

The background of the slide is a deep blue, almost black, underwater scene. It is filled with numerous small, bright blue and white bubbles that appear to be rising from the bottom, creating a sense of depth and movement. The lighting is dramatic, with the bubbles catching the light and standing out against the dark background.

West Gate Tunnel

Assessment of PFAS in Groundwater

01

Overview of Presentation:

- West Gate Tunnel Project Groundwater Data Set
- Human Health Guidelines for PFAS in Groundwater
- Data Review and Comparison Against Other Sites
- Questions

An underwater photograph showing a dense stream of bubbles rising from the bottom towards the surface, creating a bright, shimmering path against the dark blue water.

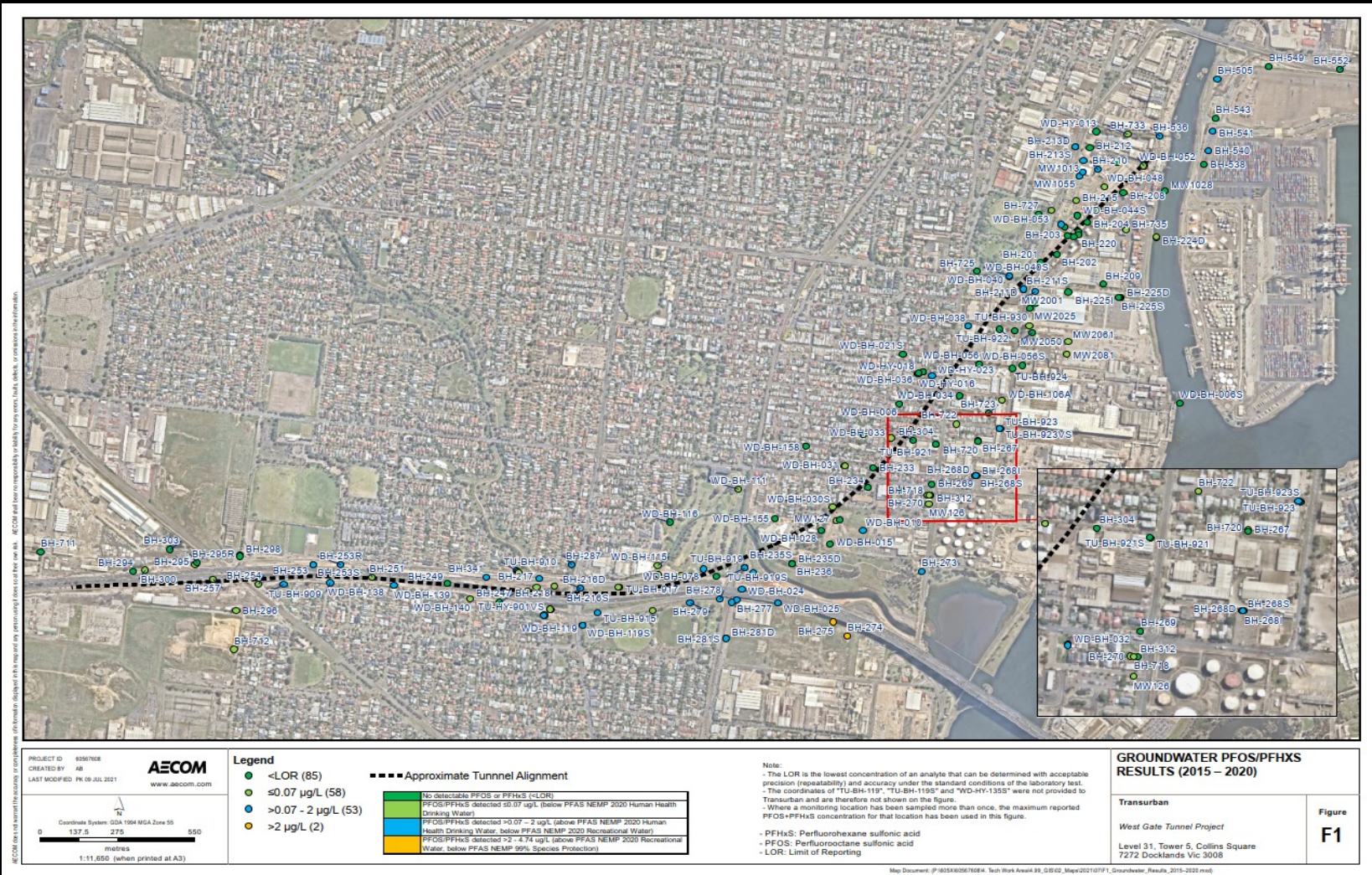
02

**West Gate Tunnel
Project Groundwater
Data Set**



IDENTIFY. RESOLVE.

