



LOTSEARCH

Spatial Intelligence | Mapping Risk

Contaminated Land Updates

Howard Waldron | Lotsearch

Mike Atkinson | GHD

12th Feb 2019

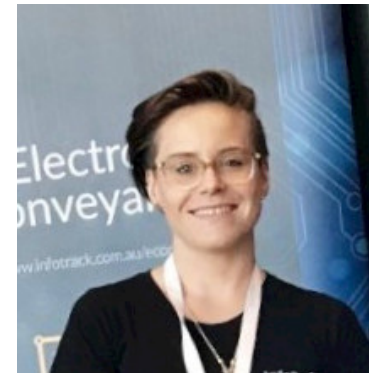
Presenters



Howard Waldron
Director & Co-
Founder Lotsearch



Mike Atkinson
Executive Advisor
GHD



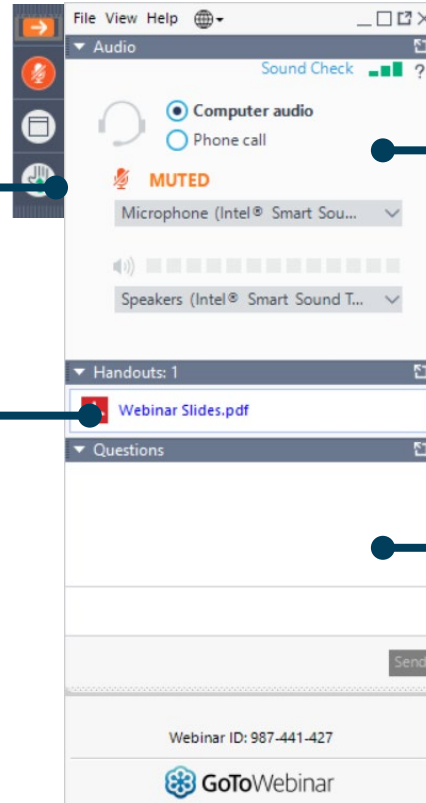
Krystal Cullinan
Product Manager
InfoTrack



Housekeeping

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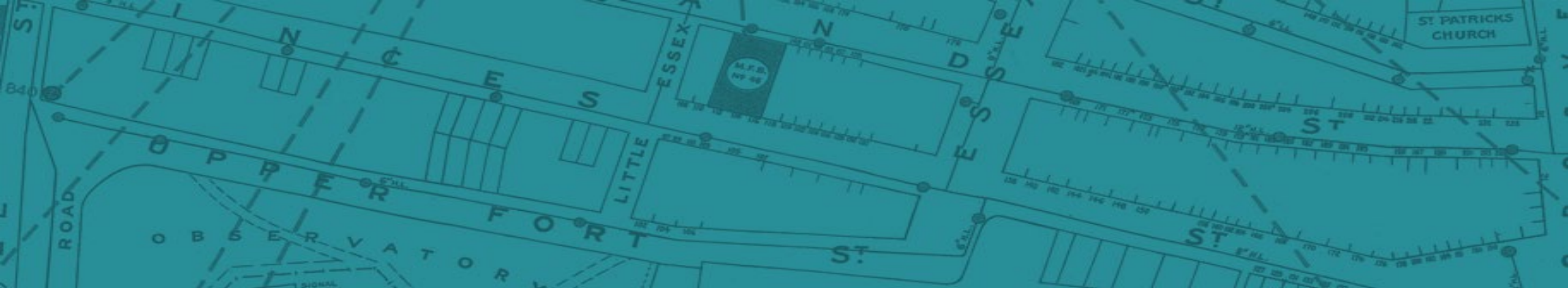
Select to **download** a copy of any handouts.



You can select **computer audio** or **phone call**.

Type any **questions** you have into this section and click send.





A bit about us...



Speakers

Howard Waldron
Co-Founder & Director
Lotsearch Pty Ltd



After graduating with a BSc in Geography from the Loughborough University in 2000, Howard joined Landmark Information Group who the largest provider of environmental risk reports in the UK and Europe.

Howard co-founded Lotsearch in 2014 which has quickly become the market leader in providing comprehensive environmental risk reports in Australia.

Using the latest geographical information systems (GIS) and database technologies, Lotsearch turn data into meaningful information to help protect you and your client's interests.

Mike Atkinson
Executive Environmental Advisor
GHD Advisory



Mike has a unique track record in developing strategies and applying methodologies to identify and assess potentially contaminated sites in large property portfolios for government, investor and corporate clients including Ausgrid, Sydney Water, GE and Macquarie Bank in Australia, and the National Health Service, British Coal and British Telecom in the UK.

He spent 3 years on secondment to Barclays Bank's Environmental Risk Management Unit in London, where he worked to assess the impact of site contamination on lending decisions and the value of land taken as financial security.



EUROPE MAP WITH COUNTRIES



Landmark
INFORMATION

Leading providers of Environmental
risk reports in the UK and Europe.



