



RAAF Base Darwin - Understanding Result Letters and Certificates PFAS Investigation & Management Program

About the Factsheet

This factsheet aims to assist residents in understanding the information presented in both Defence results letters and laboratory Certificates of Analysis that are issued following the testing for per- and poly-fluoroalkyl substances (PFAS) at residential properties. The factsheet explains which PFAS compounds and concentration levels are of concern to the property owner and provide guidance for the owner to determine whether water at their property is suitable for drinking and/or recreational use.

About the Investigation

In March 2017, Defence commenced a detailed environmental investigation to identify the nature and extent of PFAS on, and in the vicinity of, RAAF Base Darwin as a result of the historical use of legacy firefighting foams at the Base.

What PFAS compounds are tested?

The detailed environmental investigation includes testing of residential bores and surface water such as the Rapid and Ludmilla Creeks, soil, plants and animals for PFAS.

PFAS analysis tests for 28 separate compounds, including perfluorooctane sulfonic (PFOS) and perfluorohexane sulfonic (PFHxS) which are the two dominant compounds present from the RAAF Base Darwin PFAS contamination.

Properties where testing has been conducted as part of the investigation may have had their groundwater (water sourced from a bore), surface water (such as swimming pools or creek), plants (such as mangoes and leafy greens), animals and/or soil tested for PFAS.

Health Based Guidance Values

On 3 April 2017, the Commonwealth Department of Health released final Health Based Guidance Values (HBGVs) for PFOS, PFHxS and perfluorooctanoic acid (PFOA) for drinking water and water for recreational use. These HBGVs were developed by Food Standards Australia and New Zealand (FSANZ) at the request of the Department of Health. The HBGVs for PFAS are a precautionary measure to assist people, investigating agencies and communities affected by PFAS in minimising PFAS exposure.

The Health Based Guidance Values for PFAS are:

Health Based Guidance Values	PFOS and PFHxS	PFOA
Drinking water quality value	0.07 (µg /L)	0.56 (µg /L)
Recreational water quality value	0.7 (µg /L)	5.6 (µg /L)

For additional information about the Health Based Guidance Values visit www.health.gov.au/PFAS or call 1800 941 180.

Interpreting a results letter and Certificate of Analysis

Properties where testing has been conducted as part of the investigation will receive a letter from Defence summarising the results and a Certificate of Analysis from an accredited laboratory.

The Certificate of Analysis is the report containing all results relating the PFAS compounds tested from the sample which is produced by an accredited laboratory.

The three PFAS compounds of interest in the Certificate of Analysis report are PFOA, PFOS and PFHxS. Each PFAS compound (i.e. PFOS, PFHxS and PFOA) is reported as a concentration in parts per billion (µg/L). When reading the letter and certificate it is important to focus on the PFOS, PFHxS and PFOA results.

The sampling and analysis process involves quality control checks, which is a process conducted by the laboratory to ensure the results are accurate.

Below the Limit of Reporting (non-detect) example:

If the testing did not detect the compound/s in a high enough concentration to measure, then it is reported as <0.01 µg/L or **below the limit of reporting (<LOR)**. This is often called a **non-detect**.

Different laboratories may provide different limits of reporting for water, soil, plants and/or animals. The RAAF Base Darwin PFAS investigation conducts testing with a <0.01 µg/L limit of reporting.





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Table 2 shows results that are below the limit of reporting or non-detect.

Sample description	PFOS and PFHxS (PFAS compounds and results)	PFOA (PFAS compound and result)	Comparison against screening criteria
000_PB000_00000 Bore water	<LOR	<LOR	Less than the Limit of Reporting and below screening criteria for drinking water and recreational water use.

Table 2

This information provides the location and type of sample taken for testing.

This sample is a non-detect for PFOS, PFHxS and PFOA. There are no restrictions of use of the sample source.

Above screening criteria (detect) examples:

PFAS detected above the Health Based Guidance Values:

If PFAS concentrations exceed levels above the HBGVs, it is reported as above screening criteria, above HBGVs or a detect. Detects above guidance values are represented as a number, i.e 0.09 µg/L.

Table 3 shows results that are above screening criteria or a detect. It is recommended that exposure to the source should be minimised if testing found compound/s in levels above the HBGVs, such as the example results shown in Table 3.

Sample description	PFOS and PFHxS	PFOA	Comparison against screening criteria
000_PB000_00000 Bore water	0.09 µg/L	<LOR	Above screening criteria for drinking water, and below screening criteria for recreational water use.

Table 3

This sample is a detect for PFOS and PFHxS and non-detect for PFOA. This sample is above HBGV for drinking water but is suitable for recreational use such as showering & swimming.

PFAS detected below the Health Based Guidance Values:

Testing can also find detectable levels of PFAS compounds that are below the Health Based Guidance Values. This means that there are no health recommendations to minimise exposure to the source.

Table 4 provides an example of results where PFAS has been detected but in small amounts and below the guidance values.

Sample description	PFOS and PFHxS	PFOA	Comparison against screening criteria
000_PB000_00000 Bore water	0.02µg/L	0.06µg/L	Below screening criteria for drinking water and for recreational water use.

Table 4

This sample is a detect for PFOS and PFHxS, and a detect for PFOA. This sample is below the HBGV. There are no restrictions of use.

Contact Information

RAAF Base Darwin community hotline

Phone 1800 316 812

Email PFAS.RAABaseDarwin@coffey.com

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