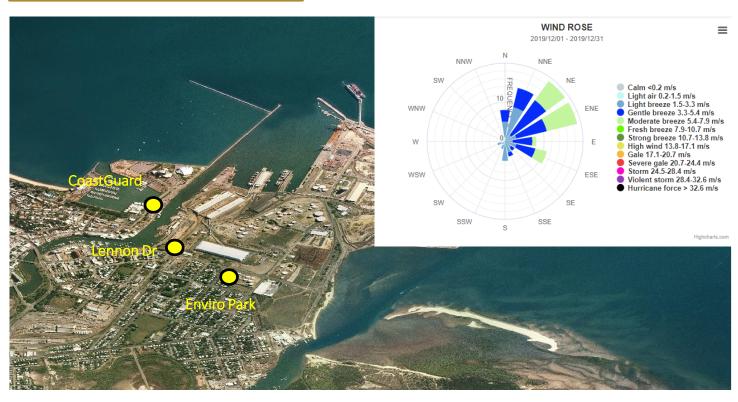
#### AIR QUALITY MONITORING IN TOWNSVILLE

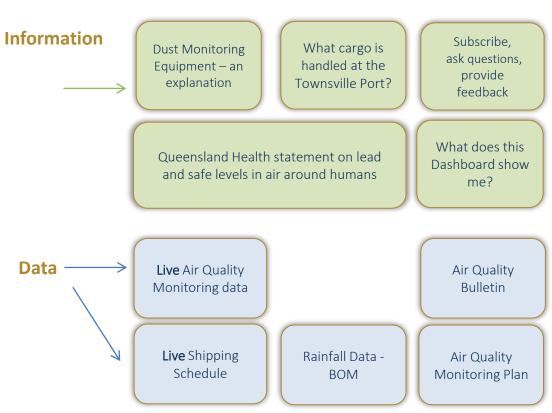
Air Quality Monitoring in Townsville is conducted separately by both the Department of Environment and Science (DES), and Port of Townsville Limited.

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 December 2019**

Date In/Out	Vessel Name	Berths	Cargo	Date In/Out	Vessel Name	Berths	Cargo
01-01	SILVER MUSE	10	Cruise	12-14	KOTA NAGA	3 STH	Containers
01-02	HMAS PARRAMATTA	10	ADF	13-17	TS ALPHA	3 NTH	Zinc Concentrates
03-05	HMAS ADELAIDE	10	ADF	13-24	FEDERAL TAKASE	10	Zinc Concentrates
04-13	LOWLANDS BRABO	8	Zinc Concentrates	15-17	OCEAN HIGHWAY	9	Motor Vehicles
04-05	MAERSK CANCUN	1	Fuels	15-15	SEABOURN ENCORE	10	Cruise
04-05	GLOUCESTER EXPRESS	4	Fodder, cattle	16-17	SOFRANA TOURVILLE	4	Containers
04-16	BASIC CHALLENGER	8	Zinc Concentrates	17-17	GALLOWAY EXPRESS	4	Fodder, cattle
05-07	KYOWA ORCHID	3 NTH	Tyres, copper refined	17-18	CELSIUS RICHMOND	1	Fuels
05-06	TS BRAVO	9	Sugar	18-19	HAWAIIAN HIGHWAY	4	Motor Vehicles
05-07	RABEA	3 STH	Zinc Concentrates	18-20	HOKKAIDO BULKER	8	Fertiliser
05-07	GENTLE LEADER	10	Motor Vehicles	18-23	BIRTE SELMER	3 STH	Lead Concentrates
05-08	LUGA	4	Cement	18-20	BELUGA ACE	3 NTH	Motor Vehicles
06-08	GOLDEN SKY	1	Fuel, sulphric acid	18-19	STOLT AJISAI	9	Tallow
07-07	SHORTHORN EXPRESS	3 STH	Fodder, Cattle	19-20	OCEAN ANGEL	4	Bitumen
07-08	THERESA MICRONESIA	9	Nil Cargo	19-21	FREIGHT MARGIE	1	Fuels
07-10	CLIPPER TRITON	8	Fertiliser	20-21	KOTA NIPAH	3 STH	Containers
08-08	BARDU	3 STH	Containers	20-24	DAIWAN HERO	8	Lead Concentrates
08-09	OCEAN UTE	10	Fodder, cattle	21-21	VIKING ORION	10	Passenger Vessel
08-10	OCEAN SHEARER	4	Fodder, cattle	23-25	MARLIN MARSHALL	1	Fuels
09-09	FLORA DELMAS	3 STH	Containers	26-01	OCEAN HONESTY	10	Zinc Ferrites
10-13	AFRICAN WREN	10	Sulphur	26-27	OCEAN VENTURE	1	Fuel
10-11	SHIKOKU ISLAND	8	Zinc Concentrates	28-29	CORONADO BAY	3 STH	Containers
11-11	GREYMAN EXPRESS	4	Fodder, cattle	29-29	GANADO EXPRESS	4	Fodder, cattle
12-12	GELBRAY EXPRESS	4	Fodder, cattle	30-31	HANSA REGENSBURG	3 STH	Containers

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

First established in 1864, the Port of Townsville is operates eight berths handles around \$8 billion in trade; servicing more than 136 ports around the globe.

