

Submission
No 28

**INQUIRY INTO INQUIRY INTO PFAS CONTAMINATION
IN WATERWAYS AND DRINKING WATER SUPPLIES
THROUGHOUT NEW SOUTH WALES**

Name: Name suppressed
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Partially
Confidential

Submission to: Select committee on PFAS contamination in waterways and drinking water supplies throughout NSW.
From:

Background

I am a member of the public (retired) and I live beside Botany Bay. For the past decade I have had significant concerns about the impacts of PFAS on the waters, sediment and biota of **Botany Bay**. The bay is known to be significantly directly contaminated by PFAS from three **EPA identified Sites - Sydney Airport; Caltex Kurnell** (former oil refinery); and **Botany Industrial Park** (chemical manufacturers) which are all situated around the entrance to Botany Bay.

At all these sites, PFAS Aqueous film forming foams were used for fire fighting training activities leading to a legacy PFAS contamination issues. At Sydney Airport there was decades of PFAS fire fighting foam used, starting from 1970's. Fire fighting training took place up to 4 times a week. PFAS investigations have been done at the airport in 2005; 2012; 2017; and 2020 but results of the investigations have never been publicly released. Another investigation is currently underway but Airservices are not due to report on it until 2025. The community hopes that this report will not be suppressed. SMH investigative journalist Carrie Fellner published an article in Dec 2018, having got access, via FOI, to some Sydney Airport PFAS related documents she commented:

"A pool of poisonous water underneath Sydney Airport contains some of the highest levels of toxic firefighting chemicals seen on Australia's eastern seaboard, according to test results that were buried from the public after they were handed to authorities six years ago. The airport at Mascot is one of the highest profile sites in the country to be polluted with the per- and poly-fluoralkyl [PFAS] chemicals, but despite over a decade of testing the extent of the contamination footprint has remained shrouded in secrecy."

This is one of the major problems in dealing with PFAS impacts. Organisations avoid releasing information and there doesn't seem to be legislative procedures in place to enforce declaration. For the public it makes it appear as if Government are colluding in hiding information.

The historic onsite contamination from Sydney Airport, Caltex Kurnell, and Botany Industrial Park has resulted in PFAS leaching into the **soil and ground water** and then into the **Botany Sands Aquifer** which runs into Botany Bay. There has also been **surface water** run-off into the bay from several of these sites.

The Kurnell water desalination plant is situated adjacent to the *Caltex Kurnell Refinery* and across the bay from *Sydney Airport* and the *Botany Industrial Park*. The water intake pipes for the desalination plant are just beyond the entrance to Botany Bay, in the ocean 300m offshore of the Kurnell peninsular. PFAS is highly mobile and is known to travel easily. There is no public information on how the desalination plant deals with PFAS testing of seawater intake or how it deals with PFAS contaminated waste water and whether this waste water is returned to the ocean with PFAS present. The EPA was unable to clarify this process. The desalination plant can supply 250million litres of water a day, equivalent to 15% of Sydney's drinking water needs. (It has plans to expand to be able to supply 500million litres of water a day).

Port Botany is also situated in Botany Bay. There is a limited amount of sediment disturbance/scouring effect from arriving and departing ship propellers each day, as well as significant sediment disturbance from maintenance dredging conducted by the Port to ensure the shipping channels remain open. There appears to be no public information on the impacts of container ships disturbing, PFAS-contaminated sediment in the bay and the impacts of legacy PFAS being mobilised into the waters of Botany Bay. There is no public information on whether maintenance dredging could pose any additional PFAS issues for the desalination plant intake water, given the plant's intake pipes are so close to where the dredging takes place. It would appear to be important information to have.

Major concerns

In my submission I will respond to several but not all of the terms of reference. I wish to try to shine a light on my personal experience of the attitudes of polluters and Government agencies towards PFAS and the culture of hiding the existence of PFAS from the public whenever possible, rather than adopting an attitude of transparency to reveal and deal with its impacts. I think understanding current Government agency attitudes and processes, is critical to this enquiry.

I will detail how processes are not always designed to fairly and accurately assess whether PFAS is present, and how investigations can appear to deliberately fail to identify large groups of people at potential risk. This means that actions are not being taken to prevent, or minimise exposure and avoid the resulting possible adverse health outcomes.

