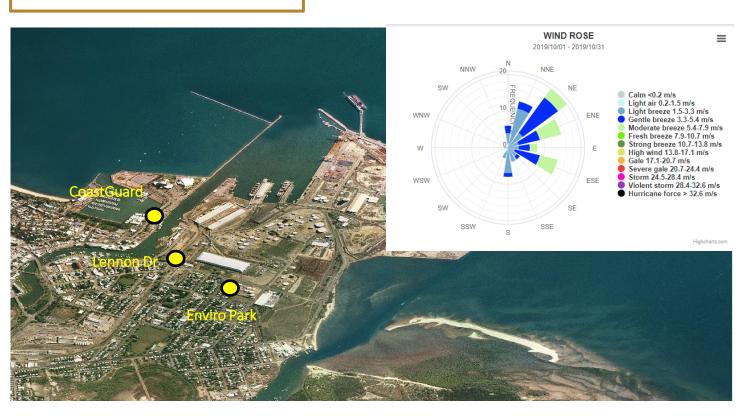
#### AIR QUALITY MONITORING IN TOWNSVILLE

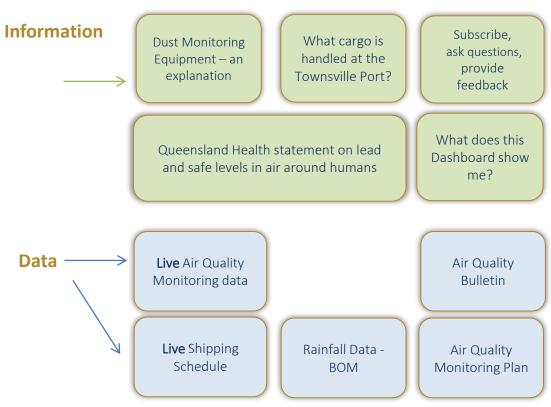
Air Quality Monitoring in Townsville is conducted separately by both the Department of Environment and Science (DES), and Port of Townsville Limited.

Click here to visit the Port of Townsville's monitoring network

Click here to visit DES monitoring network

#### Air Quality Monitoring Locations







#### **Shipping Movements in October 2019**

Date In/Out	Vessel Name	Berths	Cargo	Date In/Out	Vessel Name	Berths	Cargo
01-07	BEKS CENK	10	Urea	17-18	BISON EXPRESS	3 NTH	Fodder, cattle
01-04	INTERLINK AMENITY	3 NTH	Metal Concentrates	17-18	CLIPPER LIS	9	Sugar
02-03	YANGTZE HARMONY	4	Fodder, cattle	18-19	HELLAS CALAFIA	1	Fuels
03-07	MAYUREE NAREE	11	Lead Concentrates	18-20	OCEAN UTE	3 NTH	Fodder, cattle
03-05	BOMAR SPRING	4	Containers	18-20	LONGVIEW LOGGER	9	Sugar
04-04	GALLOWAY EXPRESS	3 STH	Fodder, cattle	20-23	BBC KANSAS	9	Fodder
04-05	GOLDEN ACE	1	Fuels	20-21	NEW GRACE	4	Bitumen
04-06	INTERLINK AMENITY	3 NTH	Zinc Concentrates	21-21	MAASDAM	10	Cruise
05-07	INTERLINK VERITY	8	Fertilizer	21-22	MS EAGLE	3 STH	Containers
05-07	NORD YILAN	9	Sugar	21-23	GLOUCESTER EXPRESS	4	Fodder, cattle
07-09	KOTA NEBULA	3 STH	Containers	23-25	WYUNA	4	Cement
07-12	AFRICAN TEIST	10	Zinc Ferrites	23-25	KYOWA ORCHID	3 NTH	Tyres, copper refined
08-09	GRAVITY HIGHWAY	9	Motor Vehicles	24-24	TRITON LEADER	9	Motor Vehicles
08-10	WYUNA	4	Cement	24-24	CALEDONIAN SKY	10	Cruise
09-09	CORONADO BAY	3 STH	Containers	24-26	NEW MOMENTUM	L1	Sugar
09-13	IVS MERLION	8	Urea	24-27	AFRICAN ROOK	9	Fertilizer
10-10	SOFRANA TOURVILLE	3 STH	Containers	25-25	DAREEN	8	Fodder, cattle
10-12	ANNA MARRA	3 NTH	Fodder, cattle	25-29	BROADGATE_1	8	Zinc Concentrates
10-12	EASTERN HOPE	9	Sugar	25-25	OCEAN ANGEL	4	Bitumen
11-11	ASPHALT CARRIER	4	Bitumen	25-31	OCEAN DROVER	10	Fodder, cattle
11-13	TWO MILLION WAYS	1	Fuels	25-26	MAERSK CANCUN	1	Fuels
12-25	DESERT SYMPHONY	10	Zinc Concentrates	28-29	KOTA NAGA	3 NTH	Containers
13-14	GOLIATH LEADER	4	Motor Vehicles	28-29	GALLOWAY EXPRESS	4	Fodder, cattle
13-17	SWIFT ACE	3 STH	Motor Vehicles	28-29	OCEAN HIRYU	L1	Sugar
13-14	ARDMORE SEAWOLF	1	Fuels	29-30	SELINDA	8	Concentrates
14-15	GREYMAN EXPRESS	4	Fodder, cattle	29-31	STOLT TSUBAKI	1	Sulphuric Acid
15-16	GIROLANDO EXPRESS	4	Fodder, cattle	29-30	BARDU	4	Containers
15-16	CH CLARE	8	Lead Concentrates	31-01	ADELIE	9	Sugar
16-17	THERESA MICRONESIA	4	Molasses	31-01	THERESA MICRONESIA	8	Molasses
16-22	AFRICAN EGRET	8	Sulphur	31-01	PS TOKYO	1	Fuels
16-17	AGIA IRINI	9	Sugar				