The 2018-19 year was a significant one for the Port of Townsville, with growth in trade driven by a rebound in the resources sector, a strong net profit of \$15.96 million and the advancement of a number of major infrastructure projects. Total trade throughput of 7.68 million tonnes is a 4.7% increase on the previous financial year. There were increases across a range of export commodities, in particular mineral concentrates, zinc ferrites, refined copper, smelted lead, sugar and cattle. Cruise ship visitation grew with 16 arrivals and a doubling the number of passengers and crew to almost 20,000 people.

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

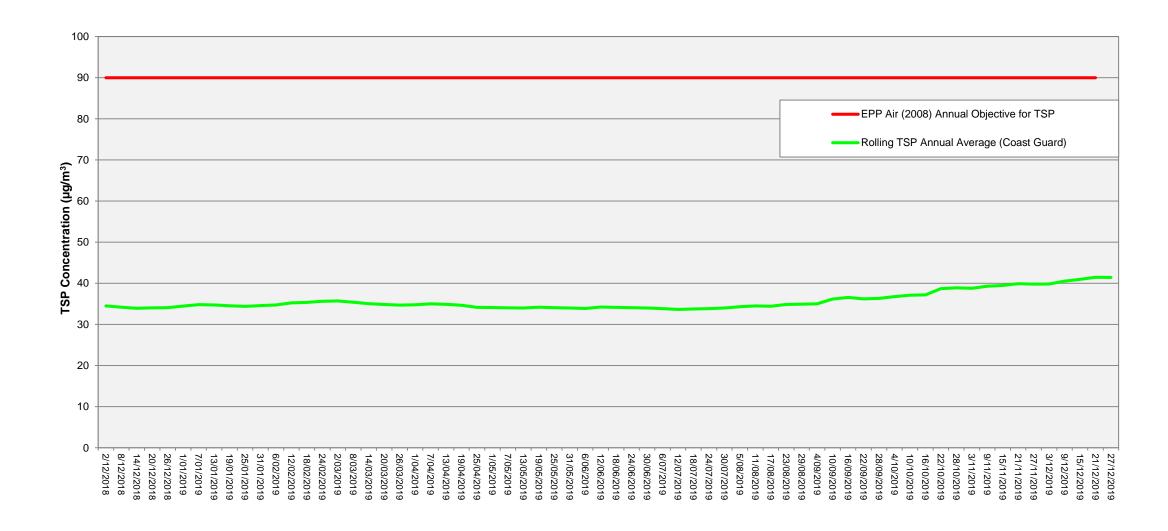
Send your enquiry or feedback to <a href="mailto:community@townsvilleport.com.au">community@townsvilleport.com.au</a>







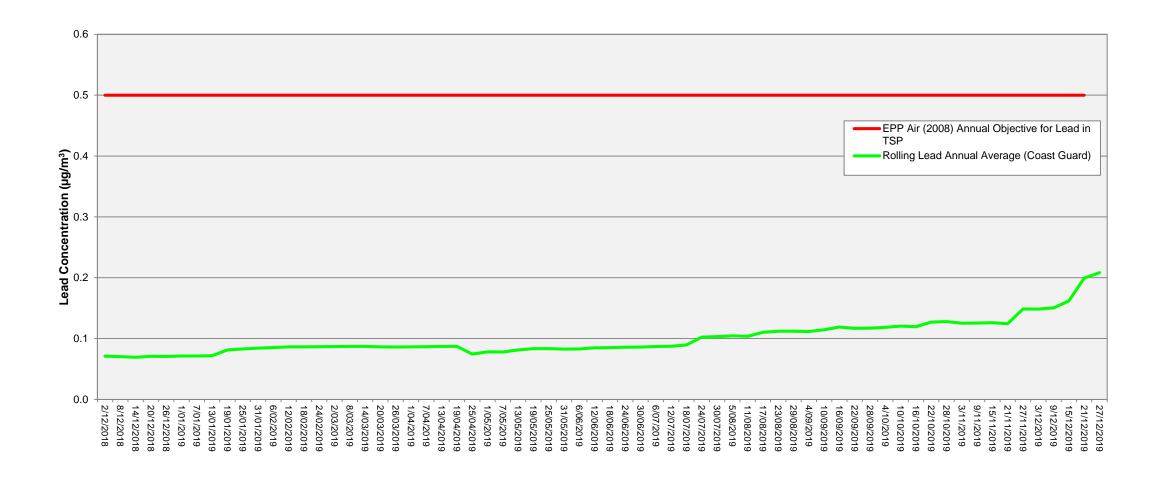
#### Hi-Volume Sampler – General total dust levels (one in six days) at Coast Guard Site DECEMBER 2018 – DECEMBER 2019



