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# SAMFS AND PFAS

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**METROPOLITAN**  
**FIRE**  
**SERVICE**  
SOUTH AUSTRALIA



New Zealand

Australia

South America

America & Central

Mexico

USA

Caribbean

Canada

Europe

Asia

Africa

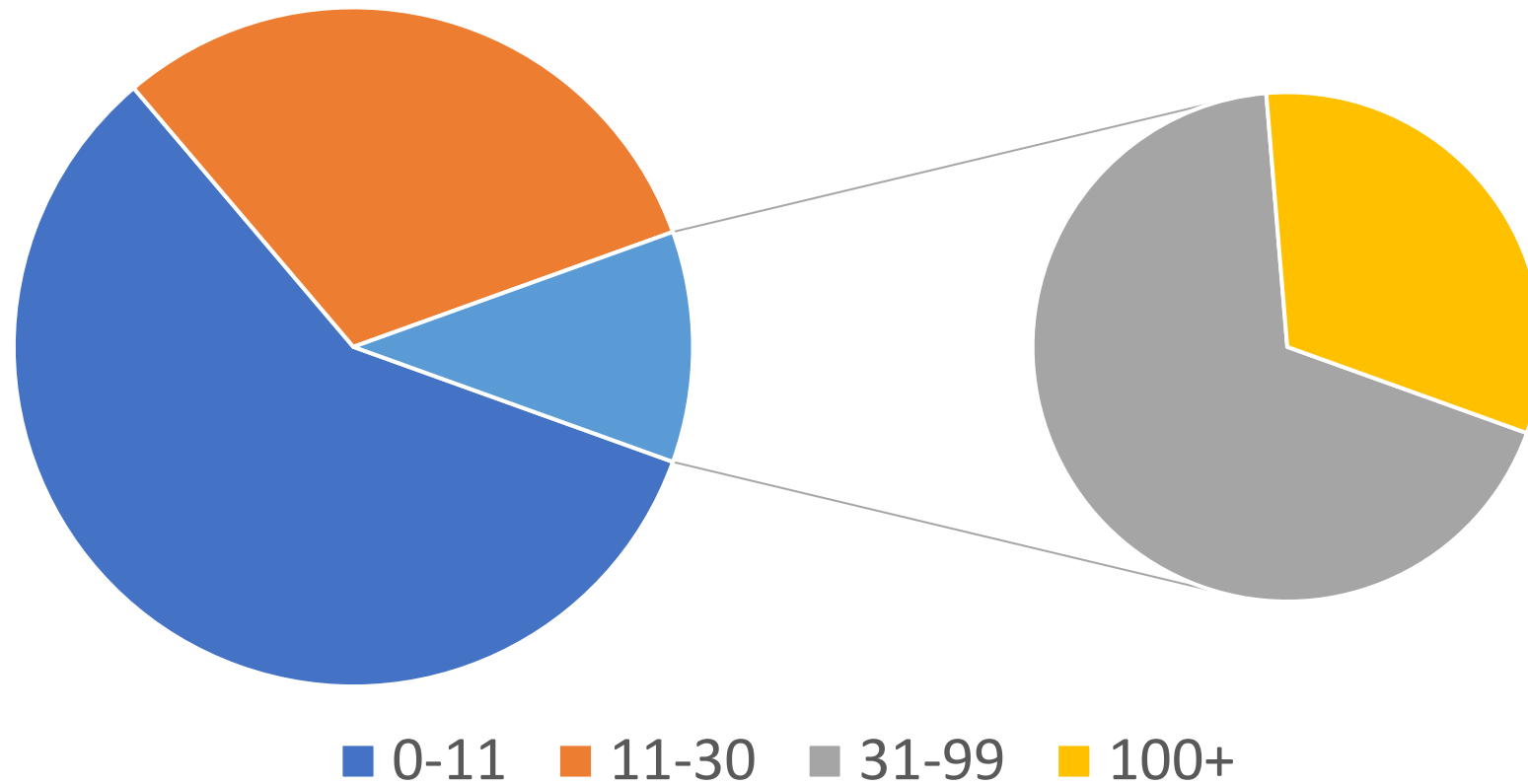


# PFAS

- **Precautionary Principle** – absence of evidence shouldn't be assumed as evidence of absence.
- **Risk Assessments** –
  - PFAS NEMP V 2.0 (soil and water)
  - 20,000 ug/kg v 135ug/kg - <40 ug/kg
  - GHD (fire appliance water relative to exposure)
  - PFOS + PFHxS 280 ug/L PFOA 22,000 ug/L v 0.07 - 7
  - EnRisk (dust in stations)
  - <100 times risk assessment and therefore no health risk issue of concern (anyone for any period of time)
  - WHS Act - keep up to date information and consult

