



NEW ZEALAND'S

Port for the Future >>>

Management and mitigation of particulate matter/dust associated to port activities

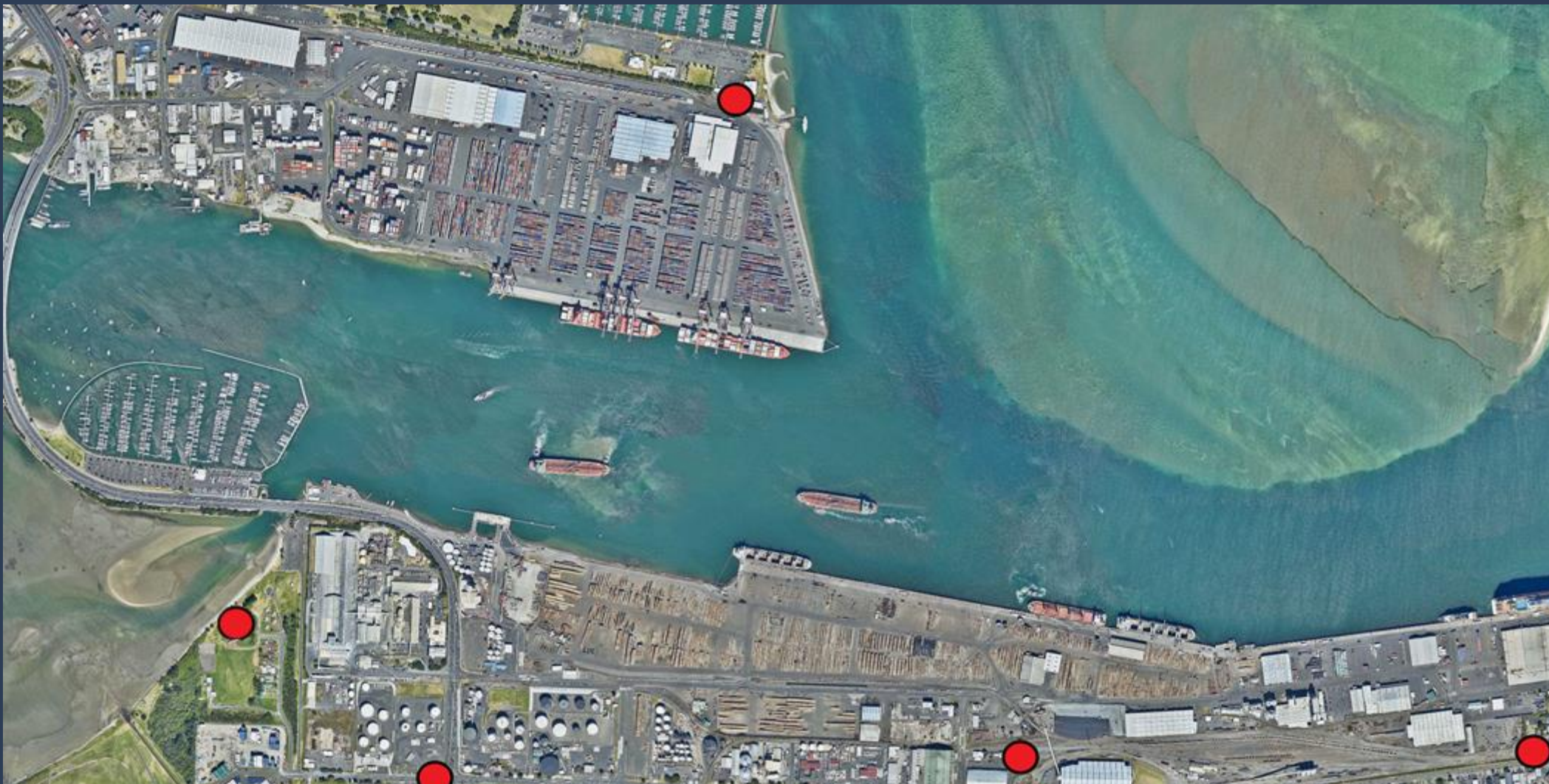