#### **Port of Townsville - Overview**

First established in 1864, the Port of Townsville is operates eight berths handled more than \$8 billion in trade during the 2016/2017 financial year; servicing more than 136 ports around the globe. Townsville is the number one port in Australia for copper, zinc, lead and sugar exports and services 70% of the Northern Australia population. More than 20 shipping lines operate out of the Townsville Port offering more than 40 different services.

Townsville is also a strategic Navy port and facilitates cruise ship visits.

Commodities/cargo that passes over the Townsville Port's berths include:

#### **Imports**

Motor vehicles, shipping containers (general cargo), cement, sulphuric acid, fertiliser, copper, nickel, zinc, copper anode, petroleum products, sulphur, containers, tyres.

#### **Exports**

Sugar, timber, fertiliser, shipping containers (general cargo) cattle, refrigerated meat, magnetite, copper, lead, zinc, zinc ferrites, zinc oxide, silver, molasses, sand, gravel, coke, project cargo.



#### **Subscribe to Dashboard Updates**

Visit our website and subscribe here <a href="https://www.townsville-port.com.au/environment-community/community/newsletter-sign-up/">https://www.townsville-port.com.au/environment-community/community/newsletter-sign-up/</a>

OR

Visit the <u>Port of Townsville Facebook page</u> and click on "Sign up" at the top of the page.

OR

Phone 07 47 811 500 and asked to be added to the list.

#### Ask a Question / Provide Feedback

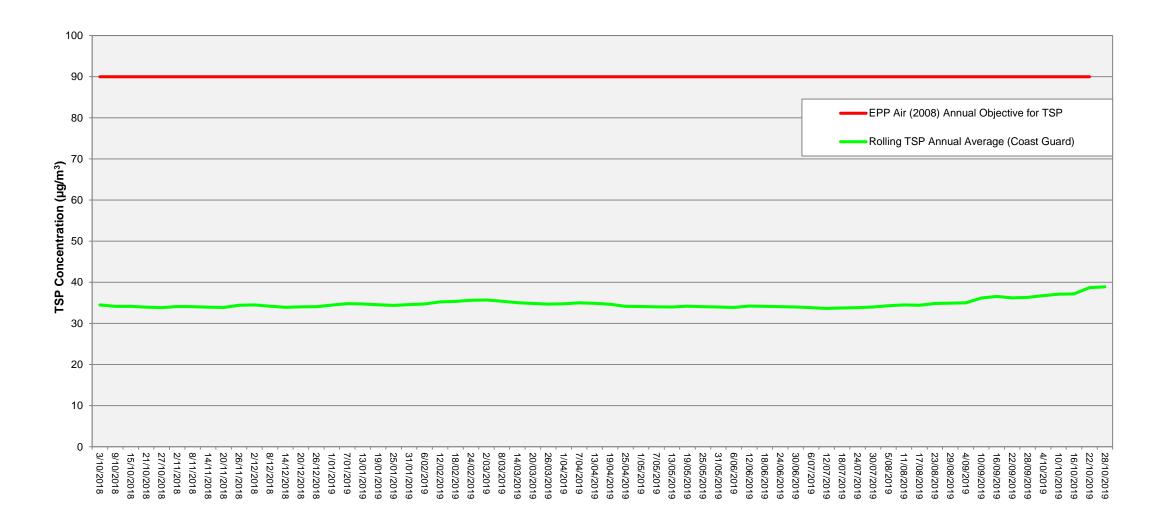
Send your enquiry or feedback to <a href="mailto:community@townsvilleport.com.au">community@townsvilleport.com.au</a>







#### Hi-Volume Sampler – General total dust levels (one in six days) at Coast Guard Site OCTOBER 2018 – OCTOBER 2019

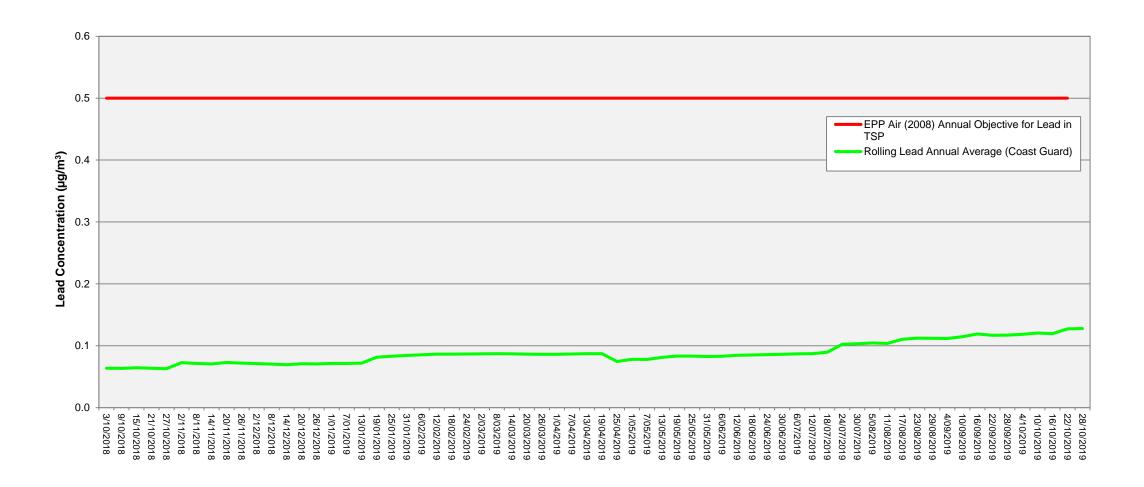


Note:

TSP Concentration units = micrograms per cubic metre per 24 hour period Rolling annual average = the moving average of the previous 11 results and the current result



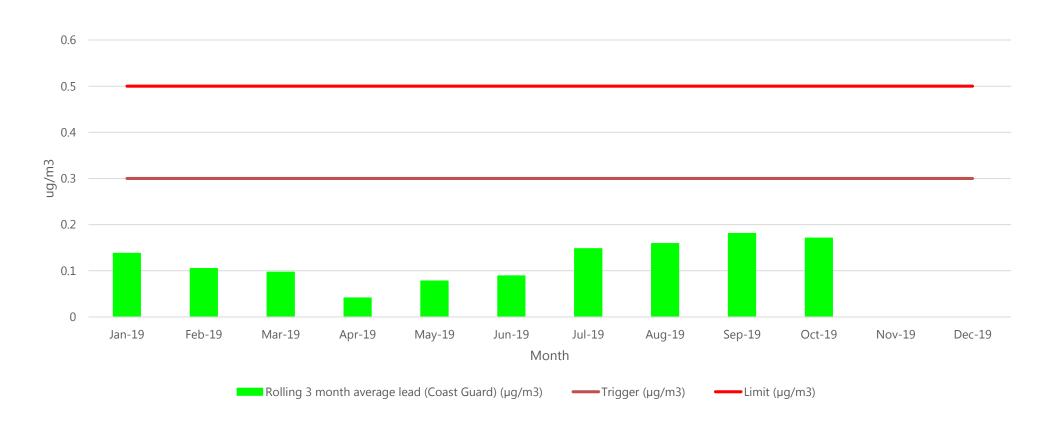
### Hi-Volume Sampler – Lead in dust levels (one in six days) at Coast Guard Site OCTOBER 2018 – OCTOBER 2019



Note: Lead Concentration units = micrograms per cubic metre per 24 hour period

Rolling annual average = the moving average of the previous 11 results and the current result

## Hi-Volume Sampler - Lead in dust levels (one in six days) at Coast Guard Site 2019

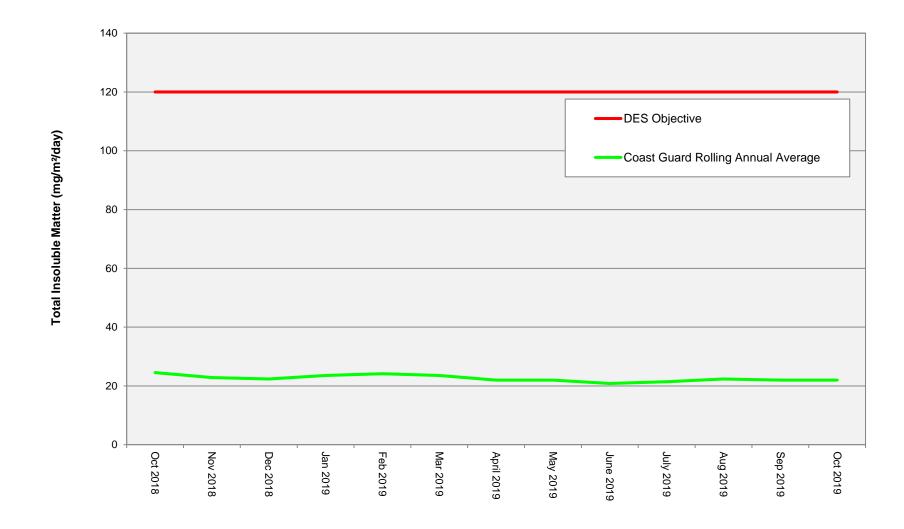


Note: Rolling 3 month average = the moving average of the previous 2 months and the current month result





## Dust Deposition Gauge – General dust deposition levels (monthly) at Coast Guard Site OCTOBER 2018 – OCTOBER 2019



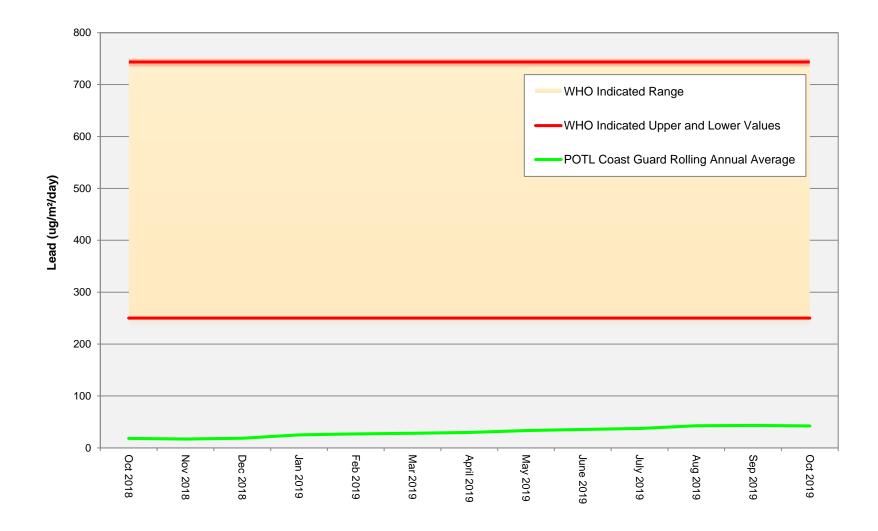
Note:

Total Insoluble Matter Concentration units = micrograms per square metre per day Rolling annual average = the moving average of the previous 11 results and the current result





### Dust Deposition Gauge – Lead in dust deposition levels (monthly) at Coast Guard Site OCTOBER 2018 – OCTOBER 2019



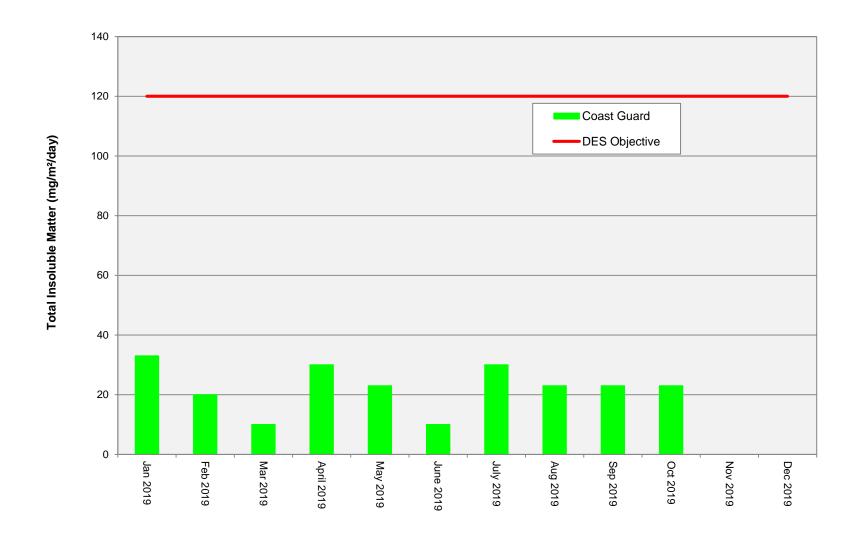
Note:

Lead Concentration units = micrograms per square metre per day Rolling annual average = the moving average of the previous 11 results and the current result.





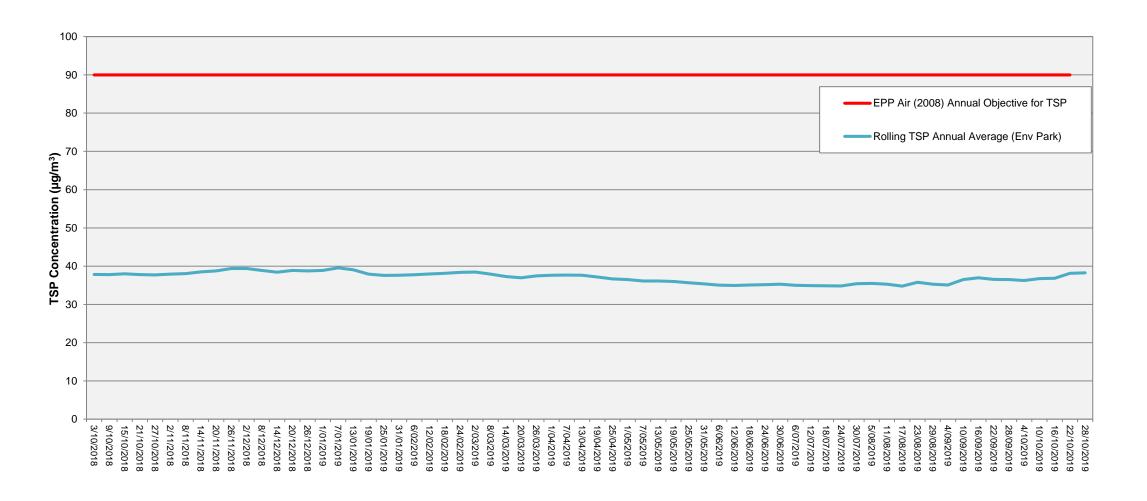
# Dust Deposition Gauge – General dust deposition levels (monthly) at Coast Guard Site 2019



Note: Total Insoluble Matter Concentration units = milligrams per square metre per day



#### Hi-Volume Sampler - General total dust levels (one in six days) at Environment Park site OCTOBER 2018 – OCTOBER 2019