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

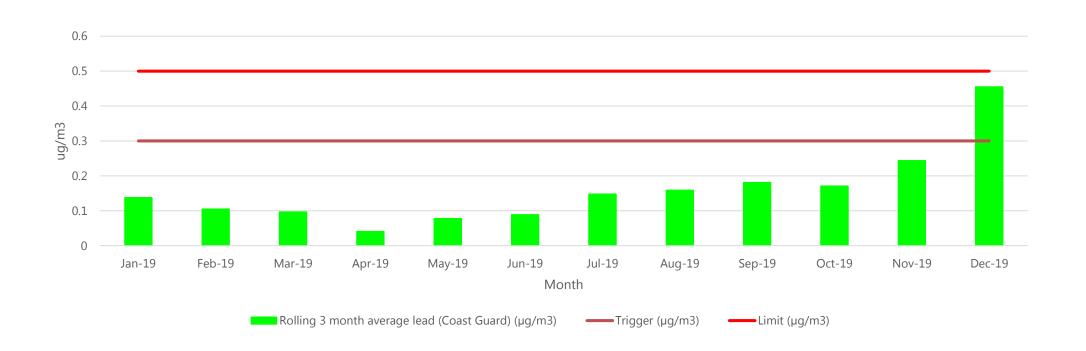
#### Hi-Volume Sampler – Lead in dust levels (one in six days) at Coast Guard Site DECEMBER 2018 – DECEMBER 2019



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

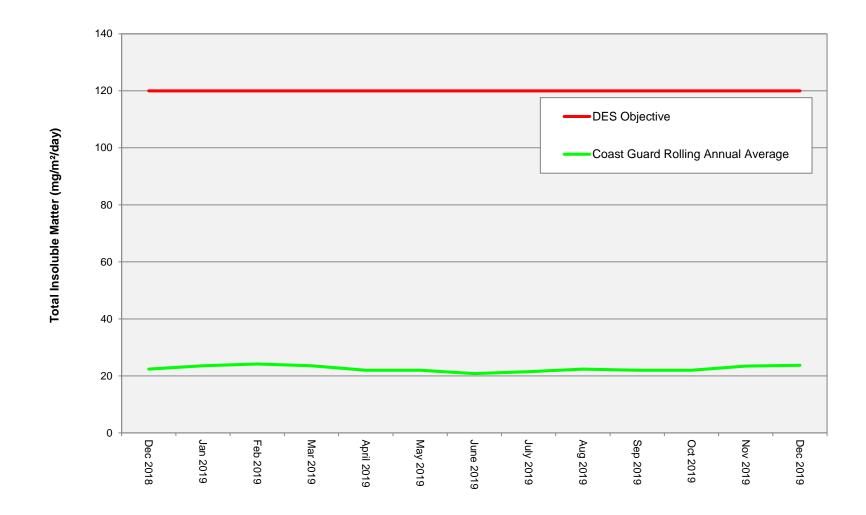


Note: Rolling 3 month average = the moving average of the previous 2 months and the current month result





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



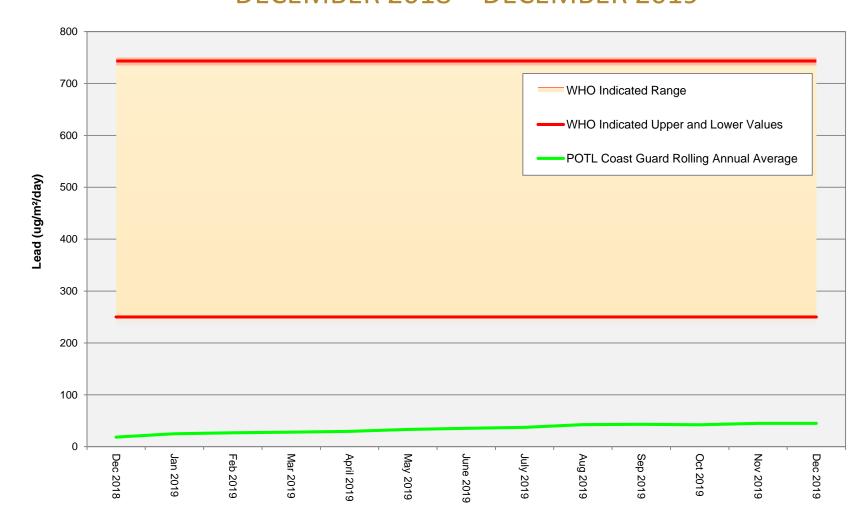
Note:

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 DECEMBER 2018 – DECEMBER 2019

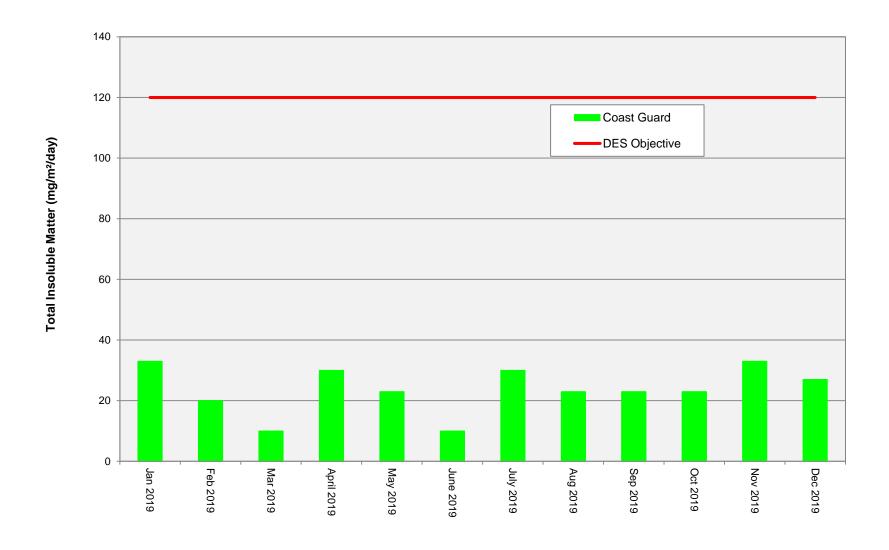


Note: Lead Concentration units = micrograms per square metre per day

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



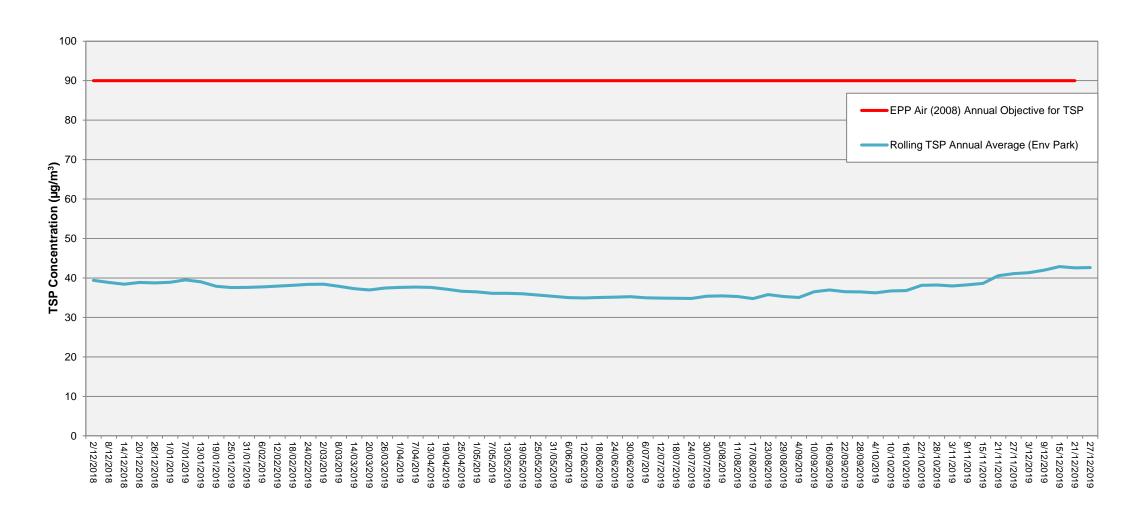
# Dust Deposition Gauge – General dust deposition levels (monthly) at Coast Guard Site 2019



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 DECEMBER 2018 – DECEMBER 2019

