



PFAS Site Investigation

Parafield Airport Limited's role

Parafield Airport Limited (PAL) took over operations of Parafield Airport in May 1998 in a leasehold agreement with the Australian Government.

Firefighting services were provided by former Commonwealth agencies until 1986. Since that time, firefighting services are no longer based on the airport grounds and are provided externally by the Metropolitan Fire Service (MFS) as required. PAL is pro-actively managing the response to PFAS-related investigations based on guidance from Federal and State regulators including the Environment Protection Authority.

Use of fire fighting foam

Historically, a fire fighting foam called 3M Lightwater and Ansulite™ was used for both operational and training purposes at Parafield from the early 1970s until 1986.

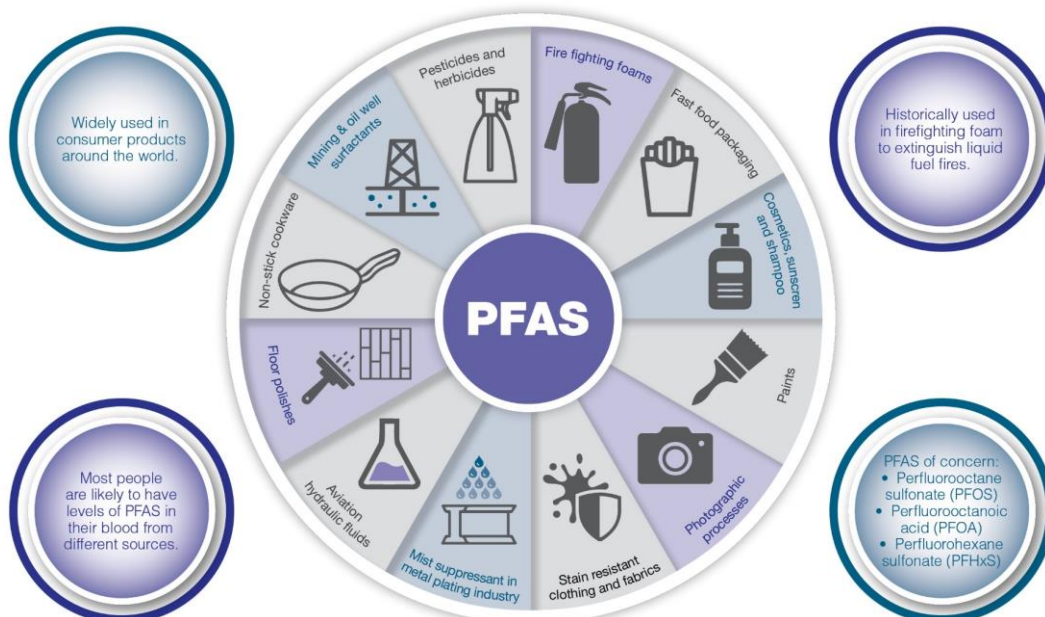
This foam was particularly effective for fighting liquid fuel fires and was widely adopted both in Australia and around the world. This product contained perfluorooctane sulfonate (PFOS) as an active ingredient, and other PFAS, such as perfluorooctanoic acid (PFOA).

Foams containing PFAS have been stored and/or used at the former fire training grounds, located to the south and west of Parafield Airport's runways and taxiways, and at the old fire station on the northern boundary.

PFAS-free foam, Solberg RF6, is now used by the MFS which provides aviation rescue firefighting services when required at Parafield Airport.

About PFAS

PFOS and PFOA are two of the many types of PFAS. They are a group of man-made chemicals used to make coating and products that resist heat, oil, stains, grease and water.



These substances have been used in a range of common household products and specialty applications, including in the manufacture of non-stick cookware; fabric, furniture and carpet stain protection applications; food packaging and some industrial processes.

Due to their high surface tension and heat resistance qualities, PFAS has also been used in aqueous film forming foam for aviation firefighting at domestic and military airports as well as petro-chemical facilities, oil platforms and merchant ships.

Because these chemicals have been used for decades, they are found widely in the land and water environments around the world. People are exposed to small amounts of PFAS in everyday life through exposure to consumer products as outlined in the PFAS diagram above.

These chemicals are very stable and do not break down in the environment. They can persist for a long time both in the environment and in humans.

