PFAS AND DRINKING WATER

PFAS ARE CHEMICALS THAT HAVE BEEN USED IN A RANGE OF APPLICATIONS LIKE FIRE-FIGHTING FOAMS AND NON-STICK COOKWARE. THEY ARE EMERGING CONTAMINANTS WHICH HUNTER WATER REGULARLY TESTS FOR THROUGHOUT ITS SYSTEM TO MAKE SURE OUR DRINKING WATER STAYS SAFE.

YOUR DRINKING WATER IS SAFE:

- It is hydrologically impossible for groundwater from the Tomago Sandbeds catchment to enter Grahamstown Dam, which is where the vast majority of the region's drinking water comes from.
- Hunter Water has never had a detection of PFAS in drinking water above the Australian Drinking Water Guidelines. We make these results available on our website at www.hunterwater.com.au/waterquality.
- Hunter Water operates its water system to ensure the safety of drinking water. This means we have embargoed two bores that are in the Williamtown Management Area and at risk of contamination from the RAAF base.
- PFAS contamination is not uncommon and needs to be managed by every water utility around Australia and the world.

FREQUENTLY ASKED QUESTIONS

Q. WHAT IS PFAS?

Per-and poly-fluoroalkyl substances (PFAS) are a class of artificial chemical substances with hundreds of manufacturing and industrial applications. PFAS resists degradation in the environment and can bioaccumulate, meaning its concentration increases over time in humans and animals. PFAS chemicals are 'emerging contaminants' and there is some evidence they may be harmful to human health. PFAS chemicals include perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS).

Q. WHAT IS PFAS USED FOR?

PFAS chemicals have been widely used to make everyday products stain-resistant, waterproof and/or nonstick. For example, PFAS has been used in the manufacture of products that:

- Keep food from sticking to cookware
- Make upholstered furniture, carpets and clothing resistant to soil, stains and water
- Make shoes, clothes and mattresses water resistant
- Keep food packaging from sticking to food
- Help fight fires at airfields and other places where petroleum-product-based fires are a risk.

PFOS was also a component of the Scotchgard™ range of products and an ingredient of some industrial additives, as well as Aqueous Film Forming fire-fighting Foams (AFFF™) and Alcohol-Type Concentrate (ATC™) fire-fighting foams for extinguishing flammable fuel fires.

Consumer products made with fluoropolymers and fluorinated telomers, including Teflon® and other trademark products may contain trace amounts of PFOA and other related PFAS as impurities.

Q. WHAT IS HUNTER WATER DOING TO ENSURE ITS WATER SUPPLIES ARE SAFE FROM CONTAMINATION?

Hunter Water has an extensive 'catchment to tap' water quality monitoring program in place as part of our Drinking Water Quality Management System. We routinely test for a wide range of physical, chemical and biological characteristics at all stages of the supply system.

In addition, we test for PFAS including PFOS, PFOA and PFHxS, at all six of our drinking water treatment plants, at Campvale Canal and at 74 locations across our drinking water network. Our water quality testing results are updated monthly and can be found at www.hunterwater.com.au/waterquality.

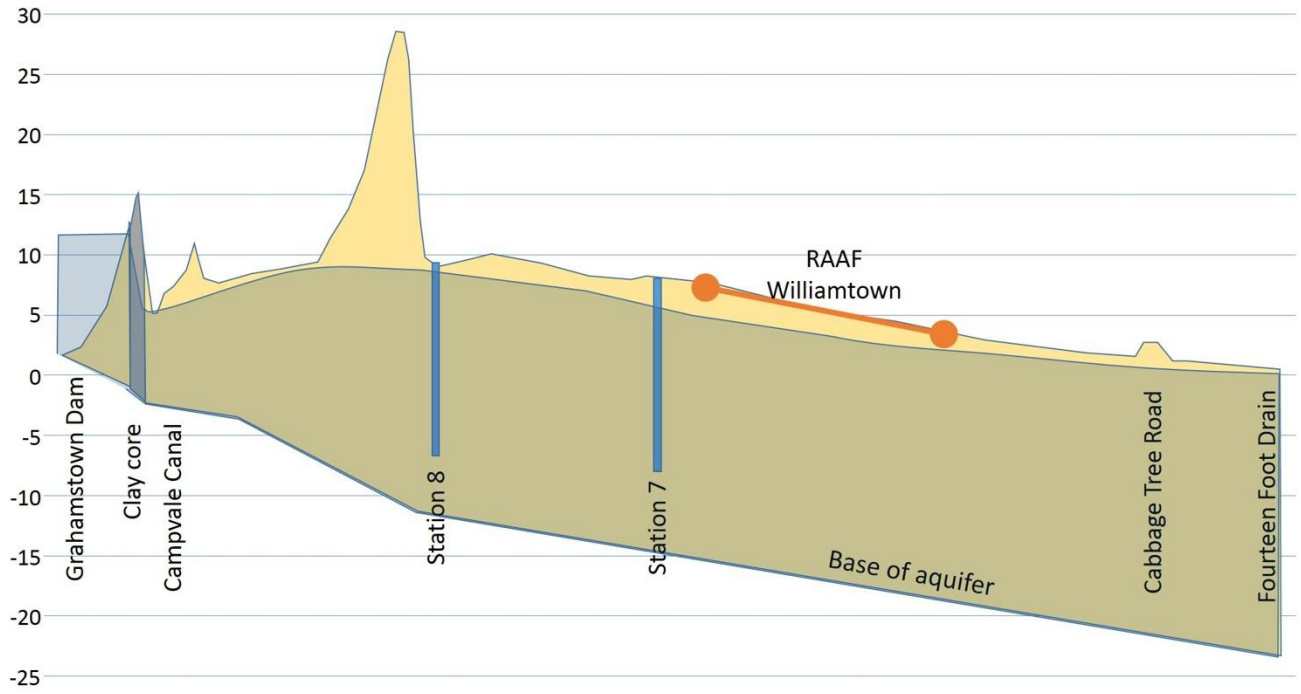
In the event the Tomago Borefield is operated, a monitoring program is initiated which tests sections of the Borefield prior to connection to the system, and assurance testing is regularly carried out during periods of operation. Any decision to use the Tomago Sandbeds as a drinking water supply will be made in consultation and with the approval of NSW Health. The monitoring and assurance regime has been endorsed by the NSW PFAS Expert Panel.