# HEALTH

## MFS PFAS Blood Serum Values (ng/mL)



# MFS OCCUPATIONAL PFOS LEVELS

| Average PFOS Level in Blood (ng/mL) | Type of MFS staff member  |
|-------------------------------------|---|
| 14.5                                | Full Time Operational Male  |
| 3.45                                | Full Time Operational Female (note much smaller sample size)            |
| 13.45                               | Retained Operational Male (Part time)                                   |
| 3                                   | Retained Operational Female (Part time) (note much smaller sample size) |
| 12                                  | MFS Retiree (males only)  |
| 4                                   | Two staff members tested before any occupational exposure               |

# ANOMOLIES

| PFOS | PFOA | PFHxS | PFHpA | PFNA |
|------|------|-------|-------|------|
| 1600 | 9    | 340   | 100   | 0    |

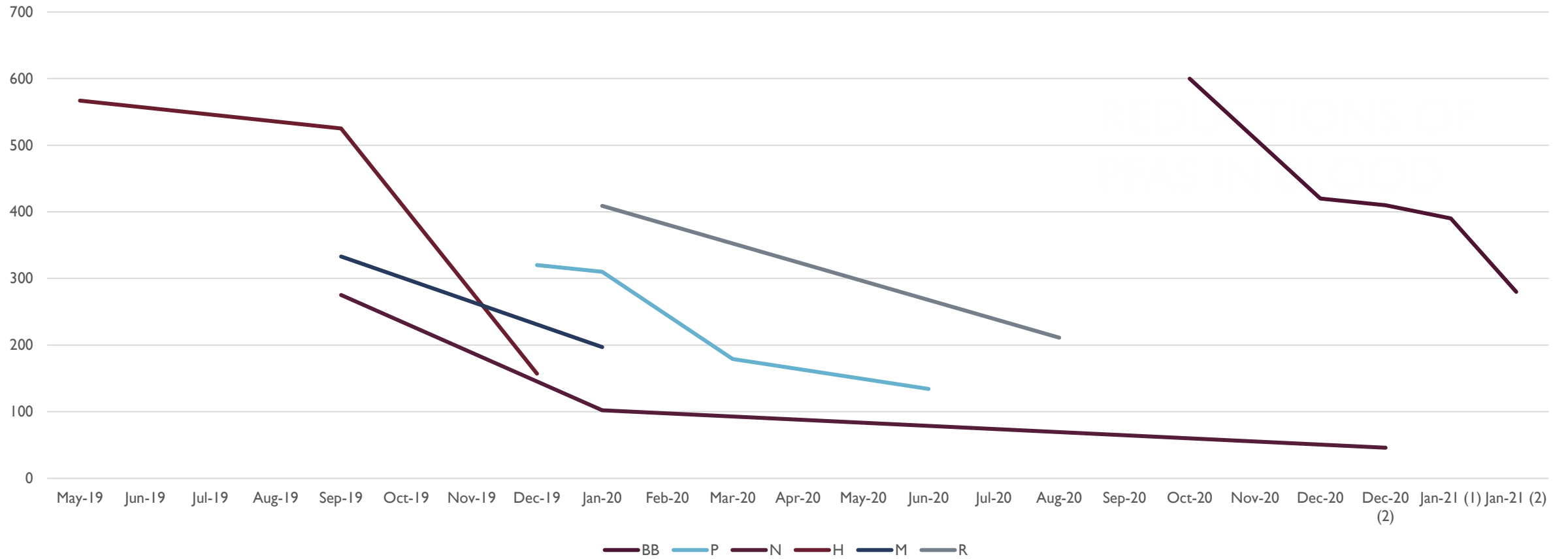
| PFOS | PFOA | PFHxS | PFHpA | PFNA |
|------|------|-------|-------|------|
| 600  | 5    | 250   | 16    | 3    |