Scopes of works can be written to allow box ticking whilst avoiding confronting the issue or evidence of a situation, which then means little or no action needs to be taken. A case of 'hiding' the issue from sight. Multiple agencies and contamination

investigators can be involved, with each person being able to sign off on their part without needing to take overall responsibility. This can lead to no one being accountable even when gross failings in processes and reports are highlighted.

Sometimes Governments appear to expect experts to supply the Government with the documents that smooth the process for the outcome the Government wishes to achieve. ie 'decision based evidence' rather than supplying 'evidence on which to base a decision'. I have had direct experience of this in a PFAS investigation for a project the Government wished to go ahead with. As Brendan Lyons, a former KPMG partner, commented at a Senate enquiry in July 2023 about the actions of KPMG. *"They're using the reflected legitimacy of being auditors to dress up consulting reports that are not about providing evidence to support decisions. In many cases, this is decision based evidence making that is slapped with the legitimacy of an audit firm badge."* Such attitudes to expert reporting by both Government and auditors is extremely concerning and it is hoped there are measures to ensure it does not happen with drinking water testing procedures.

I found there was little 'meaningful engagement' with the public on a couple of projects where PFAS was a concern. Instead, there was, just superficial community events, manned predominantly by communications staff with no in-depth knowledge. The events appear to just be conducted to deflect serious issues and to allow box ticking that the pre-required amount of engagement has taken place. When I have written directly to Government agencies providing researched, in-depth questions about processes, and results, or I have queried how investigations into PFAS have been conducted, and the conclusions reached, I have received few answers or clarifications to my queries. Those answers I have received have been generalised and not specific. This is not meaningful engagement. Tokenism when dealing with the public needs to be called out.

A distinguished, former EPA accredited contamination expert wrote a detailed 'pro bono' opinion report listing the many and extensive failures of a Government commissioned contamination investigation. His conclusions were that the PFAS testing was *"grossly inadequate"* and that as a result *"conclusions can only be unreliable"*. The report was made available to multiple agencies within the Government, including the EPA. It is extremely concerning that this report, from such a heavyweight in contamination investigations, was not refuted, or responded to. It was just ignored. There needs to be mechanisms in place where concerns cannot just be pushed under the carpet.

The EPA is meant to be the environmental watchdog and is an independent statutory authority. When called upon it gives advice and makes recommendations for Environmental Impact Statements on contamination investigations, including those involving PFAS. My experience with one project concerning PFAS, that I was involved with, was that the EPA submission concerns were arbitrarily overruled by TfNSW in their Response to Submission. There was a significant apparent conflict of interest for this project as the project had been instigated by the Department of Environment and the EPA sits in the NSW Environment portfolio. The power imbalance did not appear to allow the EPA to provide 'frank and fearless advice' and to be listened to.

Again, this could be of considerable concern in the realistic application of PFAS investigations into the water supply. WaterNSW is a state owned corporation and if it is them that will be responsible for monitoring the sources for PFAS. This could be a conflict of interest. They are under the jurisdiction of NSW Government agencies of Climate Change, Environment and Water who develop and oversee water related laws and policies. There perhaps needs to be an independent body overseeing the process.

There needs to be robust, independent, interrogation of PFAS issues and the public, including noted experts, need to have appropriate engagement from agencies to ensure their questions are answered in a timely fashion. Otherwise, we have little hope of protecting the public from adverse outcomes from contaminated drinking water supplies, whatever regulations are put in place.

Evasive responses and cover-ups around PFAS investigations have eroded public confidence in Government dialogue and actions. As clean and safe water is a human right, it is particularly important that the public should have confidence that 'precautionary principle' is genuinely being applied to drinking water safety standards.

Response to terms of reference:

My responses are based on my experience dealing with Government agencies and observing private organisational responses to PFAS. I have included reference to the following projects/organisations:

- The TfNSW **Kamay Ferry Wharves (KFW) project** in Botany Bay which I will refer to as KFW;
- **Sydney Airport (SYD)** PFAS contamination of Botany Bay including **Airservices (AsA)** ongoing investigations;
- The **Science of Gamay**, a technical report from **Sydney Institute of Marine Science (SIMS)** which is designed to be a comprehensive review of ecological knowledge of Botany Bay (Gamay), including contamination threats, in order to determine future areas for scientific research and in order to inform policy and management actions in the bay. This publication appears to be part of the Gamay Initiative and the Gamay Project which is part sponsored by the Department of Primary Industries and Department of Planning and Environment.

