

Fremantle Ports - Inner Harbour Ambient Air Quality Monitoring Program

Quarterly Air Quality Monitoring Report 1 January to March 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 January to 31 March 2019, inclusive.

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

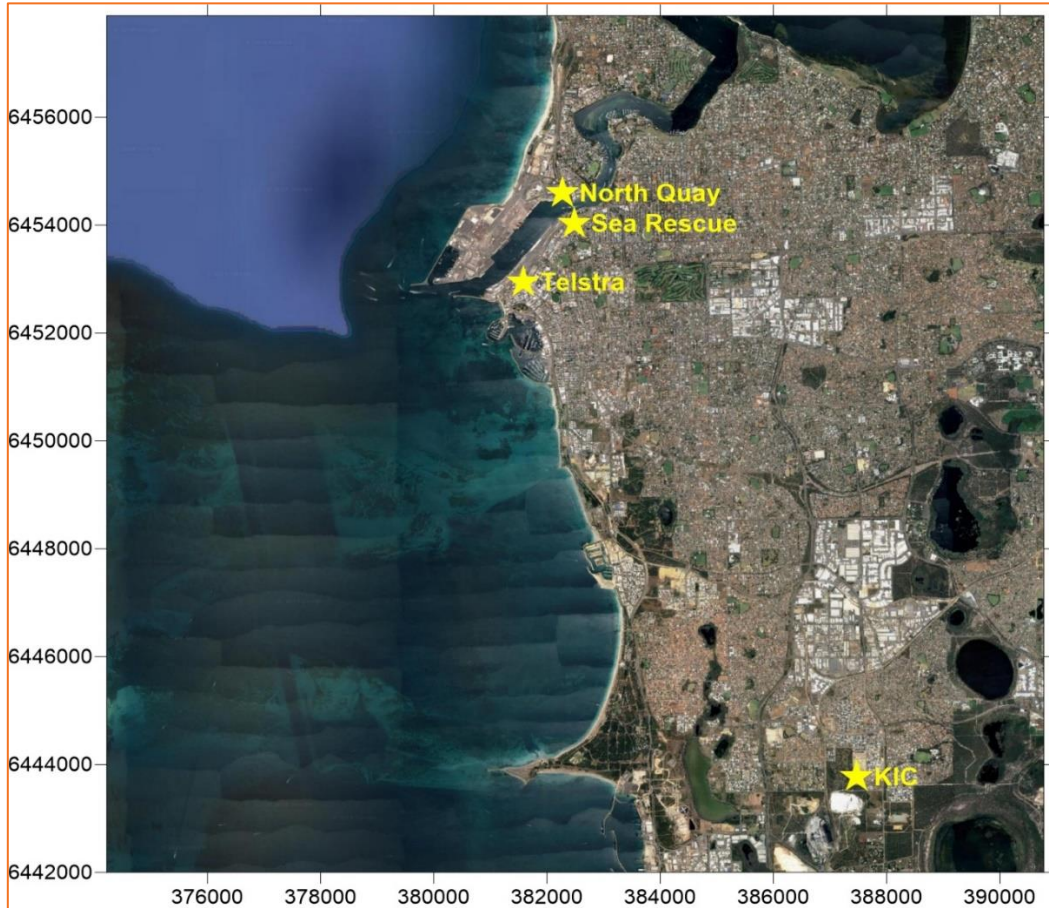


Figure 1: Monitoring locations

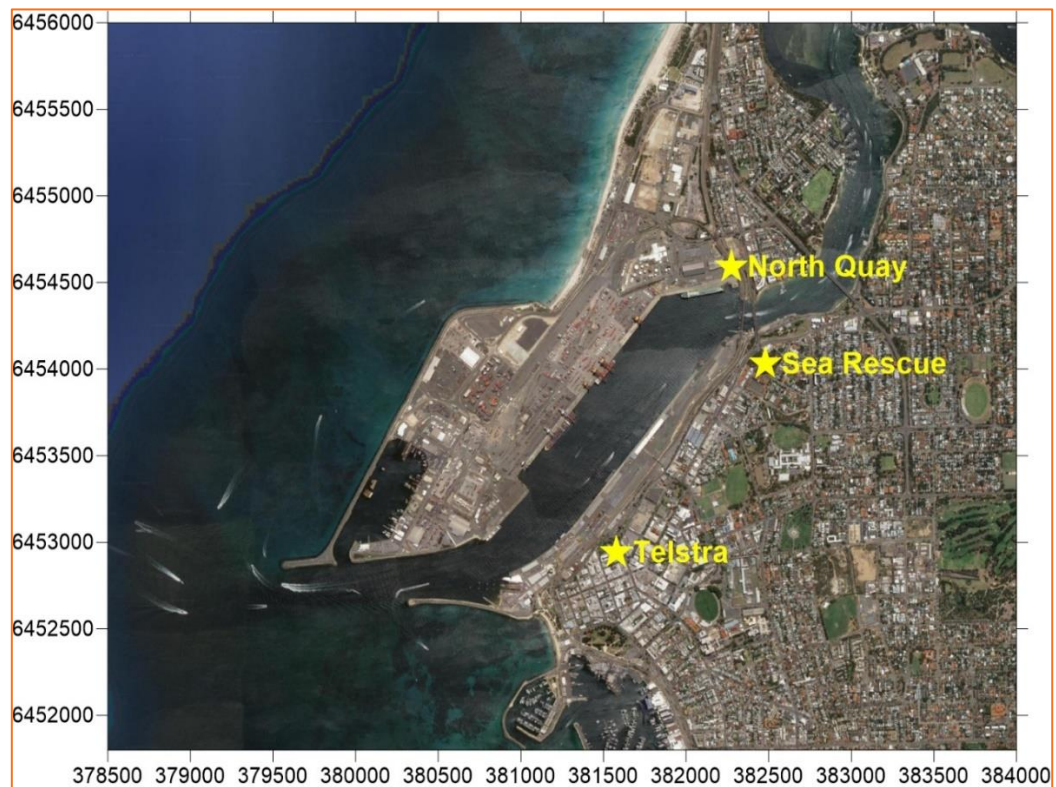


Figure 2: Monitoring locations within Fremantle

Key conclusions from the data for this reporting period are:

- All air quality parameters were generally below the applicable National Environment Protection (Ambient Air Quality) Measure air quality criteria.
- There was one potential exceedance for PM₁₀ at the Telstra monitor in March 2019 for less than 10% of the 24-hour reporting period. An assessment of wind speed and direction found that these particulates were from the south east and not from port-related sources.
- 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:

Environment@fremantleports.com.au

Ph - 9430 3555