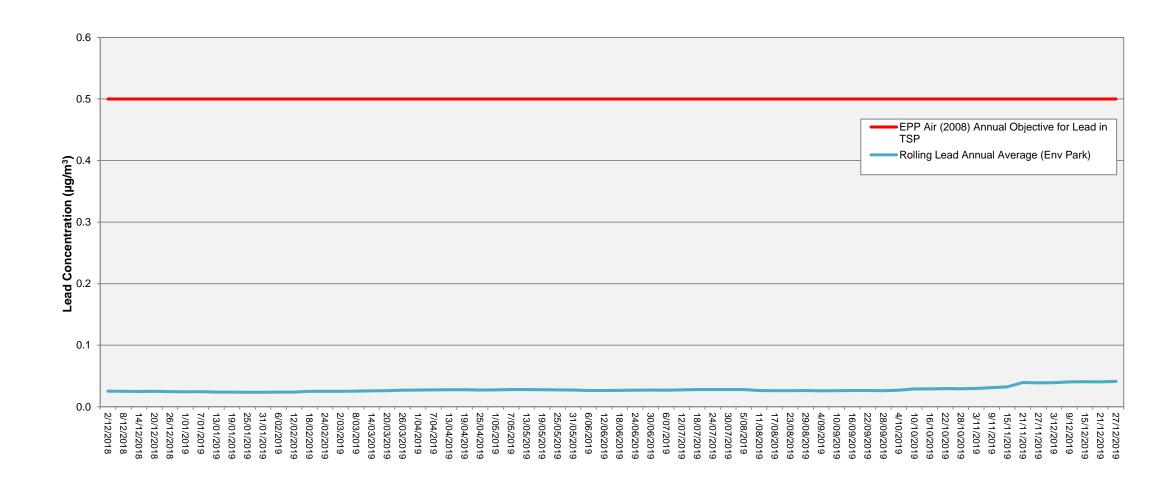


Note:

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



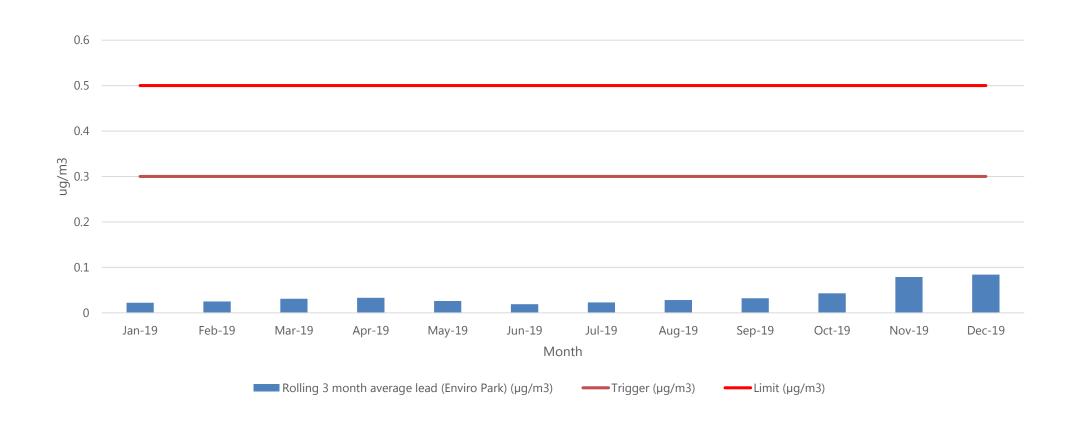
#### Hi-Volume Sampler - Lead in dust levels (one in six days) at Environment Park site DECEMBER 2018 – DECEMBER 2019



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

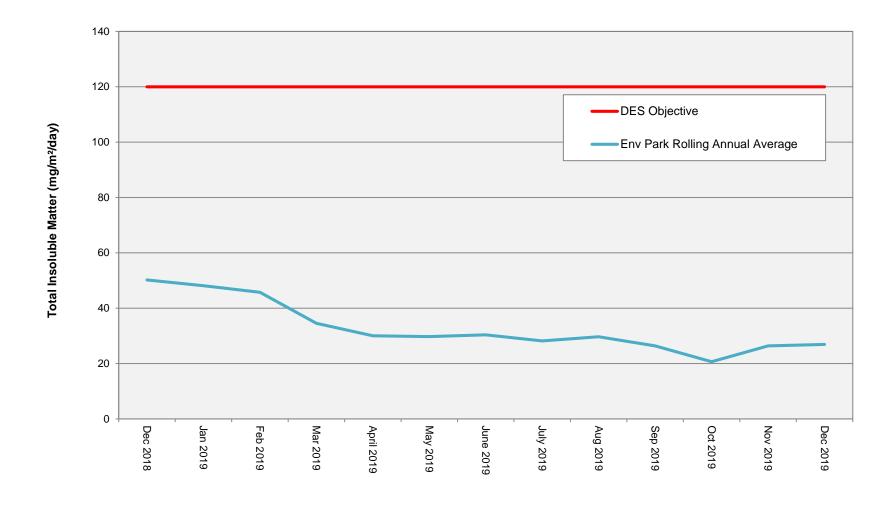
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#### Hi-Volume Sampler - Lead in dust levels (one in six days) at Environment Park site 2019



