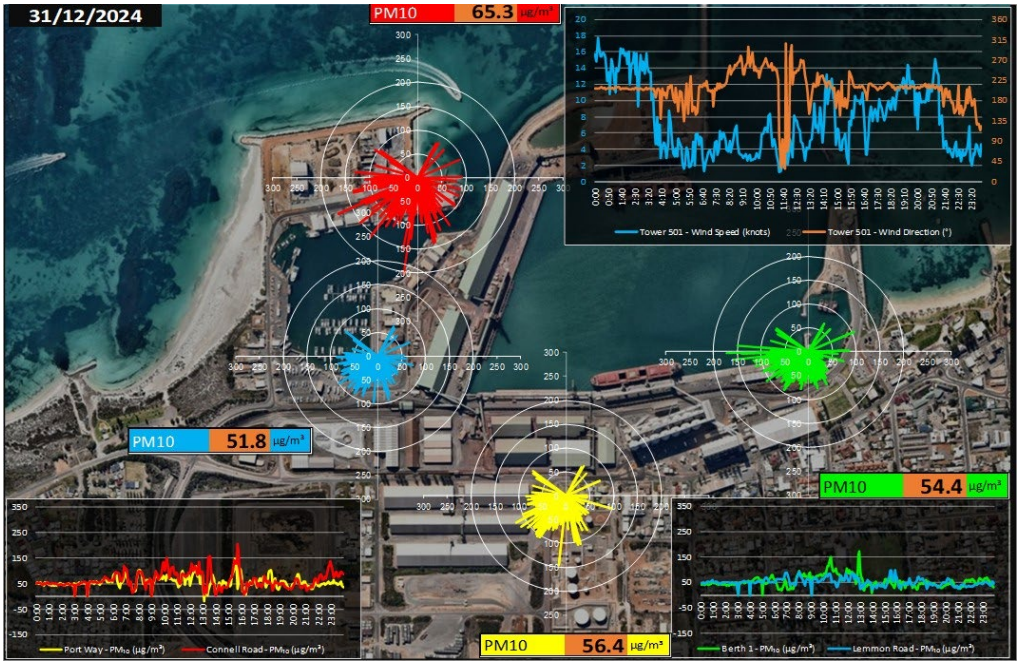

FIGURE 43– 24-HOUR AVERAGED PM10 DATA FOR 31 DECEMBER 2024

8.2 Appendix B – TEOM PM_{10} Air Quality Monitoring Results

Air quality and meteorological data in five-minute averages is provided in the PDF document attachments. The Excel spreadsheet has also been attached to the submission.