Site Overview and Data Set



- 201 monitoring well locations
- Multiple sampling events since 2016
- Multiple well depths in different geologies
- Groundwater tested for PFAS Suite (28 compounds)



03

Human Health Guidelines for PFAS in Groundwater



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Adopted Water Criteria

Human Health Water Guidelines	Criteria	
	Sum of PFOS & PFHxS	PFOA
Drinking water (DoH (2019) guideline referenced in the HEPA [2020] PFAS NEMP)	0.07 µg/L	0.56 µg/L
Recreational water quality (NHMRC (2019) guideline referenced in the HEPA [2020] PFAS NEMP)	2 µg/L*	10 µg/L*
Recreational water quality (DoH (2017) guideline referenced in the HEPA [2018] PFAS NEMP)	0.7 µg/L*	5.6 µg/L*

- The DOH (2019) guidelines are based on a person drinking 2 L of water every day and include a 10-fold margin of safety.
- The NHMRC (2019) recreational water guidelines are based on a person accidentally ingesting 200 mL of water each time they swim, with 150 swimming events per year (i.e. ingesting an average of 30 L of water during swimming each year). The NHMRC (2019) guideline values also include a 10-fold margin of safety.
- Change in recreational criteria based on change in assumptions related to frequency and likelihood of exposure during recreational activities



