

## PFAS UPDATE 2021

---

### What is PFAS?

Per- and Poly-fluoroalkyl Substances (PFAS) are a group of man-made chemicals that have been widely used since the 1950s in household and industrial products that resist heat, oil, stains, grease and water. There are many types of PFAS, with the best known being perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS).

PFAS resist physical, chemical and biological degradation, and are very stable. This stability creates a problem as PFAS last for a long time. The manufacture and use of PFAS is being discontinued or limited through international agreements and voluntary actions by manufacturers primarily because of their persistence in the environment.

The risks to human health and the environment are still the subject of much research and it is uncertain whether PFAS causes health problems in humans. Guidelines acknowledge this uncertainty and are precautionary (i.e. low levels) which are designed to be adapted to reflect increasing scientific knowledge on PFAS.

### Why did we sample for PFAS?

The PFAS National Environmental Management Plan (NEMP) Guidelines came into effect in early 2018. The Port of Townsville has been in operation for more than 150 years with operational areas utilised for a range of industries over this time. Due to the potential for PFAS to have been stored, used or released on port lands through industrial activity the Port included PFAS within its voluntary groundwater monitoring program in March 2018. The Port detected PFAS in groundwater samples and as a result, carried out a preliminary investigation into PFAS to understand the extent and nature of PFAS at the port and surrounds.

### What did the Preliminary Site Investigation (PSI) in 2018 show?

The investigation was undertaken with GHD as the lead consultant in consultation with the Queensland Government's PFAS Technical Working Group (TWG). The investigation was undertaken in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEMPM) and informed by the PFAS National Environmental Management Plan (2018).

The preliminary investigation included extensive testing and pathway analysis which indicated that there is a low risk to human health and the environment.

Respondents to the Water Use Survey in South Townsville confirmed that groundwater bores are not used for drinking water. Although there are four bores slightly above drinking water guidelines, this guideline was adopted on a precautionary basis as residents may come into indirect contact with the water as part of their domestic use. Given the low detection results in residential bores tested, and the non-use of bores for drinking water, it was concluded that there was a low risk to the community.

The preliminary investigation identified there could be several potential sources of PFAS in and around the port industrial area which may include historical sources (e.g. former naval bunker lines, former power station, land-fill, railways etc.) through to more recent fire protection systems for fuel terminals and other facilities. PFAS in the industrial port area is localised. As groundwater is not used for drinking water or recreational use in the industrial port, there is a low risk to health.

To provide continued assurance to the community in future, the Port included PFAS testing within existing comprehensive port monitoring programs and continued to make available the testing of bores to any residents in South Townsville on request.

## PFAS UPDATE 2021

---

### What has happened since the PSI?

Since the PSI, the Port has undertaken extensive PFAS testing as part of its routine monitoring programs with more than 500 samples collected and analysed between 2018 and 2020.

The Port also reengaged GHD to complete a Targeted Site Investigation (TSI). The TSI was conducted as a follow up study to address the identified data gaps of the PSI. The TSI involved field investigations, including drilling an additional 14 groundwater monitoring wells and collecting additional samples around the Environmental Park and receiving environments. All samples were compared to the recommended guidelines in the PFAS National Environmental Management Plan (NEMP) version 2 (HEPA, 2020).

Port also transitioned the Berth 1 fire system to contain non-PFAS fire fighting foam and changed over other small fire extinguisher units in accordance with the Queensland Department of Environment & Science (DES) Firefighting Foam Operational Policy.

### What did the Targeted Site Investigation in 2020 show?

- The results for PFAS in groundwater show that the locations and concentrations have remained largely consistent within the Port from 2018 to 2020.
- The former storage of firefighting foam at the former bulk fuel storage and distribution terminal, which was dismantled and remediated in 2015 in the Nexus Precinct, contains residual PFAS in the soil. As recommended by GHD, the Port will commence remedial works on this site with suitably qualified practitioners in the dry season of 2021. These works will aim to remediate the site to allow it to be used for a future land use as an environmental buffer with Environmental Park.
- The total PFAS concentrations measured in the wider marine environment of Ross River, Ross Creek and Cleveland Bay sediment have generally been low. This represents a low PFAS exposure risk to the environment and human users of these waterways.
- Groundwater samples collected by the Port over two years from South Townsville residents' bores have shown consistently low PFAS concentrations. Only three out of the nine residential bores sampled had PFAS concentrations marginally greater than the drinking water guidelines. All residents who had their bores tested were provided with the results along with Queensland Health advice that people in urban areas should use the public drinking water supply for drinking, food preparation and personal hygiene because it is filtered and regularly monitored.

### Next Steps

To provide continued assurance to the community, the Port will:

- undertake remedial works on the former bulk fuel storage site to prepare the site to be part of the Port's environmental buffer area;
- continue PFAS testing within existing comprehensive port monitoring programs;
- continue to make available the testing of bores to any residents in South Townsville on request; and
- continue to liaise with the Queensland Department of Environment & Science on PFAS matters.

### Where to find more information

We will continue to engage with residents and the broader community if there are any changes. Up-to-date information is available on our website [www.townsvilleport.com.au](http://www.townsvilleport.com.au)

Further information on PFAS in Queensland is available on the Queensland Government website <https://www.qld.gov.au/environment/pollution/management/investigation-pfas>