

Fremantle Ports - Inner Harbour Ambient Air Quality Monitoring Program

Quarterly Air Quality Monitoring Report 2 April to June 2019

EXECUTIVE SUMMARY

Fremantle Ports engaged environmental consultants Advisian and Environmental Technologies & Analytics to design, install and operate a temporary ambient air quality monitoring network within Fremantle for a period of 12 months. The purpose of this trial monitoring program is to monitor potential air pollutants from port-related sources including shipping.

The network consists of four stations at locations to monitor potential air pollutants. Three of the monitoring locations are within Fremantle, and near the Fremantle Harbour. The fourth station is co-located at the Kwinana Industries Council (KIC) Tindal Avenue air quality monitoring station (a regulatory compliance monitoring location). The monitoring stations measure the following parameters:

- Nitrogen dioxide (NO₂);
- Sulphur dioxide (SO₂);
- Carbon monoxide (CO);
- Ozone (O₃); and
- Particulates (as PM₁₀ and PM_{2.5}).

The monitor chosen for this program is the Vaisala AQT420 monitor. This monitor was chosen as they are suitable for a monitoring network over a large area and where measuring to a regulatory standard is not required. The KIC monitor was co-located with an existing monitoring station using regulatory monitoring equipment measuring to the Australian Standard. A calibration factor is then developed and applied to the data from the Inner Harbour monitors.

The monitoring results are compared to the National Environmental Protection (Ambient Air Quality) Measure, which is the applicable air quality standard.

This report covers the period 1 April to 30 June 2019, inclusive.

Figures 1 and 2 show the location of the monitoring stations.

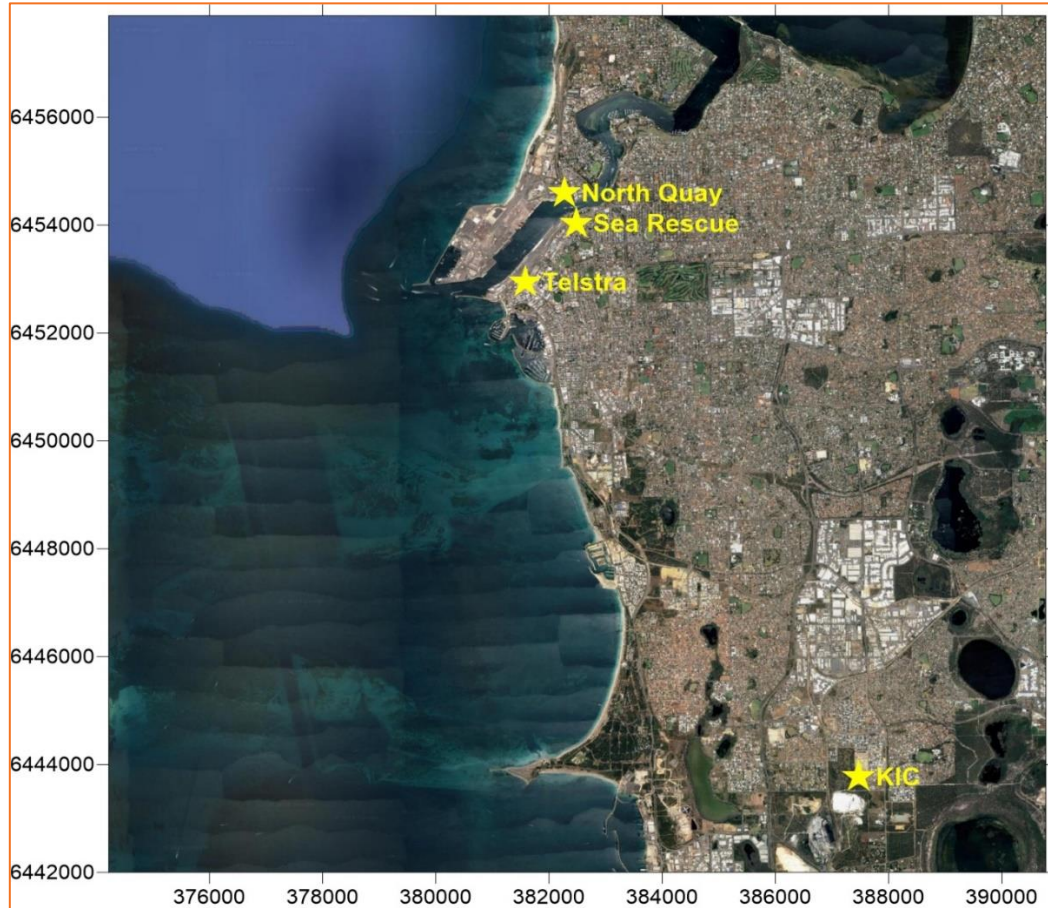


Figure 1: Monitoring locations



Figure 2: Monitoring locations within Fremantle

Key conclusions from the data for this reporting period are:

- All air quality parameters were generally below the applicable NEPM criteria.
- There were potential exceedances for PM₁₀ and PM_{2.5} at some monitors on the 6 and 7 June 2019 which was attributed to regional smoke haze from prescribed burning.
- Based on the limited data to date, the sensors can be considered to be returning data suitable for comparative purposes, as intended by the program.

For further information relating to this report please contact the Fremantle Ports' Environment Team:

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