(a) the adequacy and extent of monitoring and data collection on PFAS levels in waterways and drinking water sources.

There has been no publicly released information on any comprehensive studies of PFAS levels in the water and sediments of Botany Bay, despite it being known to have been contaminated by three EPA identified contamination sites under PFAS investigation: **Sydney Airport**; the **Caltex Kurnell** former oil refinery; and **Botany Industrial Park** chemical manufacturers. There is no known monitoring of PFAS in surface water or sediments in the bay, or if there is, it is not available for public scrutiny.

The Kurnell Water desalination plant is situated between these three sites. As there are only 15 EPA PFAS investigation sites in the whole greater Sydney area, having three sites leaching directly into the part of Botany Bay where the Kurnell water desalination plant is situated, might be considered a red flag for needing serious and comprehensive testing. The Kurnell desalination plant currently supplies 15% of Sydney's water and plans to double in size over the next decade to cope with need for reliable water supplies during drought conditions.

The desalination plant intake pipes are 300m off the Kurnell peninsular just outside Botany Bay. The fact that the waters near the desalination plants are regularly dredged by Port Botany to keep shipping channels open and therefore dredging has the potential to stir up legacy PFAS, should be a further red flag for consideration and emergency planning.

Adequacy of testing and monitoring at Sydney Airport. The airport is fully aware that its legacy fire fighting activities using PFAS foam conducted since the 1970's, up to four times a week, has contaminated its site and that PFAS contaminated surface water, & ground water has leached into the bay via the Botany Sands aquifer. Airport onsite and offsite investigations of PFAS have been completed in 2005; 2012; 2017; and 2020 but results of the investigations have never been publicly released. The EPA has seen some of those reports. Airservices are supposed to conclude further investigations in 2025. Airservices has uploaded the PFAS investigation documents for 14 other airports around Australia on their 'Engage' website, but not the 4 investigation documents for Sydney Airport, which one would expect to be the airport of most concern. This non-disclosure is extremely concerning. Neither Sydney Airport, Airservices, nor the EPA have provided satisfactory reasons for why this information is not publicly available. Lack of transparency makes it hard to know the scale of the problem, and the adequacy of data collection and monitoring is therefore unknown. The land at Sydney Airport is owned by the Commonwealth and leased to private operator Sydney Airport. Airservices is owned by the Australian Government and accountable to the Minister for Infrastructure. This would make the non disclosure appear to be somewhat of a Government issue. Transparency and public accountability are key to effective management of PFAS in drinking water supplies.

Fisheries has issued precautionary dietary advice on consumption of fish caught in the bay, including no consumption of Australian salmon due to elevated levels of PFAS found in the fish, so we know some sediment tests have been done, but are just not publicly available. We have no idea of the extent or adequacy of this data collection.

As mentioned before, the lack of testing of PFAS surface water and sediment testing in Botany Bay and the current lack of testing of PFAS in drinking water, should be considered a possible concern for the water from the Kurnell desalination plant. I have asked, but failed to get assurances from the EPA that PFAS testing routinely takes place at the Kurnell desalination plant. I have also not managed to find out what happens to water found contaminated with PFAS and whether it is just pumped back 300m offshore.

Adequacy and extent of PFAS data collection for Government project in Botany Bay currently under construction. I share my experience of a case study to demonstrate the reality of how PFAS data collection can be completely inadequate if 'decision-based evidence' is required from experts and auditors in order to meet the expectations of the commissioning client. (See comments in introduction about former KPMG partner Brendan Lyons who exposed this issue in NSW Government). The old adage of "he who pays the piper calls the tune" comes into play.

The Kamay Ferry Wharves (KFW), Botany Bay is a \$78million joint project involving Transport for NSW and the Department of Environment (a NPWS project). It involves the construction of two marine wharves over 200m long, one of which is at La Perouse and the other at Kurnell adjacent to the *Caltex Kurnell Refinery* and across the bay from *Sydney Airport* and the *Botany Industrial Park*, which are the three major investigation sites where PFAS is known to have leached PFAS into the bay.