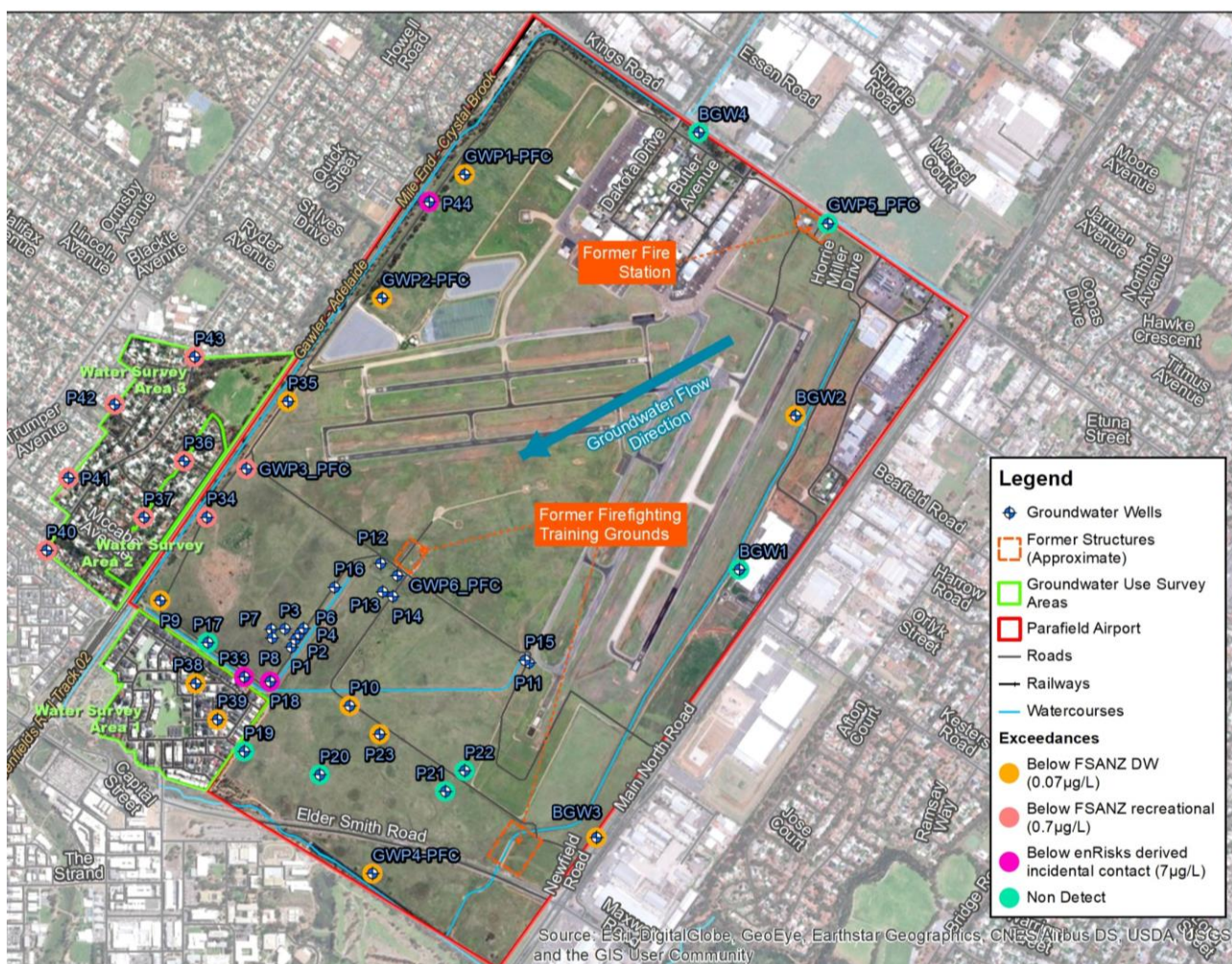
What action has PAL taken?

Use of PFAS-free foam

Firefighting foam containing PFAS is not used at Parafield Airport. On-airport firefighting services by former Government agencies, using foam containing PFAS, stopped in 1986. Parafield Airport Limited entered into the lease for Parafield Airport 12 years later in May 1998, and is currently seeking to ensure leadership in managing this legacy issue. Since 1986, firefighting services are provided externally by the MFS as required. The MFS uses PFAS-free foam, Solberg RF6.

Investigations and characterisation

In 2016, PAL commenced a Preliminary Site Investigation for PFAS contamination across the entire airport to better understand potential impacts from the historic use of firefighting foams. The investigation, conducted by an independent environmental consultant, recommended a detailed investigation of the airport grounds. The investigation was subsequently expanded to some areas of Mawson Lakes and Parafield Gardens as shown in the map below.