May 2021



Background – Port activities



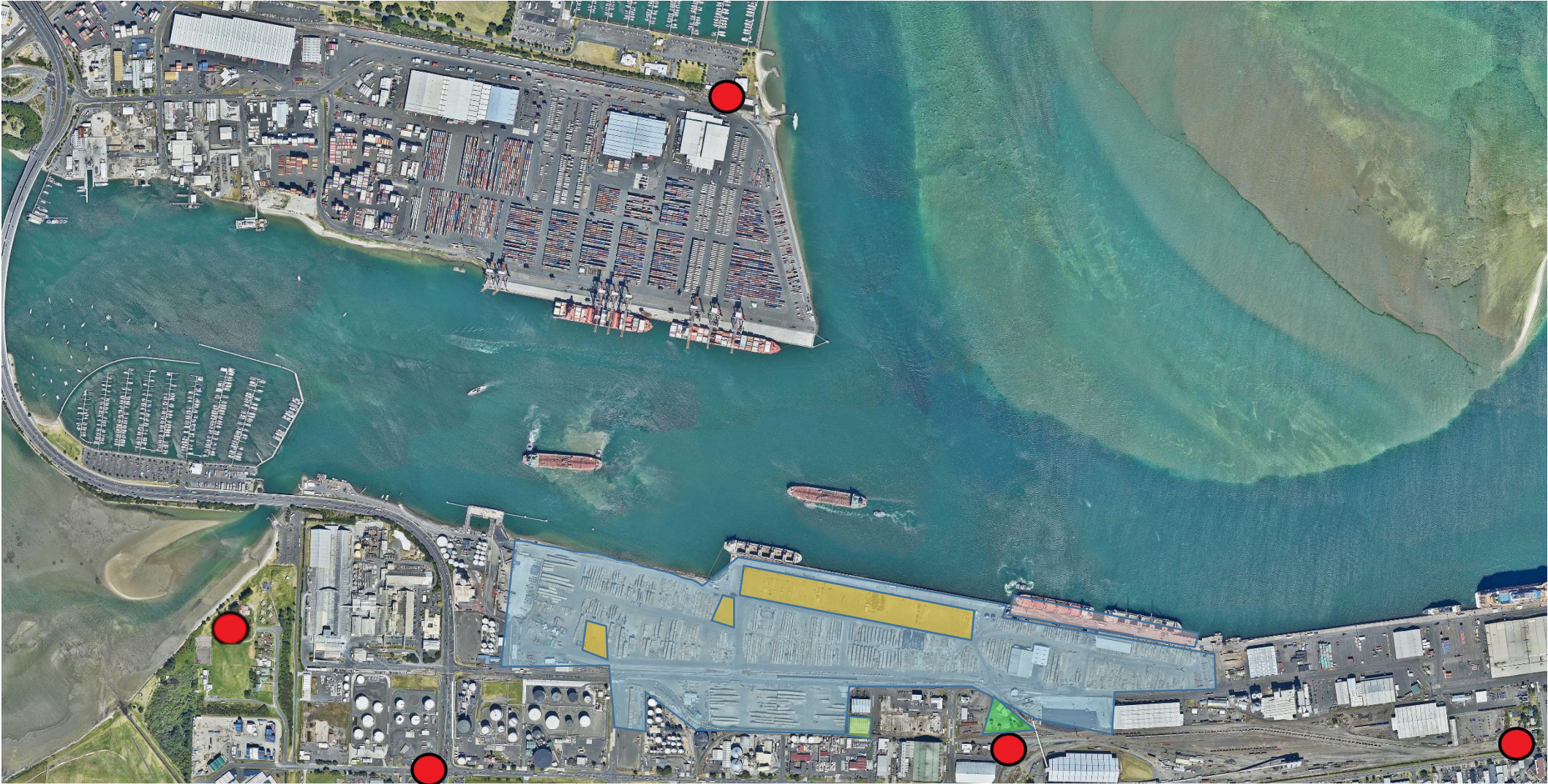
BOPRC Particulate Matter/Dust Monitoring



Assessment against NESAQ PM₁₀ (inhalable dust)