04

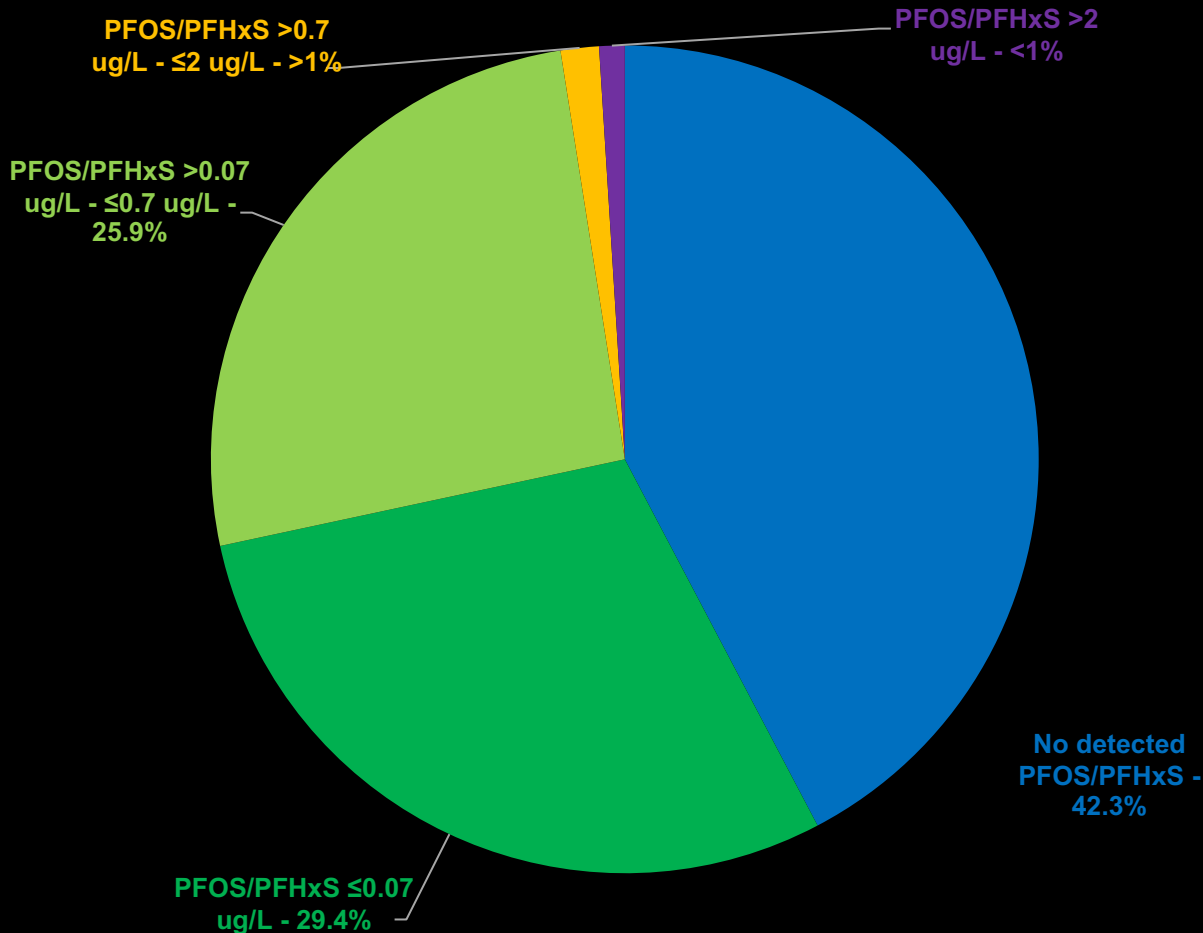
Data Review and Comparison



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Data Review

PFOS + PFHxS Results



Summary of Complete Data Set

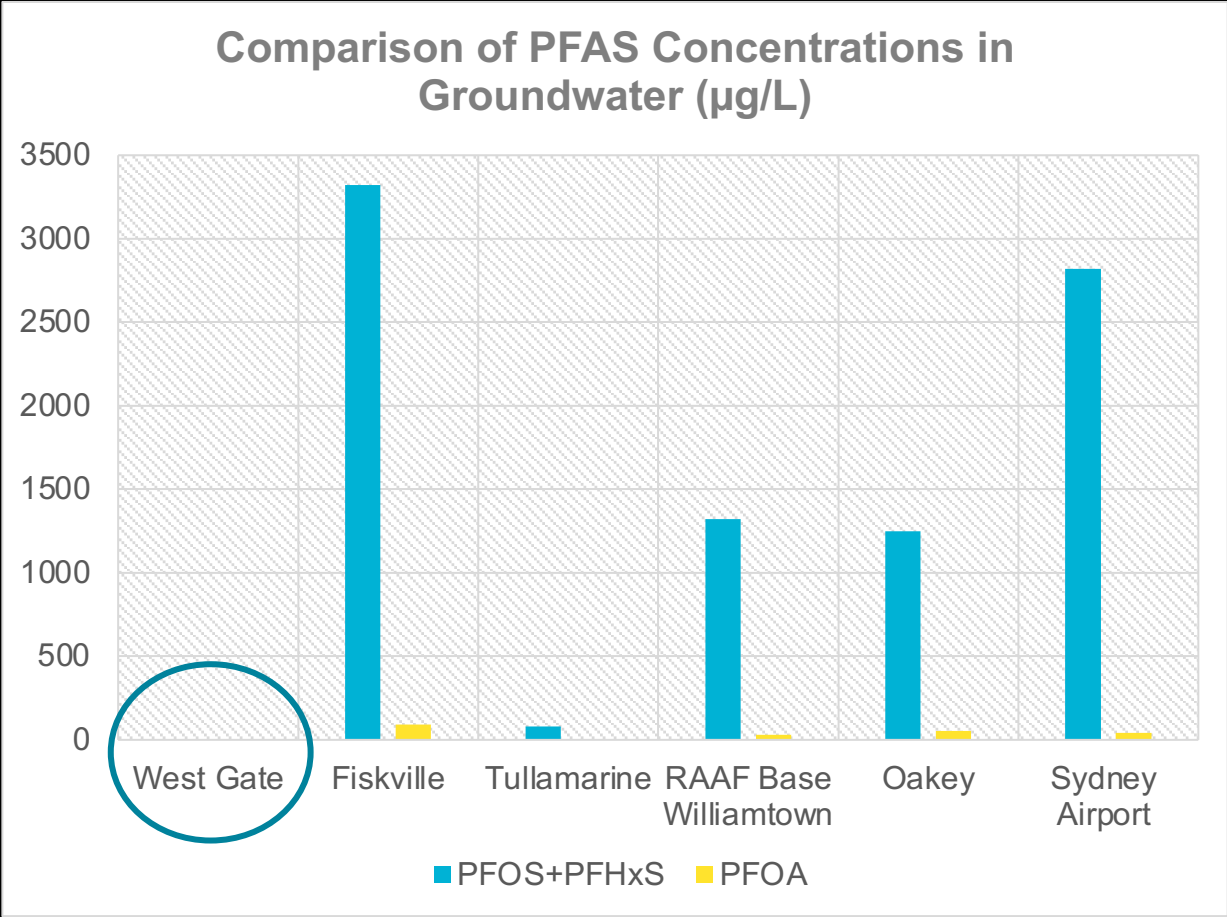
Of the subject 201 groundwater samples assessed against regulatory criteria:

- 100 % of these samples did not exceed the DoH (2019) / HEPA (2020) PFAS NEMP drinking water guidelines for PFOA (0.56 µg/L) and did not exceed the NHMRC (2019) / HEPA (2020) PFAS NEMP recreational water guideline (10 µg/L)
- 71.7 % of these samples did not exceed the DoH (2019) / HEPA (2020) PFAS NEMP drinking water guidelines for PFOS+PFHxS (0.07 µg/L)
- 99 % of these samples did not exceed the NHMRC (2019) / HEPA (2020) PFAS NEMP recreational water guideline values for PFOS+PFHxS (2 µg/L)
- 97.5 % of these samples did not exceed the HEPA (2018) PFAS NEMP recreational water guideline values for PFOS+PFHxS (0.7 µg/L)
- Overall, there is general correlation between the analytical results for PFAS between the first and last sampling events (i.e. for 5 years).