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

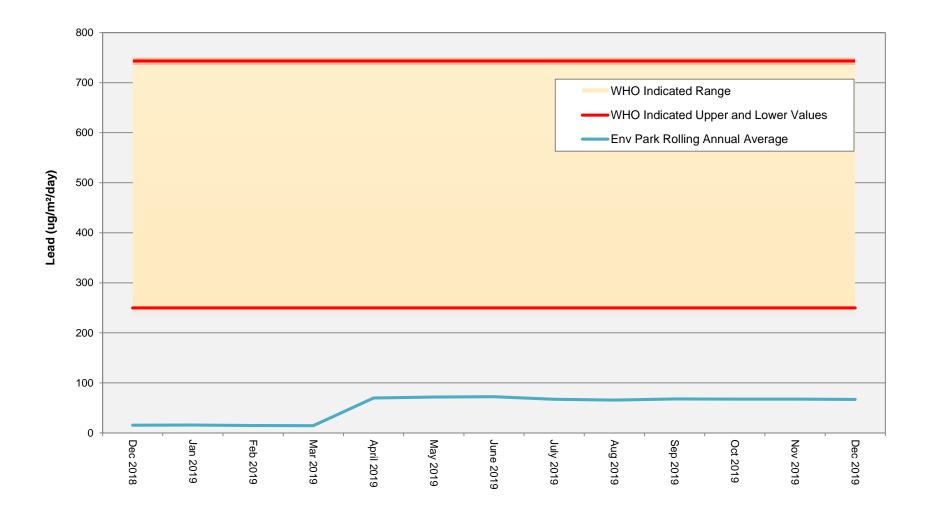
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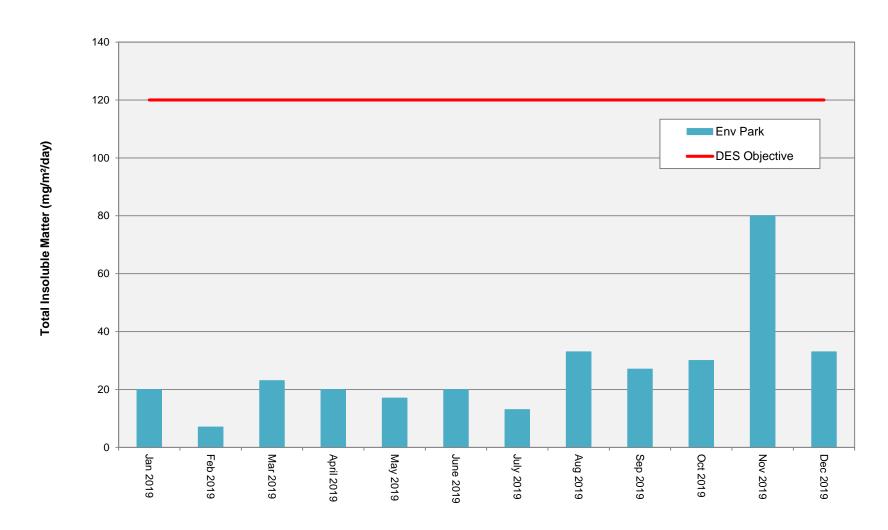
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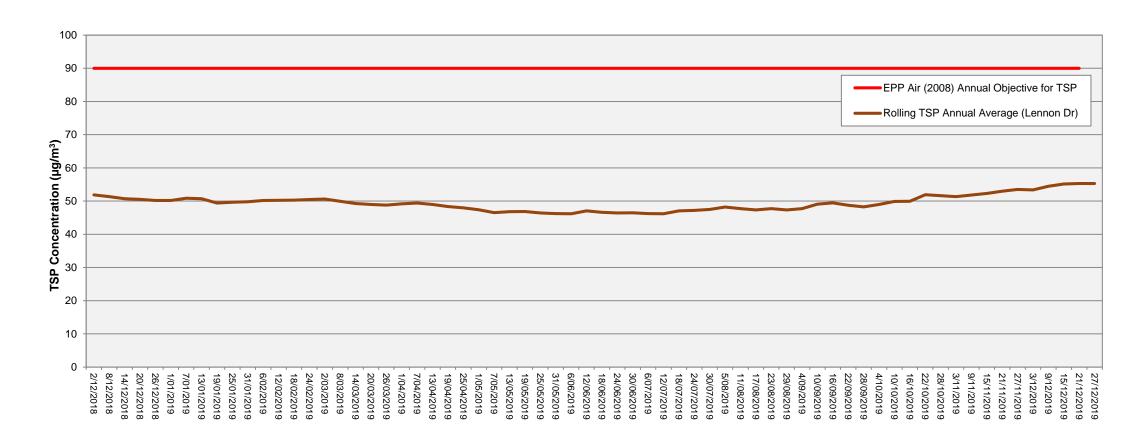
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## Dust Deposition Gauge – General dust deposition levels (monthly) at Environment Park Site 2019