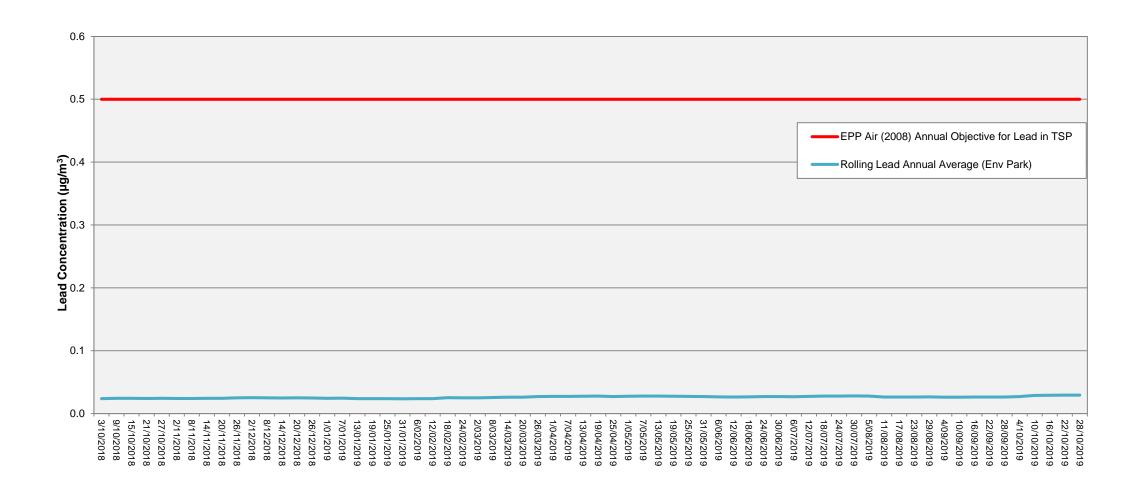


Note:

TSP Concentration units = micrograms per cubic metre per 24 hour period
Rolling annual average = the moving average of the previous 11 results and the current result



#### Hi-Volume Sampler - Lead in dust levels (one in six days) at Environment Park site OCTOBER 2018 – OCTOBER 2019

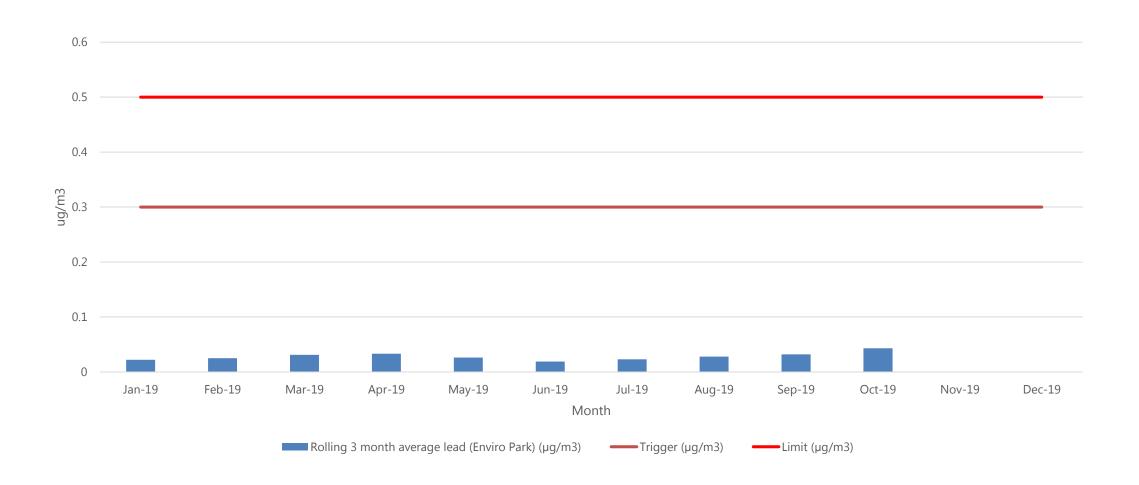


Note: Lead Concentration units = micrograms per cubic metre per 24 hour period

Rolling annual average = the moving average of the previous 11 results and the current result

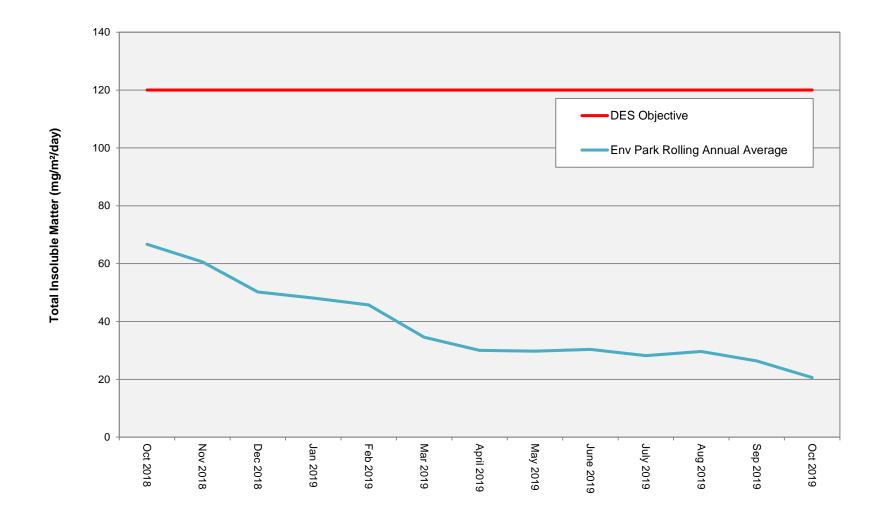


### Hi-Volume Sampler - Lead in dust levels (one in six days) at Environment Park site 2019



Note: Rolling 3 month average = the moving average of the previous 2 months and the current month result