# PFAS BLOOD REDUCTION

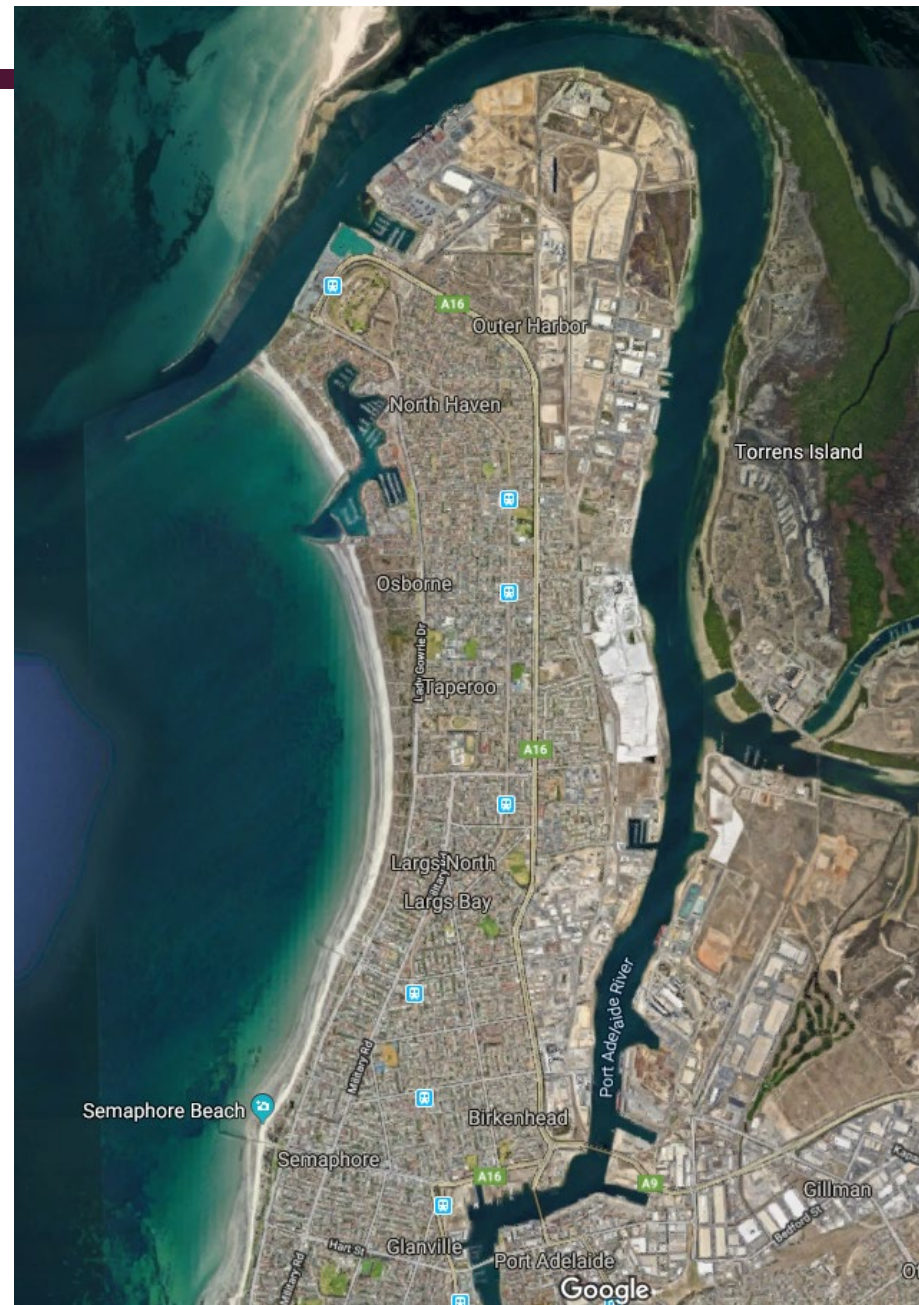
Firefighters Participating in PFAS reduction, starting PFAS >250ng/mL