The detailed investigation included testing of soil and focused on underground water (groundwater). A voluntary survey of water sources, storage and use of properties in the investigation area was also

undertaken. Results were compared with relevant human health and ecological guidance values to help assess potential exposure risks to people and the environment.

Investigation results

The investigation found historic PFAS contamination on airport in isolated monitoring wells set up on the southern and western boundary of Parafield Airport. These results were in line with the historic use of firefighting foams containing PFAS at training grounds, located to the south and west of Parafield Airport's runways and taxiways. This led to PAL initiating a targeted water quality sampling on public land off-airport and a survey of water use of properties

in Mawson Lakes and Parafield Gardens. PFAS was detected in groundwater to the west, off-airport, in Parafield Gardens. PFAS was below the drinking water guideline value in the Mawson Lakes survey area. Out of an abundance of caution, the investigation area was expanded in Parafield Gardens to include water survey area 3 and wells 40-44, as shown on the map.

Key results of the investigation and water use survey include:

Sample type	On-airport findings	Off-airport findings
Soil	Elevated levels of PFAS were detected in soils at former and current firefighting grounds and an area where foam concentrate was historically stored.	Soil testing off-airport was undertaken to characterise the soil. Soil was not tested for PFAS as it is outside the former fire station and firefighting training source areas.
Groundwater	PFAS has been detected above human health guidance values for drinking water in groundwater in isolated monitoring wells on the southern and western boundaries of the airport.	PFAS above human health guidance values for drinking water was detected in a small number of groundwater monitoring wells west of the airport boundary, in Parafield Gardens. The groundwater in this area is of poor quality due to high salinity. PFAS was below the drinking water guideline value in Mawson Lakes.
Water use	Parafield airport uses mains water for drinking and recycled water for irrigation.	All properties rely on mains connections for drinking water. The few properties that have bores use groundwater for irrigating lawns only. Playing fields use water from a deeper aquifer. PFAS has not been detected in this aquifer.

Summary findings

Shallow groundwater was identified as a potential off-site migration pathway for PFAS.

PFAS was detected in shallow groundwater above human health guidance values on airport and off airport to the west, in Parafield Gardens. These guidance value exceedances are equivalent to two drops in an Olympic size swimming pool. The groundwater in this area is of poor quality due to high salinity, and the water use identified in the survey is only for watering lawns.

PFAS was below the drinking water guideline value in the Mawson Lakes survey area (survey area 1 on the map).

Mains water provides a safe source of drinking water. Playing fields use water from a deeper aquifer. PFAS has not been detected in this aquifer.

Overall, given the low PFAS concentrations, low suitability of groundwater for drinking water or garden irrigation and the minimal use of groundwater, as determined via the groundwater use survey, we have been advised that current potential risks to local communities are minimal.

Advice on water use

Mains water

SA Water has advised that it does not have any drinking water catchments near Parafield Airport.

Water from its reticulated system (mains water) remains safe to drink.

Bore water

Due to the high likelihood of chemical or microbial contamination, SA Health advises that shallow bores are not generally recommended as a suitable source of drinking water, particularly in urban areas. The SA Health advice remains in place, irrespective of whether PFAS is present in groundwater or not.

Next steps and reporting to regulators

PAL has shared the results with the South Australian Environment Protection Authority (SA EPA), the Commonwealth Department of Infrastructure, Regional Development and Cities (DIRDC), SA Water and SA Health to determine appropriate next steps and ongoing monitoring. PAL has also briefed the Parafield Airport Consultative Committee and other stakeholders around the airport on its investigations.

If any further action is required, PAL will inform the community via direct and general communication channels.



Further information

PAL will continue to keep the community informed. The investigation report can be accessed at the PAL PFAS investigation website.

Further information on the investigation and PFAS is available from:

Parafield Airport Investigation Team

Email airport@aal.com.au

Website <https://www.parafieldairport.com.au/environment>

Regulator websites

Commonwealth PFAS website

www.pfas.gov.au

Commonwealth Department of Health

www.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas.htm

SA Environment Protection Authority

www.epa.sa.gov.au/environmental_info/perfluorinated-compounds

SA Health

www.sahealth.sa.gov.au

SA Water

www.sawater.com.au/community-and-environment/water-quality/pfas