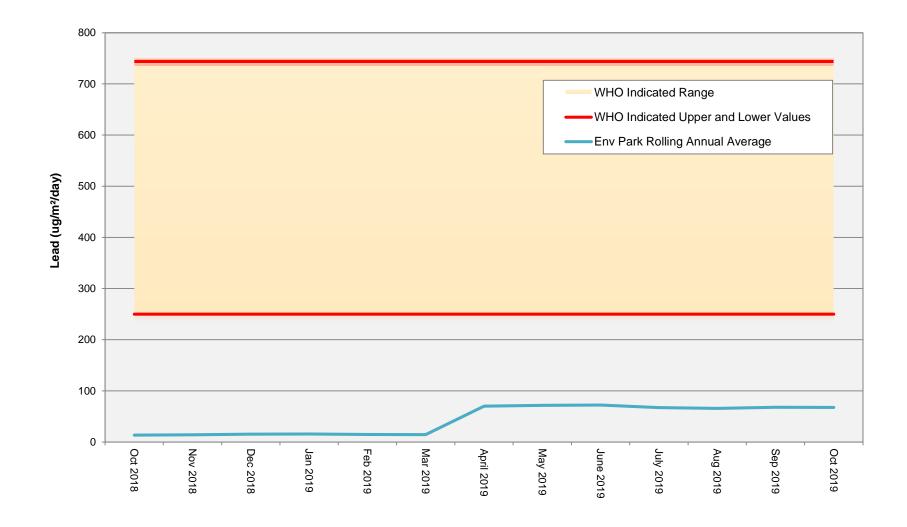
### Dust Deposition Gauge - General dust deposition levels (monthly) at Environment Park site OCTOBER 2018– OCTOBER 2019



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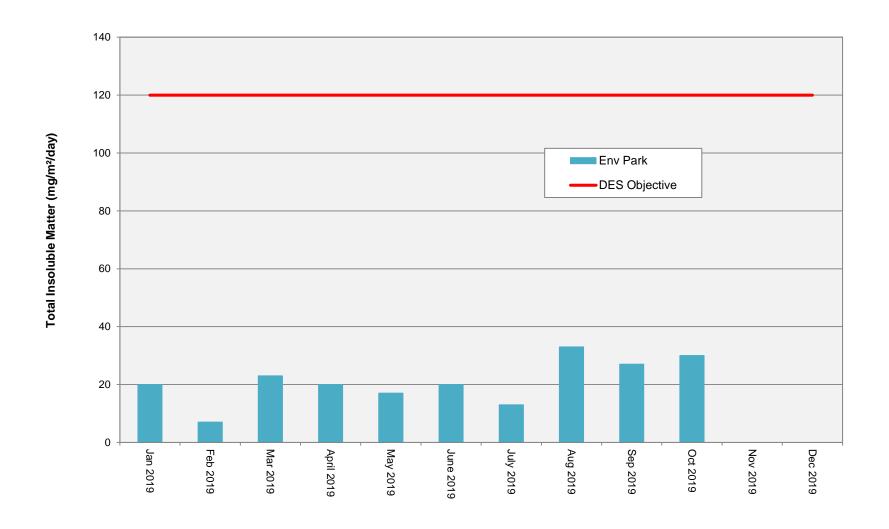
#### Dust Deposition Gauge – Lead in dust deposition levels (monthly) at Environment Park site OCTOBER 2018 – OCTOBER 2019



Note: Lead Concentration units = micrograms per square metre per day

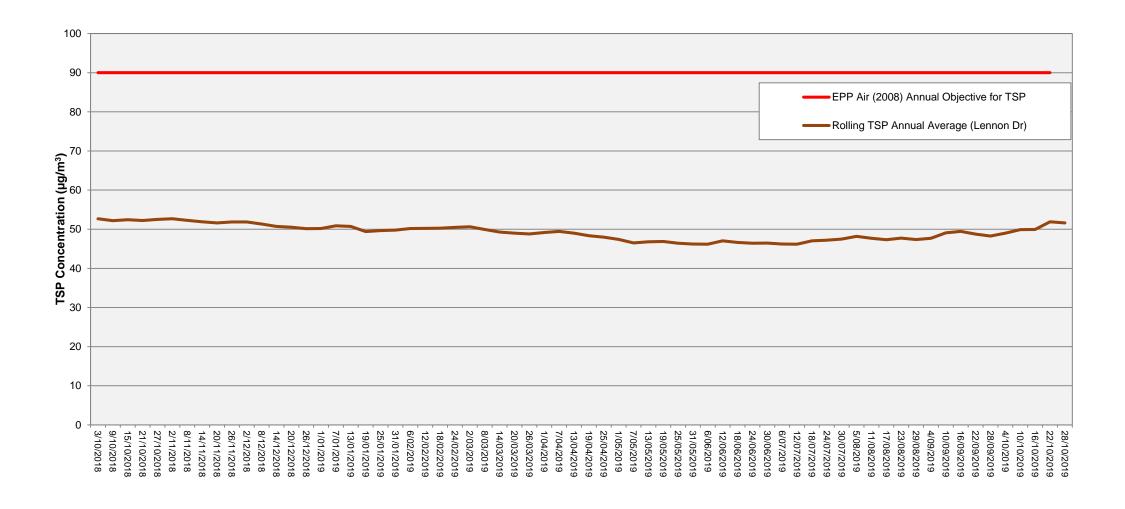
Rolling annual average = the moving average of the previous 11 results and the current result