Contaminant	Threshold concentration	Number of exceedances allowed
Carbon monoxide	10 milligrams per cubic metre expressed as a running 8-hour mean	1 in a 12-month period
Nitrogen dioxide	200 micrograms per cubic metre expressed as a 1-hour mean	9 in a 12-month period
Ozone	150 micrograms per cubic metre expressed as a 1-hour mean	None
PM ₁₀	50 micrograms per cubic metre expressed as a 24-hour mean	1 in a 12-month period
Sulphur dioxide	350 micrograms per cubic metre expressed as a 1-hour mean	9 in a 12-month period
	570 micrograms per cubic metre expressed as a 1-hour mean	None

Identified/confirmed potential sources



Identified how the dust enters the air



Identified mitigation options

- Structural / built controls
- Behavioural / procedural controls
- Mitigation that utilises both structural and behavioural controls

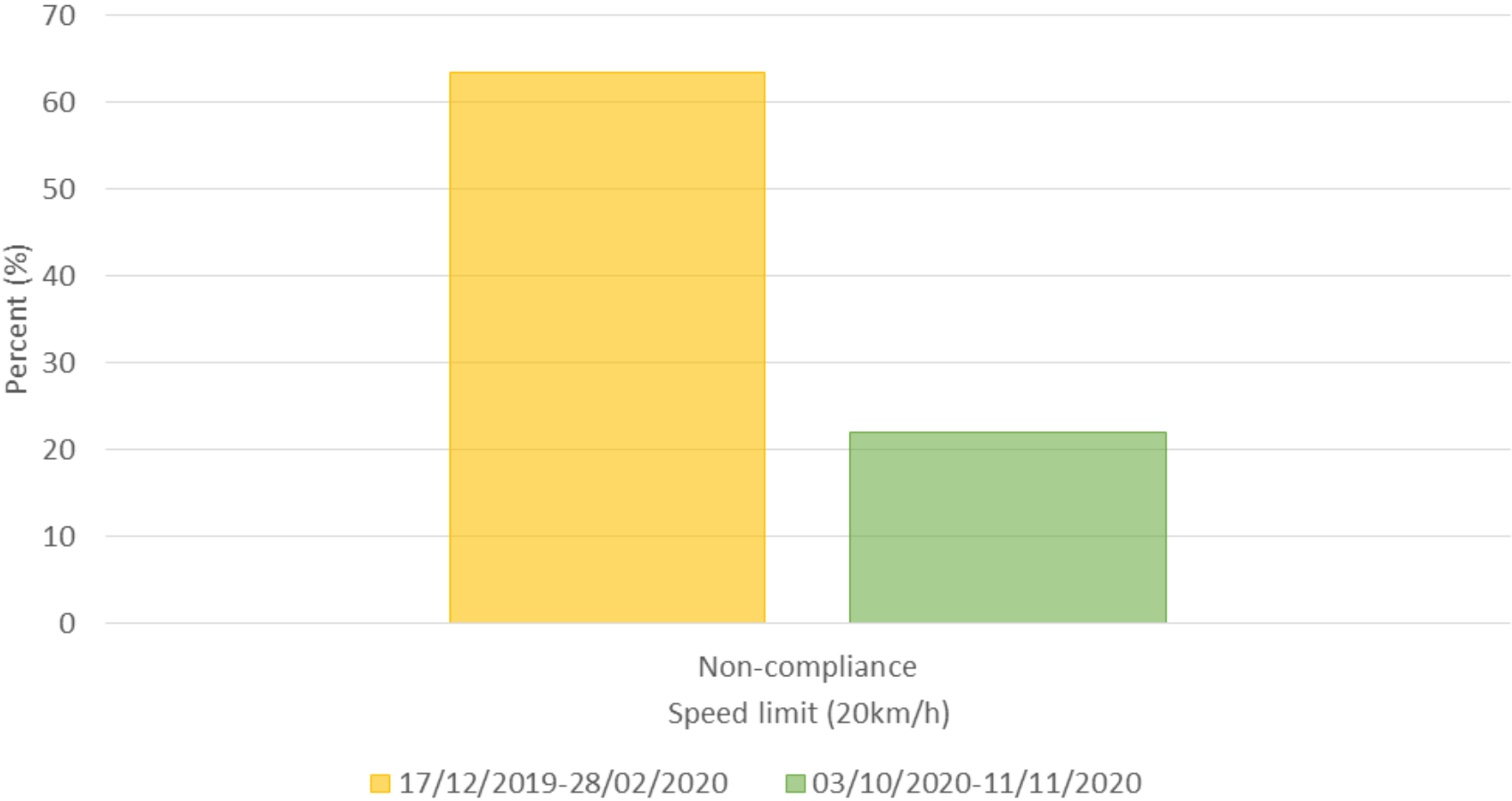
Dust Mitigation – Structural Controls



Dust Mitigation – Behavioral Controls



Dust Mitigation – Behavioral Controls



Dust Mitigation – Working in Dusty Areas



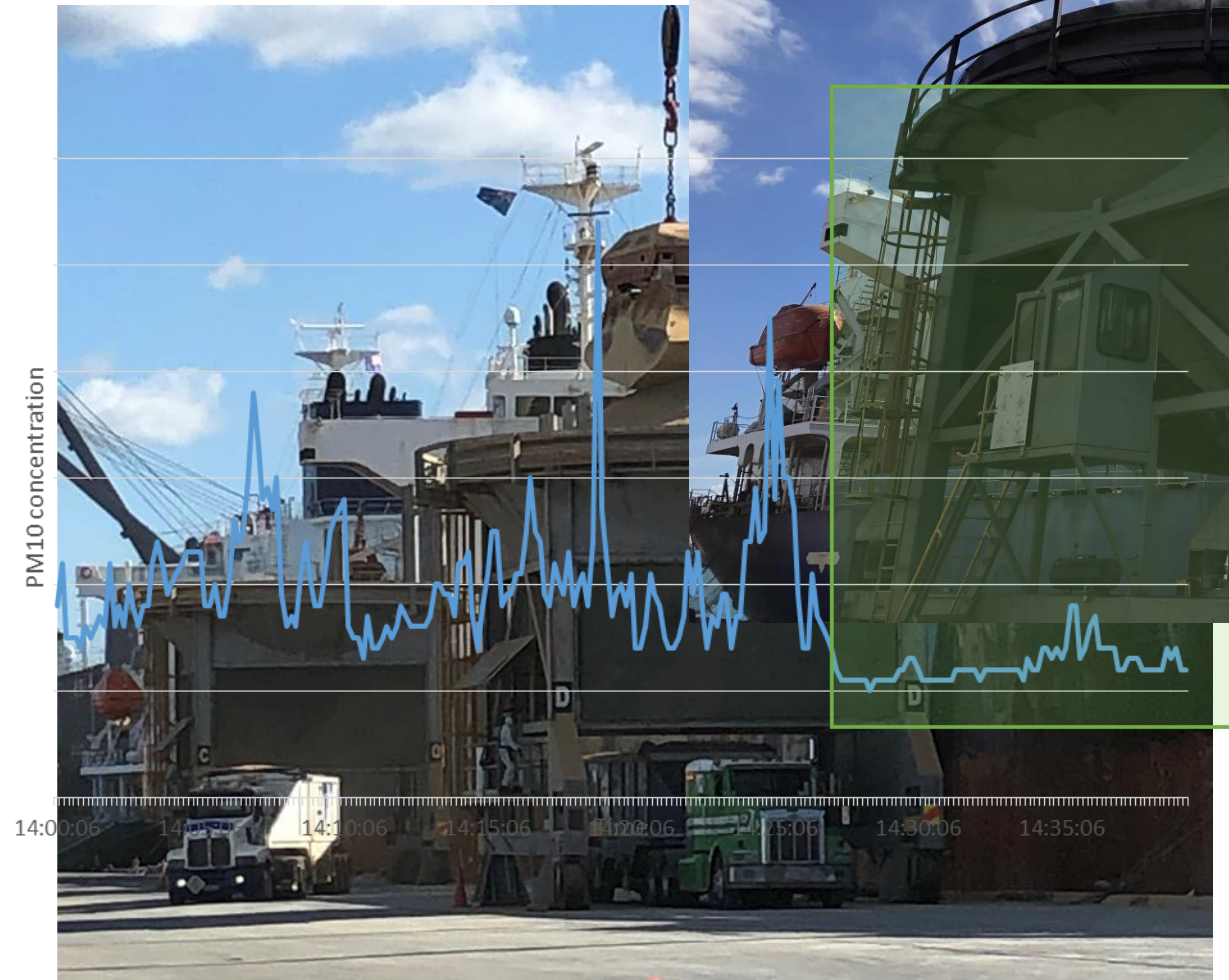
Dust Mitigation – Working in Dusty Areas