Q. IS HUNTER WATER'S DRINKING WATER AT RISK FROM PFAS CONTAMINATION SPREADING FROM RAAF BASE WILLIAMTOWN?

No. Although Grahamstown Dam is only a few kilometres away from RAAF Base Williamtown, the source of a local PFAS contamination plume, it is impossible for water to enter Grahamstown Dam from the RAAF Base due to the direction of surface and groundwater flows in the area. Water would need to flow uphill to enter the dam, even in wet conditions. This assessment is based on decades of ongoing hydrological testing and modelling.

Hunter Water has embargoed, or isolated, two of its bore stations that are located in the Williamtown Management Area as a precaution while further investigations are undertaken. It is possible that some or all of these bore stations may be able to supply safe drinking water again in the future if appropriate management strategies can be implemented. The Sandbeds are used as a backup water source, and the water is tested for contaminants, including PFAS, before it enters the drinking water supply. Hunter Water can choose which bores are used and which are not when drawing water from the Sandbeds.

The below cross section shows the water table and aquifer between Grahamstown Dam and Fourteen Foot Drain in wet conditions, demonstrating the flow of water away from the Base. Elevations are presented relative to sea level.



Q. IS THE WATER IN THE TOMAGO SANDBEDS CONTAMINATED?

The Tomago Sandbeds are a safe and reliable back up water supply for the Lower Hunter. They can be operated during times of shortfall and provide 20 per cent of the region's drinking water.

In the event the Tomago Borefield is operated, a monitoring program is initiated which tests sections of the Borefield prior to connection to the system, and assurance testing is regularly carried out during times of operation. Any decision to use the Tomago Sandbeds as a drinking water supply will be made in consultation and with the approval of NSW Health. The monitoring and assurance regime has been endorsed by the NSW PFAS Expert Panel.

Water from the Sandbeds is tested for contaminants including PFAS before it enters the drinking water supply. Hunter Water can choose which bores are used and which are not when drawing water from the Sandbeds.

As previously advised, Hunter Water has embargoed, or isolated, two of its bore stations that are located in the Williamtown Management Area.

Q. HOW WIDESPREAD IS PFAS IN THE ENVIRONMENT?

PFAS is everywhere around the globe due to its widespread manufacturing, processing and use in consumer products. It is widespread in part because the chemicals are persistent in the environment – that is, they resist breaking down when exposed to air, water or sunlight. As a result, people may become exposed to PFAS which was manufactured months or years in the past.

Q. IS PFAS IN THE ENVIRONMENT AN ISSUE IN OTHER PARTS OF AUSTRALIA?

Due to the extensive use and applications of PFAS chemicals, they are commonly found in the Australian environment including drinking water, surface water, wastewater influent and treated effluent, sediments and house dust. The levels of PFAS in the Hunter region is consistent with other parts of Australia.

Q. WHAT'S THE SAFE LEVEL FOR PFAS IN DRINKING WATER?

Hunter Water follows the National Health and Medical Research Council's Australian Drinking Water Guidelines for PFAS of less than 0.07 micrograms per litre for PFOS and PFHxS; and less than 0.56 micrograms per litre for PFOA. These guidelines have been set with the expectation of someone drinking water with those PFAS concentrations every day over their lifetime.

There have been no detections of the chemicals in our drinking water above these Guidelines.

Q. WHAT CONCENTRATIONS OF PFOS, PFHXS AND PFOA CAN HUNTER WATER DETECT?

Hunter Water's water samples are tested by an independent laboratory, which uses a nationally-accredited (NATA) testing method with a Level of Reporting of 0.002 micrograms per-litre of PFOS and PFHxS. This means we can detect these chemicals at levels 35 times below the national health guidelines for lifetime exposure. For PFOA the limit of detection is around 1/280th of the drinking water limit.

Q. WHERE DOES HUNTER WATER TEST FOR PFAS?

Hunter Water undertakes routine sampling and testing for PFAS in:

- The source water supplied to all Water Treatment Plants
- Drinking water supplied to customers across the Lower Hunter
- Wastewater (sewage) discharged to Hunter Water's sewerage system by major and moderate trade waste customers
- Raw wastewater, treated effluent and biosolid samples at select wastewater treatment works

Q. WHERE CAN I FIND HUNTER WATER'S WATER QUALITY TESTING RESULTS?

The results are updated monthly and can be found at www.hunterwater.com.au/waterquality