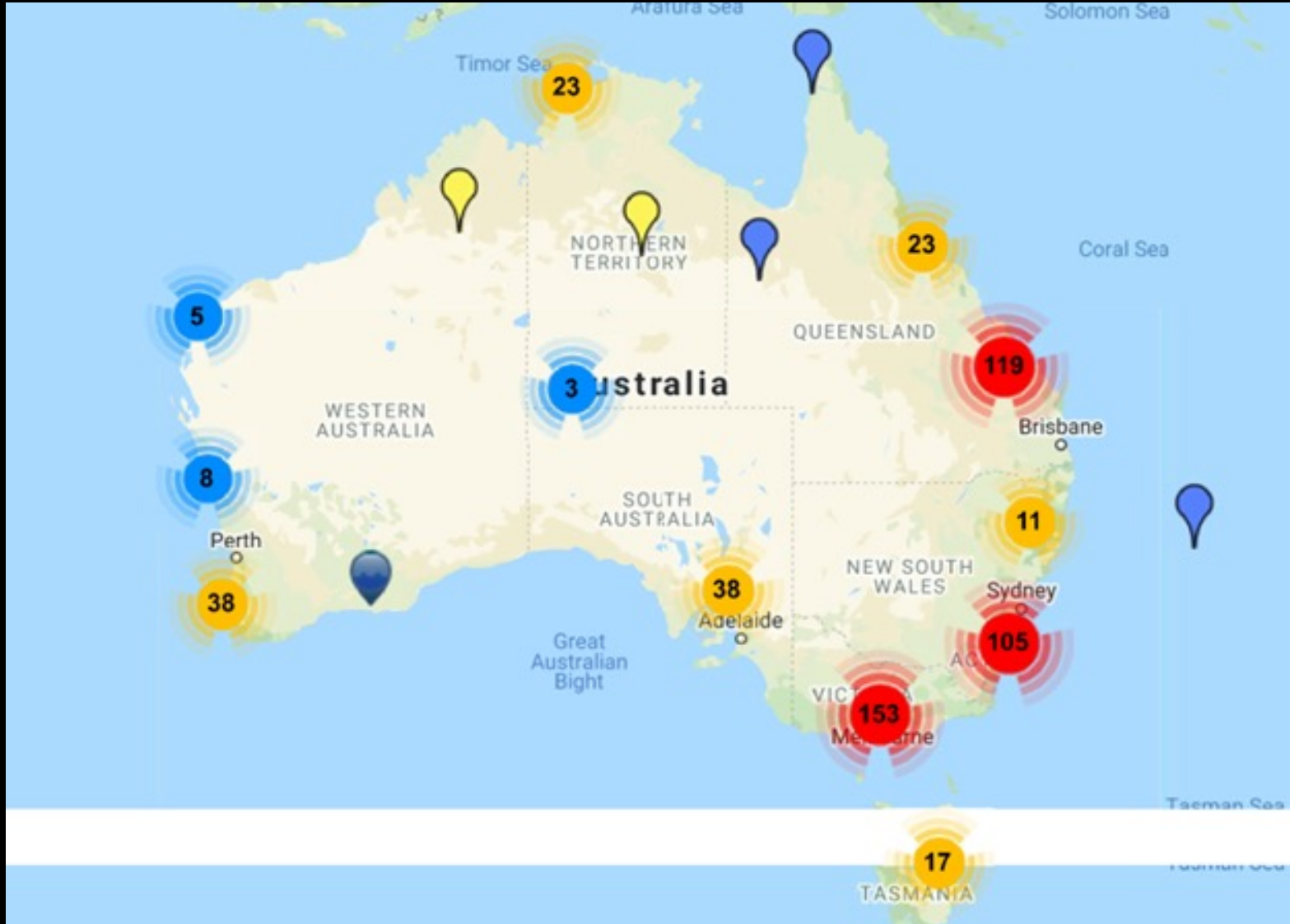
PFAS Groundwater Plumes in Australia

Site Groundwater Comparison - Australia

Site	Historical groundwater PFOS +PFHxS (µg/L)	Historical groundwater PFOA (µg/L)	Status / Management
West Gate Tunnel Alignment	<2	<0.56	Disposal and management Hi-Quality
CFA Fiskville	3,320	92	Source remediation
Tullamarine	81.9	4.46	On-site storage
RAAF Base Williamtown	1,320	31	Water Treatment Plants (WTPs) + source management
Army Aviation Centre, Oakey	1,249 on base 72.8 off base	42.5 on base 2.03 off base	WTPs + source management
Sydney Airport	2,820+	41.4	NA



Publicly Available Information RE: PFAS Sites



<https://pfas.australianmap.net/>

<https://www.airservicesaustralia.com/community/environment/pfas/>

<https://www.defence.gov.au/environment/pfas/>

Questions



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