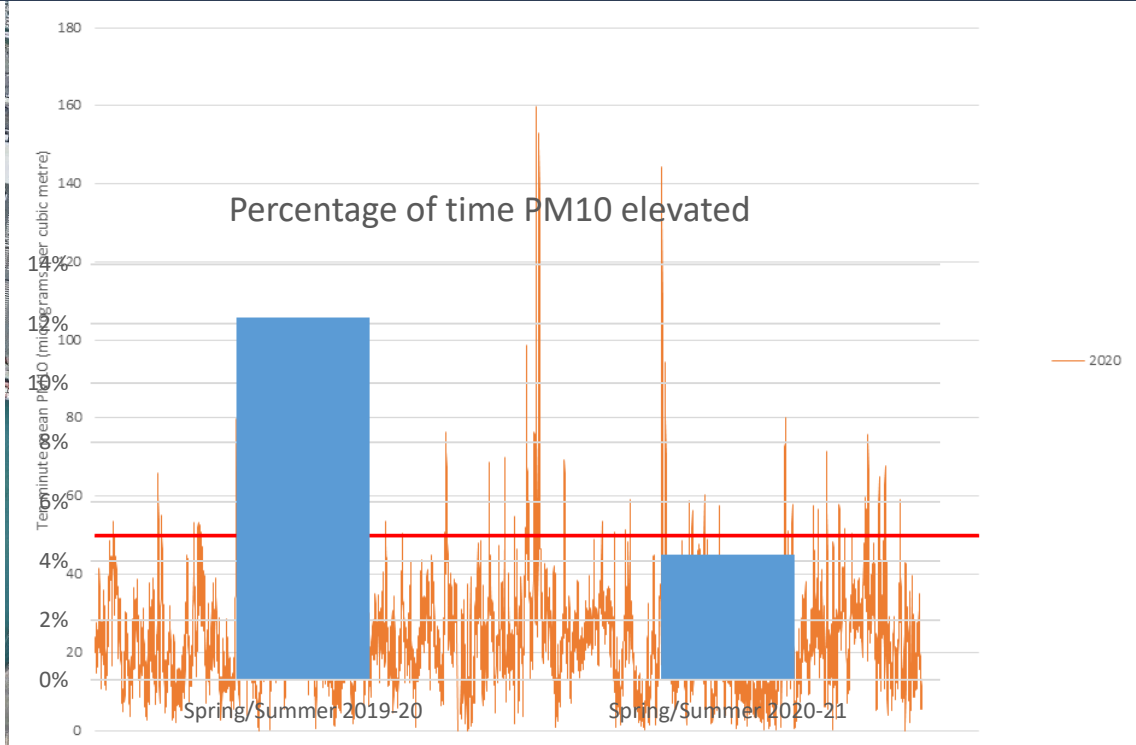
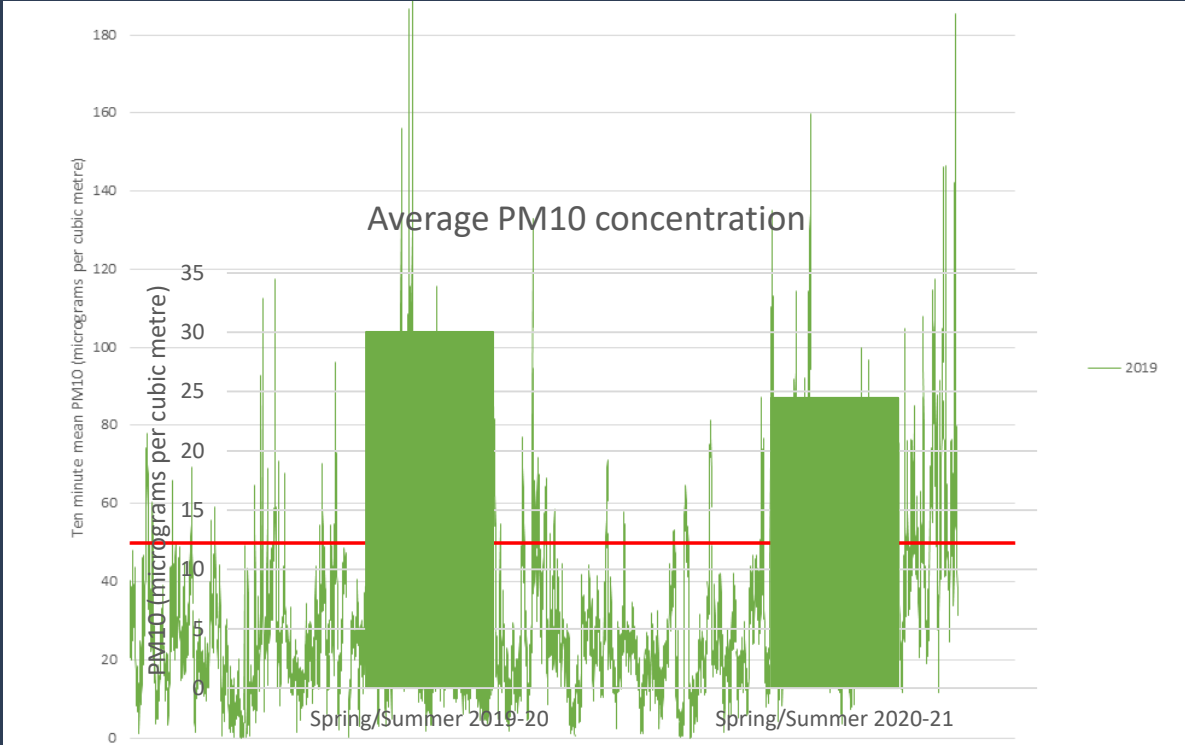
Dust Mitigation – Changes in Log Handling