Issue 1. Despite the primary purpose of the KFW project being to construct two marine wharves, in the EIS targeted site investigation for contamination over 93% of sample testing took place on land where a few car parking spaces were being created with less than 7% of the sampling happening in the marine environment where the construction was taking place and where contamination concerns, particularly with regard to PFAS, existed. Of that 7%, just a fraction of tests were for PFAS substances. This major failure in direction of resources was not explained. In addition, the investigators excused further issues with the nature of their testing when they stated "*as works were undertaken concurrently with geotechnical works, limited sample volumes were obtained resulting in a reduced analytical suite being analysed.*" These two major limitations necessarily

impacted conclusions that could be drawn from results. TfNSW would not comment on why such limited marine testing took place, particularly of PFAS, making relevance of results flawed from outset.

Issue 2. Given the location of these KFW wharves PFAS should have been one of the 'targets' of the targeted site investigation but testing for PFAS took place at just one bore hole at each site, unlike most other marine contaminants which was tested in several places. This further reduced representativeness of PFAS results. In quality control measures when only one location is tested, this does not provide enough representative data to form any conclusion about the presence of PFAS or not. A renowned former EPA Site Auditor who specialised in marine contamination, gave a detailed, pro bono, written opinion on this Targeted Site investigation stating it was "*grossly inadequate.*" He listed the investigations many significant failures and noted that sampling just one location at a site for PFAS '*cannot be considered to be representative*'. He suggested that in a targeted investigation it might be more appropriate to have up to 55 different locations for sampling not just one.

Issue 3. Additionally, the samples taken from this single borehole at each KFW site were at inappropriate depth levels where PFAS would not be expected to be found if present. No tests were done in the top 2.4m of sediment where PFAS might be expected to be found given it has only been used in the past 50 years and it is not a heavy metal that might sink through sediment layers.

Issue 4. The Sampling and Analysis Quality Plan is a critical document in a contamination investigation. It includes a Conceptual Site Model (CSM) which is meant to very specifically detail: sources of contamination; pathways contaminants can travel; potential receptors and their risk factor. This document guides the particular focus and needs of data collection. The document for the KFW under 'potential sources' merely included the very generalised words "*historical onsite and surrounding land uses.*" It did not clearly identify contaminants of greatest concern, such as PFAS. It did not identify why PFAS was of particular concern which was due to the close proximity of three EPA PFAS investigation sites at nearby Sydney Airport, Caltex Kurnell and the Botany Industrial Plant. And it did not acknowledge why PFAS was of particular concern because of its ability to mobilise from sediment into water and the ease with which it travels through water.

Frenchmans beach at La Perouse is a popular family beach with thousands of swimmers and beach users everyday in summer. It is situated just metres from the construction activity for the La Perouse wharf. It was never recognized anywhere in a 4700 page EIS for the project, but more importantly, the swimmers were not clearly detailed in 'potential receptors' in the CSM. Construction workers were recognized by name. Future wharf users were recognized. But swimmers and beach users, who were the most 'at risk' group of being exposed to disturbed PFAS sediment mobilising in water, were merely referred to as "*other sensitive receptors*". Basic precautionary principles were therefore not applied to prevent possible exposure to PFAS and possible subsequent adverse health outcomes to beach goers. This was repeatedly pointed out to the EPA and various Government agencies but their existence was never acknowledged or actions listed to protect them. It was an inconvenient truth that appeared to be too hard to address. Recognizing those at risk is absolutely critical to determining the needs of data collection.

Issue 5. The EPA in their KFW EIS response to submission noted that "*the nature and extent of contamination have not been fully assessed. Furthermore, the reports do not identify mitigation and management measures to safeguard the environment and people during construction and operation*". They also recommended that a detailed Site Investigation was conducted prior to approval. However, the EPA concerns were effectively overruled in TfNSW response to submission. Again, this would appear to be a difficult situation, when an agency under the jurisdiction of the Department of Environment, is putting obstacles in the path of an NPWS Department of Environment project that is being overseen by the Department of Transport. The EPA did conduct behind the scenes negotiations with TfNSW with concerns being relegated to conditions of consent. Those conditions of consent were so carefully worded that effectively they constituted very little and did not address the concerns present to protect those at risk.

As I have listed above, scope of works can be written to ensure PFAS is not looked for in the right place. Very limited sampling can be done, sampling conclusions can be unreliable and when the public have limited knowledge, there are many ways to make it appear there is 'nothing to see here'. There were many, many more concerning issues in terms of data collection with the KFW project. I have just highlighted a few.

(b) the adequacy of the reporting and disclosure requirements to the public of monitoring and findings on PFAS contamination of water.