## Dust Deposition Gauge – General dust deposition levels (monthly) at Environment Park Site 2019



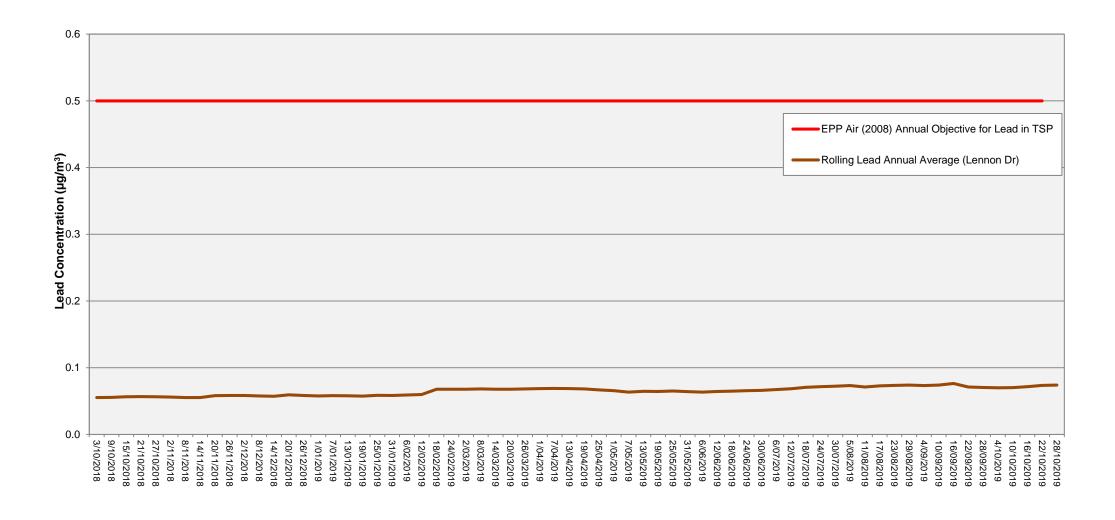
Note: Total Insoluble Matter Concentration units = milligrams per square metre per day

#### Hi-Volume Sampler - General total dust levels (one in six days) at Lennon Drive site OCTOBER 2018– OCTOBER 2019



Note: TSP Concentration units = micrograms per cubic metre per 24 hour period
Rolling annual average = the moving average of the previous 11 results and the current result

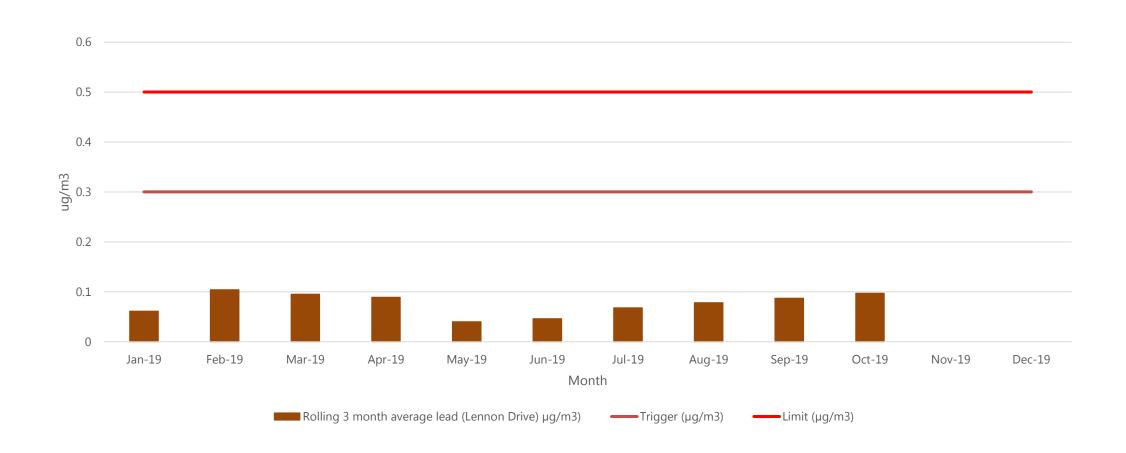
### Hi-Volume Sampler - Lead in dust levels (one in six days) at Lennon Drive Site OCTOBER 2018— OCTOBER 2019



Note: Lead Concentration units = micrograms per cubic metre per 24 hour period

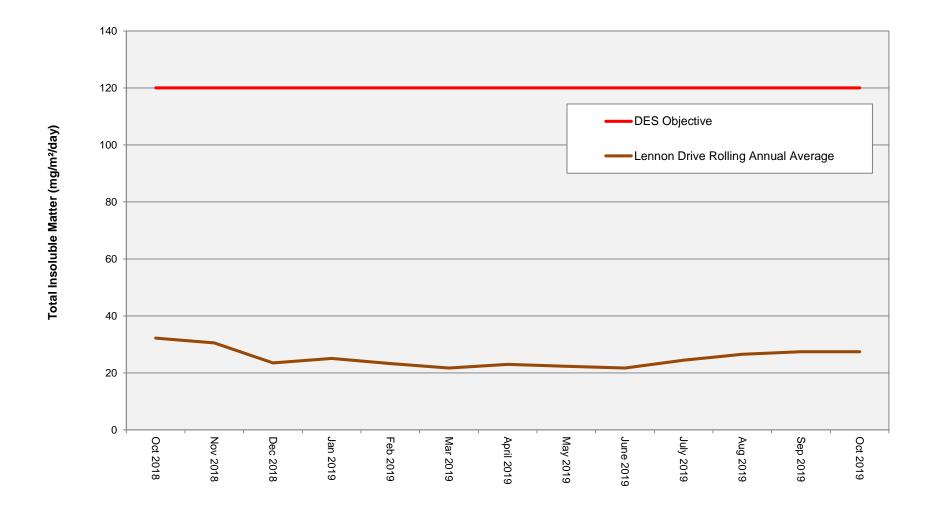
Rolling annual average = the moving average of the previous 11 results and the current result