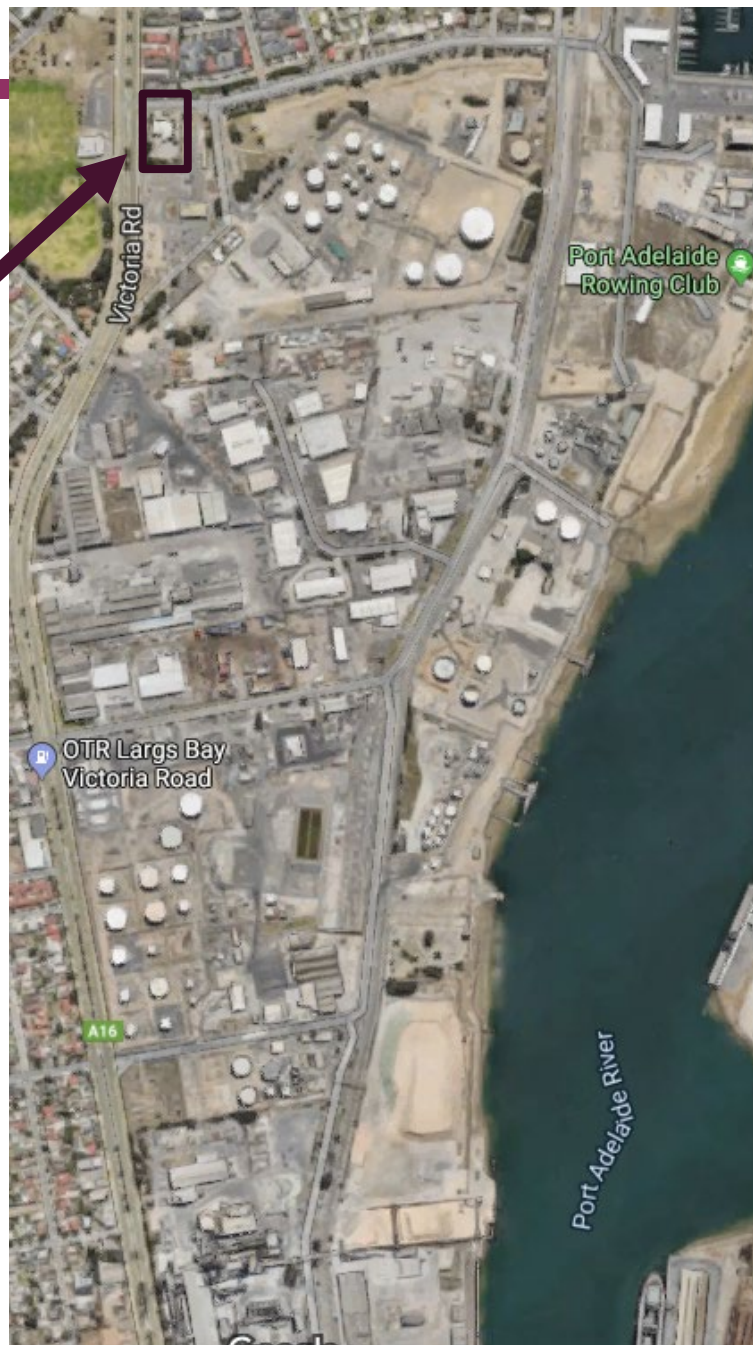


# ANOMOLIES

| PFOS | PFOA | PFHxS | PFHpA | PFNA |
|------|------|-------|-------|------|
| 600  | 5    | 250   | 16    | 3    |

| PFOS | PFOA | PFHxS | PFHpA | PFNA |
|------|------|-------|-------|------|
| 39   | 3    | 95    | 4     | 0    |





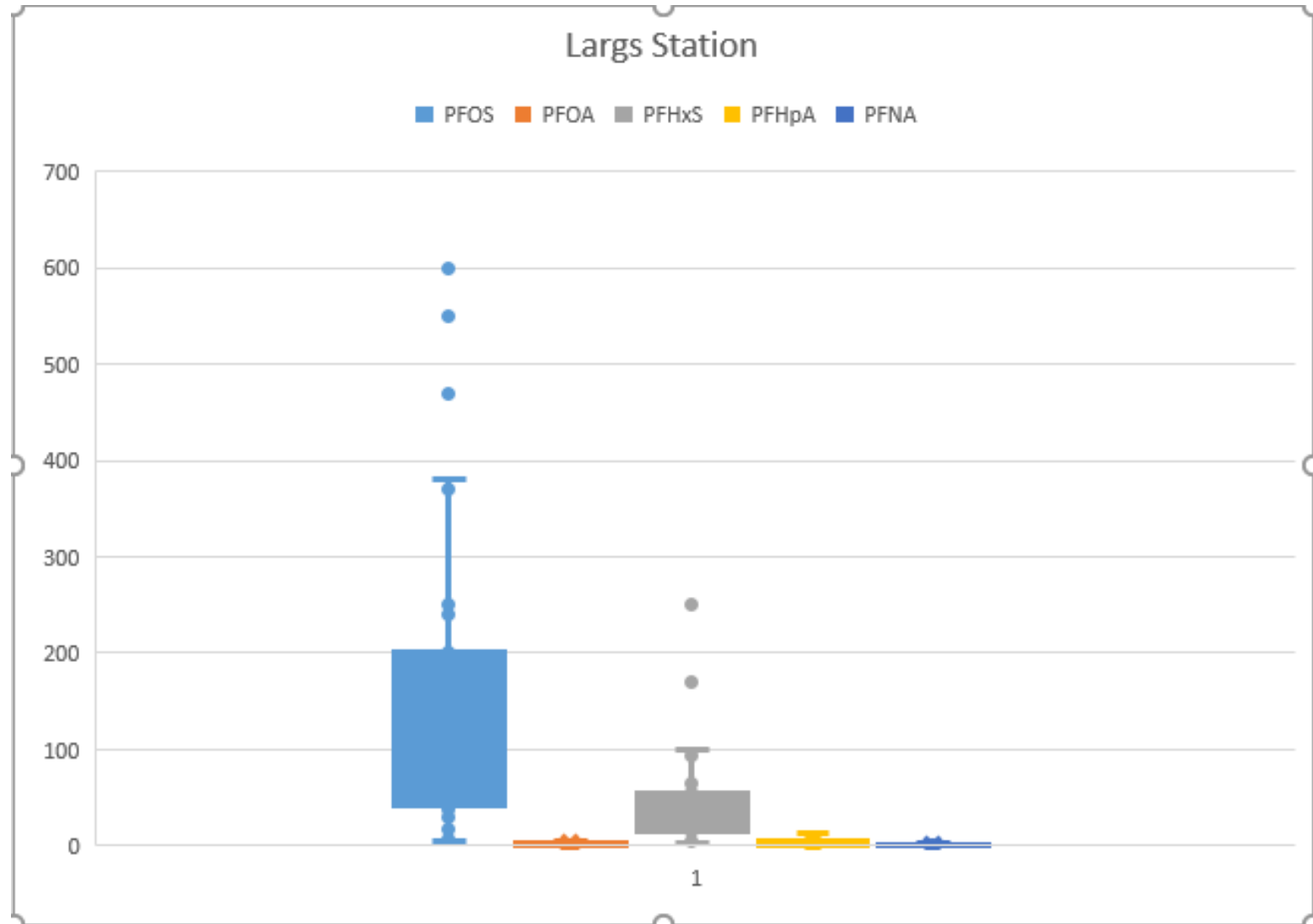
Victoria Rd

