



Key Points

- In December 2017, the Department of Defence completed a detailed environmental investigation into per- and poly-fluoroalkyl substances (PFAS) on and in the area surrounding the Army Aviation Centre Oakey.
- Defence used the findings of the investigation to develop the Oakey PFAS Management Area Plan.
- This plan informs the activities Defence will undertake to manage, monitor and reduce the risks of PFAS exposure on and around the base.
- As part of the PFAS Management Area Plan, an Ongoing Monitoring Program was implemented to monitor and track PFAS contamination.
- Defence has published the results of ongoing monitoring in an Annual Interpretive Report.

About the PFAS Ongoing Monitoring Program

The Ongoing Monitoring Program forms an important part of the Army Aviation Centre Oakey (Oakey) PFAS Management Area Plan and involves periodic sampling of groundwater, surface water, and sediment from across the monitoring area (shown in Figure 1 on page four).

This sampling looks at any changes where PFAS has been found, and at what concentrations. This will help Defence and the community understand whether the actions being undertaken as part of the PFAS Management Area Plan are effective, or identify whether more might need to be done.

The Ongoing Monitoring Program will be reviewed regularly. As required, Defence will update the monitoring frequency and/or locations of sampling, in consultation with Queensland Government agencies.

Ongoing Monitoring Annual Interpretive Report

The development of the 2020 Annual Interpretive Report involved analysis of samples collected from across the monitoring area and a review of the investigation findings. This included the specific review of:

- PFAS source areas
- The ways PFAS is migrating off base
- Any identified exposure risks to the community or environment.

Sampling events were completed during the dry season in October 2019 and at the end of the wet season in April 2020, to provide a better understanding of potential seasonal influences on the movement and concentrations of PFAS across the Management Area.

To inform the Annual Interpretive Report, a total of 184 samples were collected. This included:

- 144 groundwater samples;
- 20 surface water samples; and
- 20 sediment samples.

What is the Annual Interpretive Report telling us?

The results of the ongoing monitoring show that the concentrations of PFAS in surface water, groundwater and sediment were generally consistent with previous findings.

Lower maximum PFAS concentrations identified in sediment has been attributed to the excavation of sediment along the on-base drainage channels in 2018.

At Brymaroo Satellite Site, an increase in PFAS concentrations at a location to the north of the infrastructure area may indicate the migration of PFAS towards the northeast, with further monitoring required to confirm.

The 2020 Ongoing Monitoring Annual Interpretive Report has been published and is available at:

www.defence.gov.au/environment/pfas/Oakey/



Localised concentrations of PFAS greater than health based guideline values were identified at two groundwater locations to the west outside of the base boundary and to the southwest of the Management Area. These isolated changes do not suggest a change to the PFAS risk profile for the Management Area which was outlined in the Human Health Risk Assessment.

A factsheet that summarises the Human Health Risk Assessment is available at:

www.defence.gov.au/Environment/PFAS/Docs/Oakey/Factsheets/20171206AACOHHRFindings.pdf.

These changes will continue to be closely assessed as part of the Ongoing Monitoring Program.

Remediation and Management Activities

Defence continues to undertake a range of remediation and management activities at Oakey to remove PFAS from the environment, and to further minimise PFAS migration from the base.

These activities have been focused on targeting known source areas (such as the fire training areas), and key migration pathways (such as surface water drainage), to lead to a long term reduction in the amount of PFAS leaving the base,

Below is a summary of the activities that are currently underway, or have been completed at Oakey.

Mass Flux Study

A PFAS Mass Flux Study is underway to establish a detailed understanding of the amount (mass) and rate of movement (flux) of PFAS leaving the base from source areas.

The information gathered will establish a baseline for assessing improvements as a result of any remediation works. It will also help inform if any additional measures or works are required to minimise the movement of PFAS from the base.

Source Area remediation -

Remediation of contaminated source areas is an important part of Defence's strategy to reduce the migration of PFAS into the surrounding environment.

Defence has now excavated over 25,460 tonnes of contaminated soil from different source areas at Oakey, including the fire station area and the former fire training area.

Remediation of the Former Fire Training Area

In October 2021, Defence completed remediation at the former fire training area using a technique called soil stabilisation. This involved removing the PFAS-impacted soil and treating it with a binding agent (activated carbon), making the PFAS stick to the binding agent within the soil, and preventing it from moving during rain events.

Defence excavated approximately 8,930 tonnes of soil from the former fire training area, with approximately 4,961 tonnes of soil with higher concentrations of PFAS being disposed of at a licensed offsite facility.

The remaining soil was stabilised then placed back in its original location and sealed under an engineered clay cap that stops most water from being able to seep into the treated soil.

Defence will continue to monitor surface water at the former fire training area, and compare it to the monitoring results from before the remediation works were completed. This targeted monitoring will assess the long term effectiveness of the remediation works.

Remediation of remaining source areas

Defence is preparing to commence remediation works at the remaining PFAS source areas in the 2022 Dry Season. These areas include: two Hot Refuel Areas; the Aqueous Film Forming Foam settling tank; the storage and decanting area; the former fire station and foam training area; and the former fuel compound.





Water Treatment Plants

Defence continues to reduce the amount of PFAS in surface water and groundwater leaving the base through the use of water treatment plants. Defence is operating water treatment plants at two key PFAS source areas, the fire training area and former fire station.

Following a review of the operation of these two water treatment plants, Defence will consolidate treatment of the two source areas in to a single water treatment plant.

By increasing the rate of water treatment of one of the plants, and making changes to the locations from where groundwater is pumped for treatment, Defence will be able to increase the amount of PFAS impacted water being pumped from these two source areas.

Once these changes are effected, Defence will be treating more PFAS impacted water at a single plant, than is currently being treated at both water treatment plants.

On-base uses of treated water, including for irrigation, construction activities and groundwater re-injection, will not change.

Defence is currently considering options for re-deployment of the second water treatment plant,

To date, Defence has treated over 300.6 million litres of groundwater.

Defence undertakes regular sampling of treated water to ensure PFAS concentrations are below the health based guidance values for drinking water. Monthly summaries of the results of this sampling can be viewed on the Defence PFAS website:

www.defence.gov.au/environment/pfas/oakey/managementactivities.asp

Drinking Water

Defence remains committed to providing residents at Oakey with a sustainable drinking water supply.

Defence is working with owners of properties in the Management Area that could not be connected to the Toowoomba Regional Council's water supply network, to ensure long term drinking water needs are met through the provision of rainwater tanks.

Where can I find more information?

For more information on Defence's response to PFAS contamination at the Army Aviation Centre Oakey, including detailed reports, the PFAS Management Area Plan, and factsheets, visit:

 www.defence.gov.au/environment/pfas/Oakey/

Alternatively, you can contact:

 1800 136 129

 Defence.Oakey@aecom.com

Media enquiries should be directed to Defence Media at media@defence.gov.au.





Figure 1 Sampling Locations