Sydney Airport. As mentioned in (a) we are still waiting for multiple PFAS contamination investigations from 2005; 2012; 2017; and 2020 to be available from Sydney Airport. Disclosure can clearly be refused, avoided, or delayed over decades if you are a powerful enough organisation, or if Government supports information not being disclosed. Sydney Airport is on Commonwealth leased land and should be subject to disclosure.

EPA. The EPA does not include a pin for Sydney Airport on their PFAS contamination sites map. When I have repeatedly brought this up with the EPA, they claim it is because it is Commonwealth land and not under NSW Government jurisdiction for an investigation. I have suggested for the sake of transparency for the public, they include a pin with the words 'not under NSW jurisdiction', but this has never been done and if looking for PFAS on the EPA map you would not be aware that Sydney Airport is a significant PFAS contamination site. Clearly, this is not adequate disclosure on the part of the EPA/Government and possibly reflects a disturbing culture of hiding PFAS disclosure whenever possible. The EPA/Government should acknowledge PFAS threats particularly when it is on Government land or a Government project.

(c) the identification of communities at risk from PFAS contamination.

KFW wharves project. As mentioned under (a) in KFW wharves project the extremely comprehensive 4700 page Environmental Impact Study for the KFW project, including a Conceptual Site Model for contamination, failed to acknowledge the extremely popular Frenchmans beach, at La Perouse which was just metres from the wharf construction area. Thousands of swimmers and beach users including children and pregnant women could be at risk from ingesting or having dermal contact with disturbed sediment (from wharf piling operations & marine construction vessels operating). This sediment could have potential contaminants including PFAS with subsequent possible adverse health outcomes for those exposed. Even when this was pointed out to TfNSW, the Department of Planning, the Department of Environment and the EPA, there was still no action to recognize this group or to apply precautionary principles to protect this 'at risk' group. Given that the data collection was extremely limited and 'grossly inadequate' this is a huge concern. There needs to be a body where the public can highlight such significant failings and have them addressed, or at least have answers as to why nothing is being done.

Sydney Airport. In a SMH article of December 2018, PFAS investigative journalist Carrie Fellner recorded that in a report she had seen under FOI, about the 2012 investigation,

"scientists noted that the airport's former fire training ground and its surrounds were being used "for recreational open space in the form of walking tracks and parkland" and was open "to the public including children and animals". The area had also been earmarked for a kennel for Australian Federal Police sniffer dogs. Three soil samples at the former fire training ground exceeded health guidelines. The maximum was 4.21 mg/kg, nearly four times the safe level of 1.1 mg/kg for soil in public open space. The levels were high enough that they would "preclude use of the site for recreational land use"

This is another example of lack of identification of communities at risk of PFAS contamination. The first investigation into PFAS was back in 2005 when PFAS was first being 'red flagged' so precautionary principle should have been applied to this land.

(d) the adequacy and effectiveness of government engagement with and support for communities disproportionately affected by PFAS contamination, including First Nations communities.

Over the past decade I have tried to engage with many different Government agencies about my valid concerns about PFAS in Botany Bay including detailing my many concerns about the failings of the KFW project. But there is little 'meaningful engagement' with the public on PFAS, it is superficial at best. Community events are often just manned by communications staff with no in-depth knowledge. The events appear to just be to allow box ticking that the preredquired amount of engagement has taken place. When I have submitted in-depth written questions about processes, and results, or query how PFAS investigations have been conducted, and the conclusions reached, I receive few answers and little clarification to my concerns. I find I am stonewalled. It appears engagement only happens when the Government is forced to engage when a strong community body or media influence comes into play. There should be an independent body to respond to concerns, not the EPA where Public servants appear to risk jobs if they say too much or give frank and fearless advice.

(e) sources of exposure to PFAS, including through historic and current firefighting practices.

EPA role. If EPA investigation sites are not being appropriately monitored and information not being shared, such as in the case of possibly one of the largest PFAS contamination sites in Australia, Sydney Airport. It does not bode well for those sites not being monitored by the EPA.