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

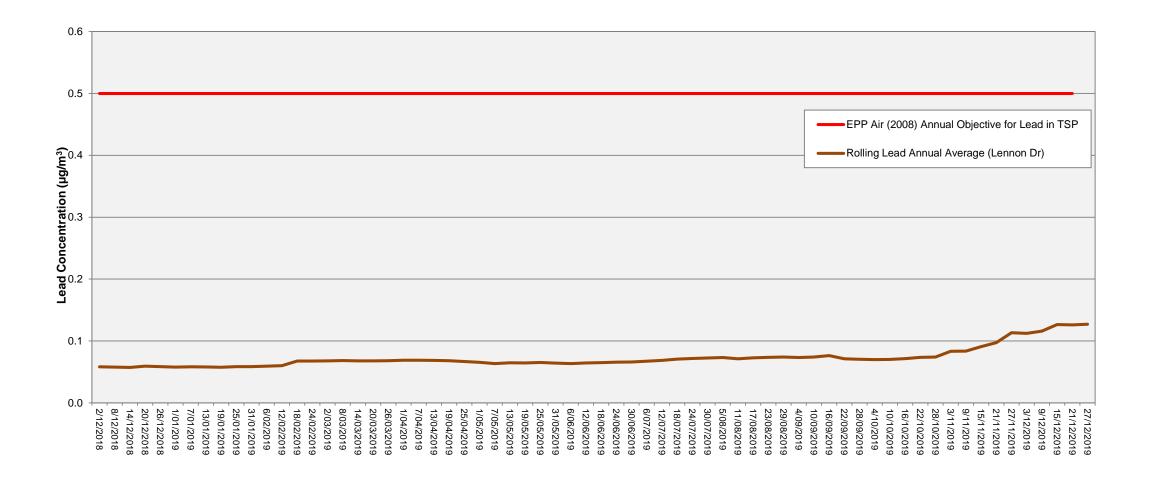
## Hi-Volume Sampler - General total dust levels (one in six days) at Lennon Drive site DECEMBER 2018— DECEMBER 2019



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

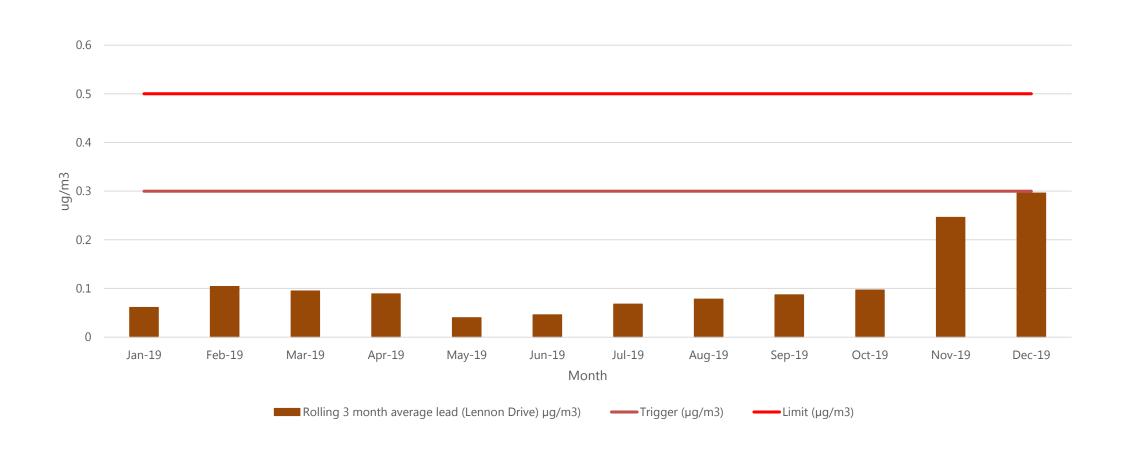
#### Hi-Volume Sampler - Lead in dust levels (one in six days) at Lennon Drive Site DECEMBER 2018— DECEMBER 2019



Note:

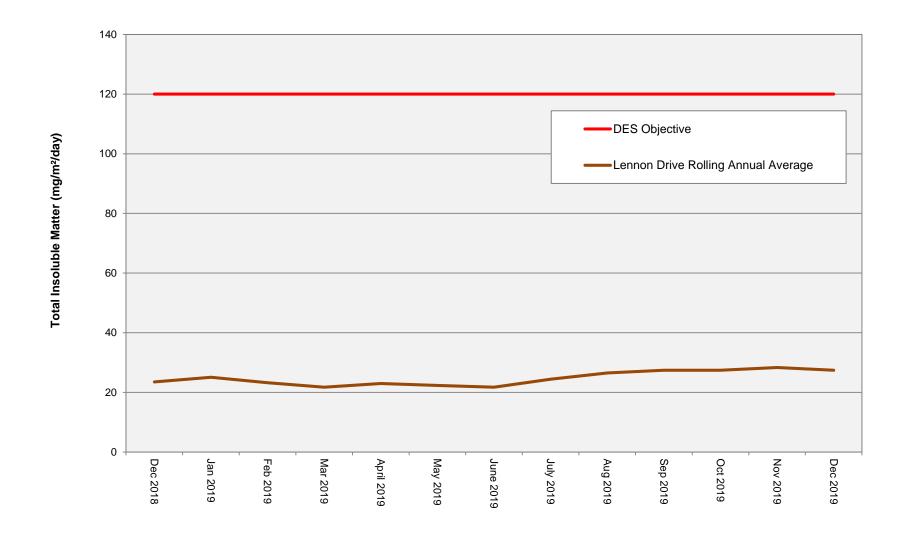
Lead Concentration units = micrograms per cubic metre per 24 hour period Rolling annual average = the moving average of the previous 11 results and the current result

## 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

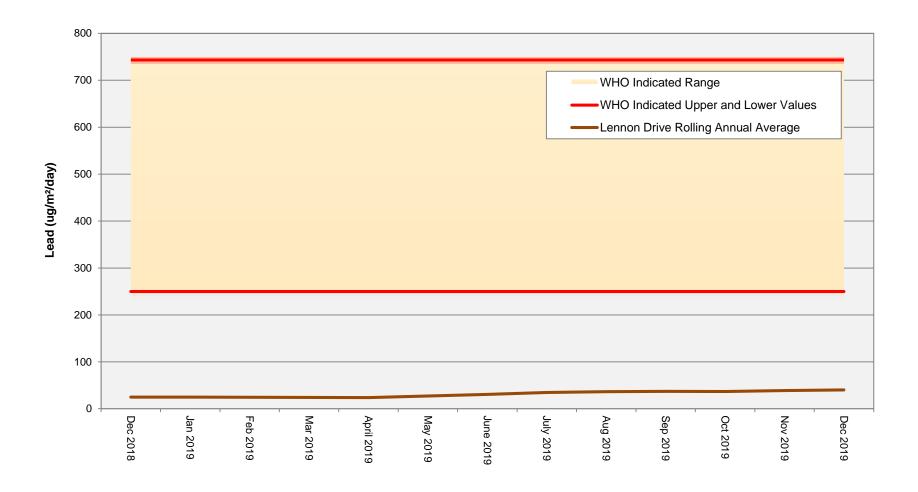
#### Dust Deposition Gauge - General dust deposition levels (monthly) at Lennon Drive Site DECEMBER 2018— DECEMBER 2019



Note:

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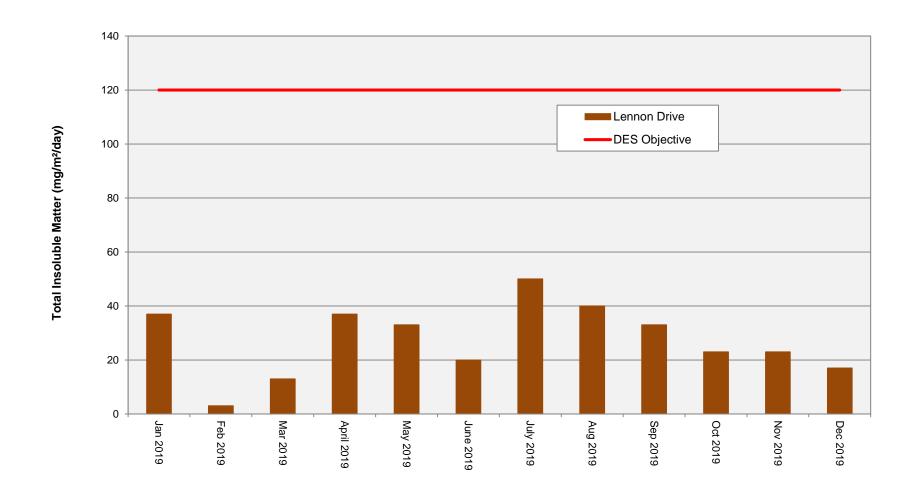
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Note: Lead Concentration units = micrograms per square metre per day

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.