# Hi-Volume Sampler - Lead in dust levels (one in six days) at Lennon Drive Site 2019



Note: Rolling 3 month average = the moving average of the previous 2 months and the current month result

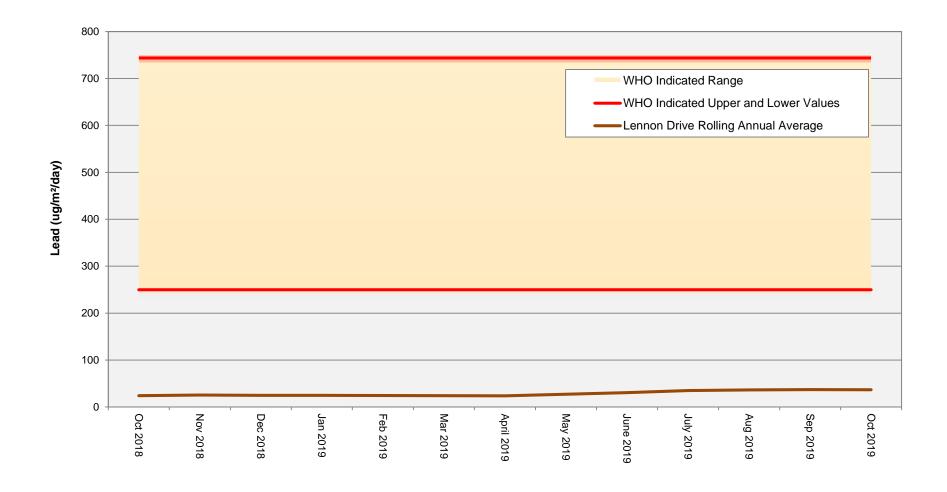
#### Dust Deposition Gauge - General dust deposition levels (monthly) at Lennon Drive Site OCTOBER 2018– OCTOBER 2019



Note:

Total Insoluble Matter Concentration units = micrograms per square metre per day Rolling annual average = the moving average of the previous 11 results and the current result

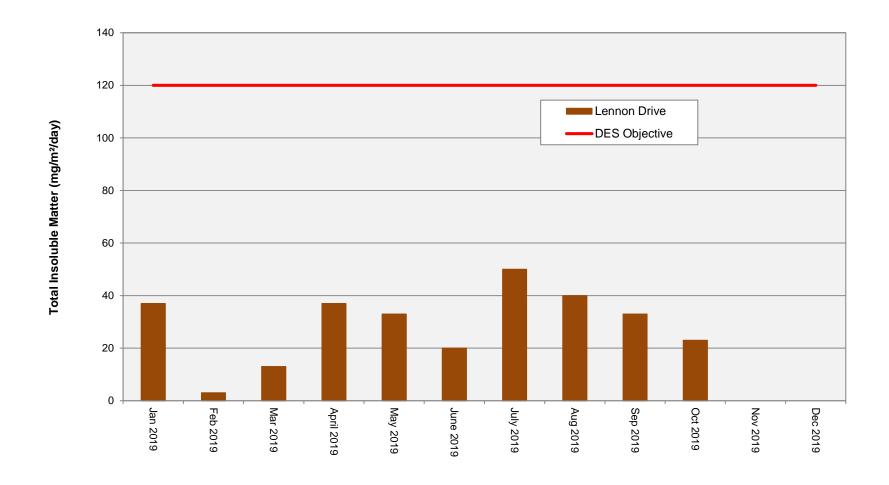
### Dust Deposition Gauge – Lead in dust deposition levels (monthly) at Lennon Drive Site OCTOBER 2018– OCTOBER 2019



Note: Lead Concentration units = micrograms per square metre per day

Rolling annual average = the moving average of the previous 11 results and the current result

## Dust Deposition Gauge – General dust deposition levels (monthly) at Lennon Drive Site 2019



Note: Total Insoluble Matter Concentration units = milligrams per square metre per day



This statement/advice was provided by Queensland Health in relation to blood lead levels in Townsville in April 2016

Environmental limits for lead are set using a number of possible criteria including potential health effects.

Blood lead level within the Australian population have been decreasing over time as the use of lead – particularly in petrol and paint - has been phased put. The most recent NHMRC guidance document suggests that a blood lead level of less than 5  $\mu$ g/dL is what should be expected in the general population.

Elevated blood lead levels are notified to Queensland Health for investigation. Previously this level was 10  $\mu$ g/dL but since the beginning of 2016 has been reduced to 5  $\mu$ g/dL. This is not an indication of a safe blood level, but is a trigger level that requires investigation into what in the individual's environment is contributing to the level.

Based on studies recognised by the World Health Organisation into the relationship between lengthy exposure to ambient air lead levels and increases in blood lead levels, the current 12 month rolling average for measurements (as at March 2016) at the Townsville Coast Guard Site could be expected to add between 0.36  $\mu$ g/dL and 0.6  $\mu$ g/dL to a person's total blood lead level. This increment is only about 10% of the level that would require further investigation. Along with other normal exposure, this would not be expected to exceed that level, is well within the expected community range, and below the level that would trigger further investigation.

The highest rolling annual average in recent years (recorded in May 2014 at the Townsville Coast Guard Site) yields a predicted result of between 1.14  $\mu$ g/dL and 1.9  $\mu$ g/dL, still well under the level which should trigger concern.