KFW. As mentioned before, the case study for the Government KFW project avoided listing sources of exposure in the critical Conceptual Site Model document. Although, Sydney Airport and other sources of contamination were mentioned in the Targeted site investigation and the Sampling and Analysis Quality Plan in obscure places, they were not mentioned in the obvious places where you would expect it to be listed, thus effectively completely de-emphasizing PFAS as an issue to be aware of. Indeed in the final **KFW** Site Auditor report, written long after the project had been approved, the site auditor did not highlight the obvious PFAS contamination sites and instead commented that *"Botany Bay has some sources of per- and polyfluoroalkyl substances (PFAS) in the area making it difficult to attribute detections to individual sources"*.

(g) the impacts, monitoring and mitigation of contamination on livestock, domestic animals and wildlife, including water birds, fish and other aquatic life.

Fisheries have stated that fish in Botany Bay are known to have elevated levels of PFAS and have issued dietary advice including no consumption of Australian Salmon caught in the bay. There is an urgent need for more studies into the effects of PFAS on aquatic life. Also there is an urgent need for fisherman in the bay to be alerted to these precautionary dietary

measures as I frequently see fishermen within the bay catching fish, including salmon, presumably for home consumption. When I alert these fishermen to Fisheries advice they are unaware of these dangers.

(l) the effectiveness of remediation works on specific sites and international best practices for remediation and management of contaminated sites.

If initial data collection is intentionally, or unintentionally designed to be inadequate and 'not find' PFAS, then testing for waste management purposes and remediation is not done. It is critical that initial data collection is adequate and this is a critical area where reform is needed.

(m) areas for reform, including legislative, regulatory, public health and other policy measures to prevent, control and manage the risks of PFAS in water supplies. Australia needs to implement more stringent precautionary guidelines to PFAS in drinking water in line with US and European Governments. There needs to be an independent, non Government body, with adequate funding to regularly monitor PFAS in water supplies, with the power and legislative ability to act quickly if and when needed. This should not be the EPA who is not sufficiently independent of Government.

(n) the impact of taking contaminated water sources offline on water security, including the effects of diverting water between communities; the social, economic and logistical implications of such diversions, and the challenges posed by PFAS contamination to water availability, drought management and emergency supply planning. The Kurnell water desalination plant was built in 2007 in response to severe drought and concerns about Sydney water supplies. Although it has only operated full time for a handful of years since it was built, it is now working full time and supplies 15% of Sydney's water. It plans to expand and supply double the current amount. If it was supplying up to 30% of Sydney's water this would make Sydney extremely vulnerable if it was to go offline.

(o) other related matters

Science of Gamay. A recent technical report from Sydney Institute of Marine Science, entitled the Science of Gamay, has been designed to be a comprehensive review of ecological knowledge of Botany Bay (Gamay), including contamination threats. The document is intended to highlight gaps in knowledge and inform future areas for scientific research as well, more importantly, to be used to inform policy and management actions for Botany Bay by Government agencies and other organisations. It appears to be part of the Gamay Initiative and the Gamay Project which is sponsored by a number of organisations including the Department of Primary Industries and Department of Planning and Environment. Yet despite the publication highlighting most marine contaminants found in the bay (with multiple references), the publication fails to mention PFAS at all. The mention of PFAS is conspicuous by its absence and this is particularly surprising when one of the contributors for whom multiple articles are cited, and who is one of the people running the Gamay project, is a leading expert in PFAS in Australia so would be well aware of its significance in Botany Bay. This may well be an unfortunate omission, but like the EPA's failure to include Sydney Airport as a PFAS investigation site it is extremely unfortunate if this is a document held up to guide management actions in Botany Bay yet PFAS is not mentioned.

Given legacy PFAS contamination issues in Botany Bay from Sydney Airport, from Caltex Kurnell, and from the Botany Industrial Park and the fact that comprehensive PFAS sediment contamination studies have never been done in the bay (or information has never been publicly released). It would seem imperative that a thorough PFAS sediment contamination investigation is done in the bay to determine possible future impacts on the Kurnell desalination plant water supply, particularly in view of intermittent port dredging which stirs up sediment and potential PFAS contamination and the fact that the desalination plant water intake pipes are just off the Kurnell peninsular, close to the mouth of Botany Bay.

The KFW project contamination study for PFAS is one of the few sediment contamination investigations done into PFAS in the bay and it was deeply, deeply flawed throughout. It only assessed a tiny area of sediment in the bay, and there are considerable concerns around the data, so it should not be cited as evidence that PFAS is not an issue in sediment in the bay. A former EPA contamination expert opined that the KFW Targeted site investigation for PFAS was "grossly inadequate".

END