Dust Mitigation – Bulk Cargo Handling

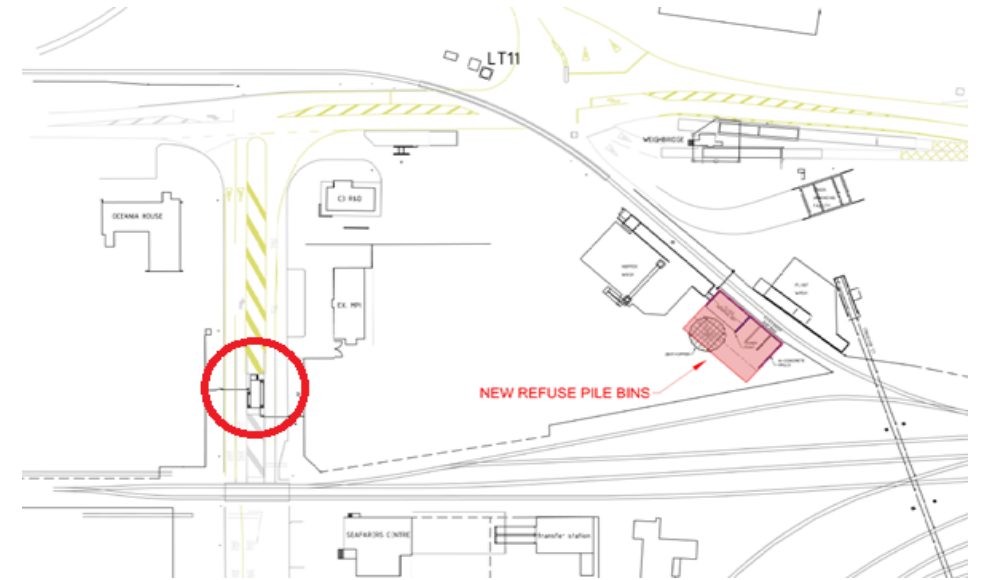


Results



	Spring/Summer 2019-2020	Spring/Summer 2020-2021	Percentage reduction
Average PM ₁₀ concentration (micrograms per cubic metre)	34.38	28.7	16.5%
% of time PM ₁₀ is elevated	16.81	7.19	57.2%
Number of NESAQ PM ₁₀ exceedance days	17	2	88%

Next steps



THANK YOU