Port Adelaide Rowing Club

OTR Largs Bay  
Victoria Road

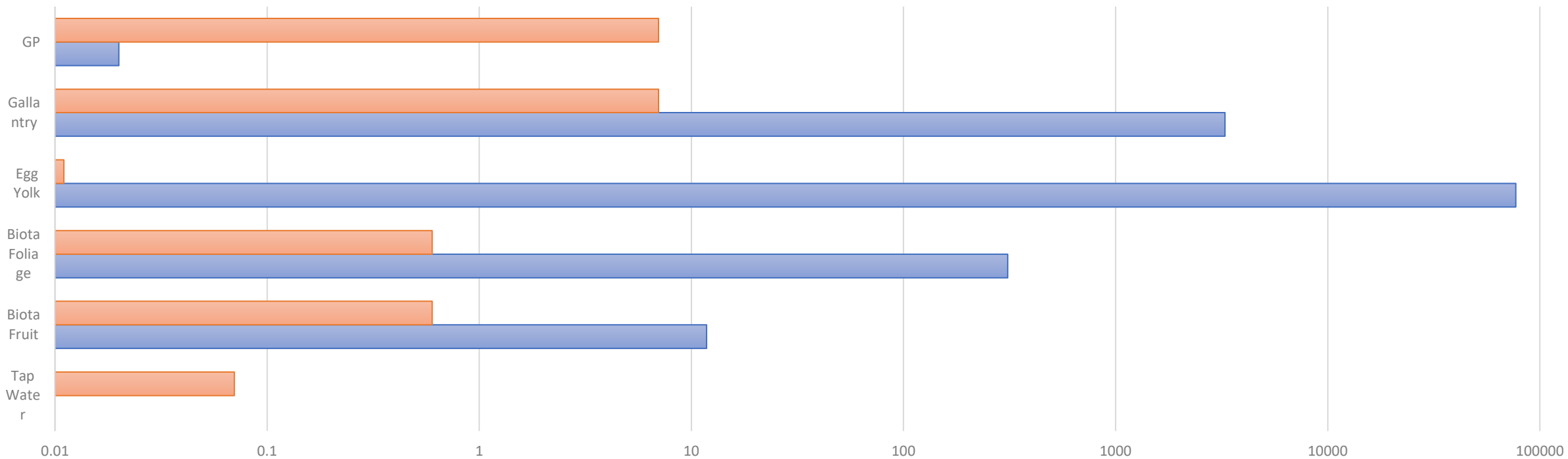
A16

Port Adelaide River



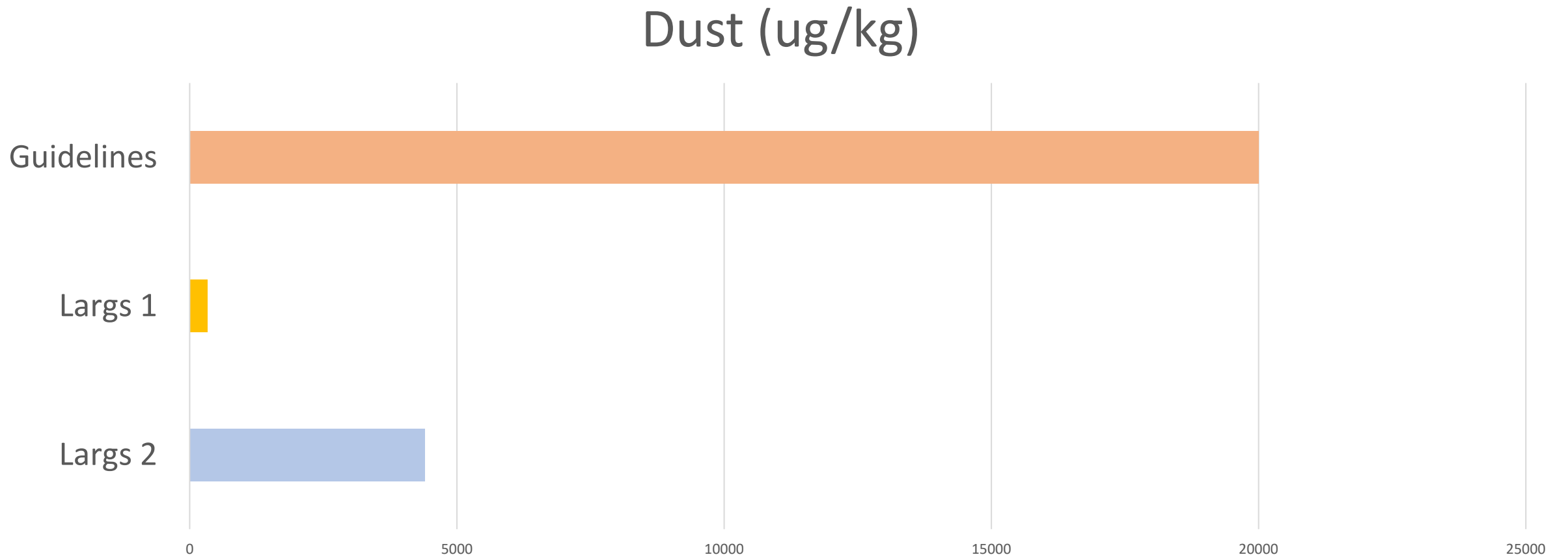
# LARGS NORTH STATION EXPOSURE PATHWAYS

Largs North Fire Station results vs Australian Guidelines



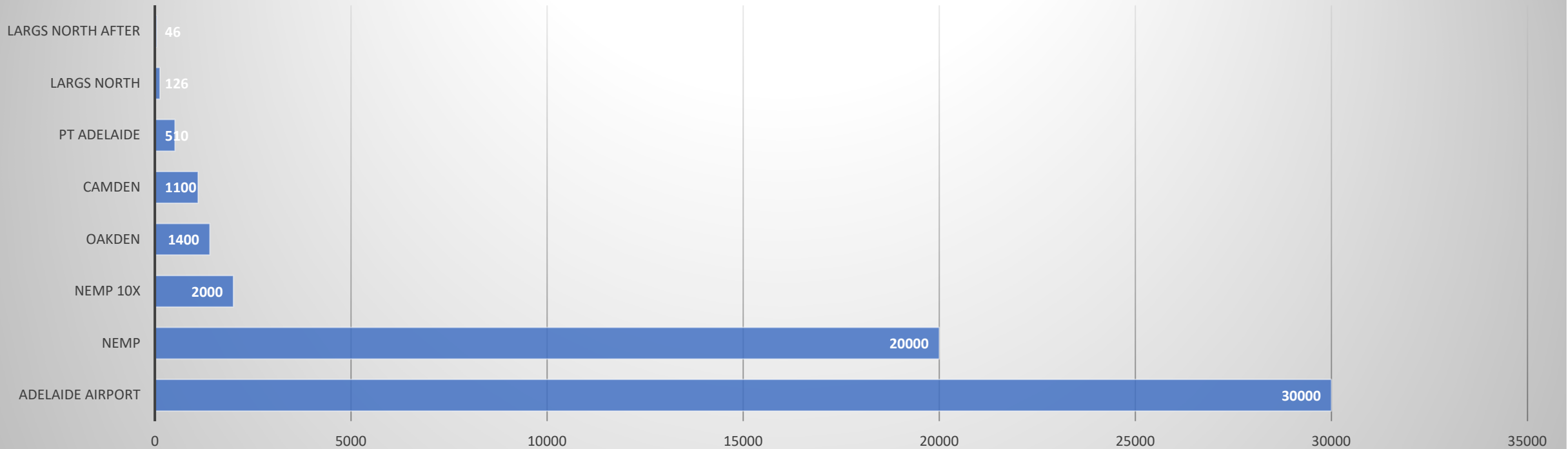
Guidelines Largs

# LARGS NORTH STATION AND DUST



# PFAS AND SOIL

MFS PFOS+PFHxS Soil Levels measured in micrograms per kilogram (ug/kg)





# APPLIANCES AND PFAS

- All appliances now decontaminated to MFS Guidelines
- Gallantry bilge water
- Initial exposure standards established inline with drinking and recreational water guidelines – precautionary principle
- Risk assessments have since been commissioned
- New guidance values
  - 280mg/L PFOS + PFHxS
  - 22,000mg/L PFOA



# PFAS INTO THE FUTURE

- PFAS Mental Health Strategy
- PFAS Reduction Program
- MFS PFAS blood serum follow up 2021
- Airservices / UQ longitudinal PFAS exposure study
- Research partnership and funding
- Government Funding

# Questions?