LOTSEARCH
Spatial Intelligence | Mapping Risk

2014
Year Established

5000+
Reports Completed

250+
Number of Clients



Contaminated Land Issues

- Intro / Background
- Contaminated Land
 - Definitions
 - Sources
 - New Contaminants
- Risks & Liabilities
- Case Studies
- Report Examples
- Q&A



Contaminated land

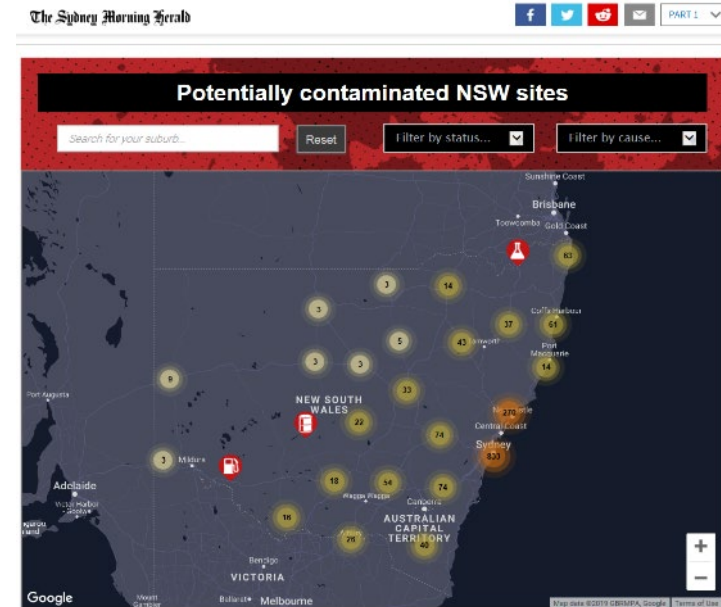
It is estimated that there are **over 160,000 potentially contaminated sites** in Australia, and there is a growing awareness of the risks posed by contaminated land as highlighted in 2017 through an ABC Four Corners program and a major Sydney Morning Herald investigation.

This is amplified by changes in the residential and commercial property markets, a growing population, increased demand for housing and infrastructure, and the subdivision and re-use of land in urban areas.

Whilst state-based environmental and planning regulations are in place to control the most contaminated sites, or contamination disturbed during site redevelopment, **the majority of potentially contaminated sites remain unidentified.**

This presents a **significant commercial risk** to property owners and investors, where contamination could affect the safety of site users, the integrity of buildings and structures, and the value and saleability of property.

<https://www.smh.com.au/interactive/2017/toxic-state/site/>
<https://www.abc.net.au/4corners/contamination/9032140>



Contaminated Land

What is it?

Legal Definition

Contamination of land, for the purposes of the NSW Contaminated Land Management Act 1997, means the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.

Practical Understanding

Contaminated land contains substances that are hazardous to human health or the environment.

Commercial Consequences

As well as causing harm to site users and the environment, contaminated land can have legal, financial and business interruption consequences. In commercial terms, perception of a contamination problem can be as important as the technical and scientific reality.



Sources of Contamination

Typical Sources of land contamination include:

- Industrial processes
- Chemical and fuel use
- Sudden and accidental spills and releases
- Long term leaks from storage tanks and pipework
- Waste disposal on site
- Hazardous building materials
- Plant & equipment

Wide range of contaminants including:

- Toxic metals (lead, arsenic, mercury)
- Hydrocarbons (petrol, diesel, oil)
- Solvents (benzene, white spirit)
- Pesticides (DDT, dieldrin)
- Asbestos
- Radiation

'New' contaminants being identified:

- PFAS



New Contaminants - PFAS

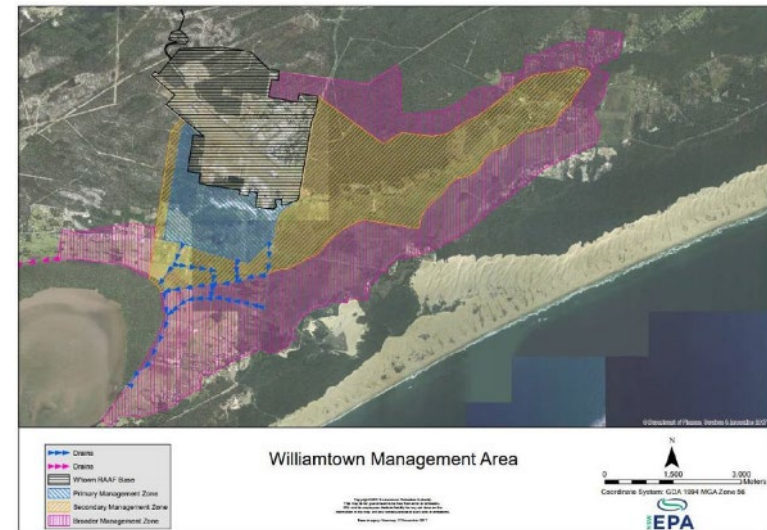
PFAS are a group of chemicals that include perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA).

Useful products including fire resistance and oil, stain and water repellence, used mainly in **fire fighting foams**, hydraulic fluid and also in non-stick cookware and waterproof clothing.

PFAS are an emerging contaminant, which means that their ecological and/or human health **effects are unclear**.

PFOS and PFOA are both very **stable chemicals** that do not break down in the environment and can persist for a long time in the environment.

Like many chemicals, traces of PFAS are likely to be found in groundwater, surface water and soils in many urban areas due to their **wide-spread** use in everyday household items and their persistence in the environment.

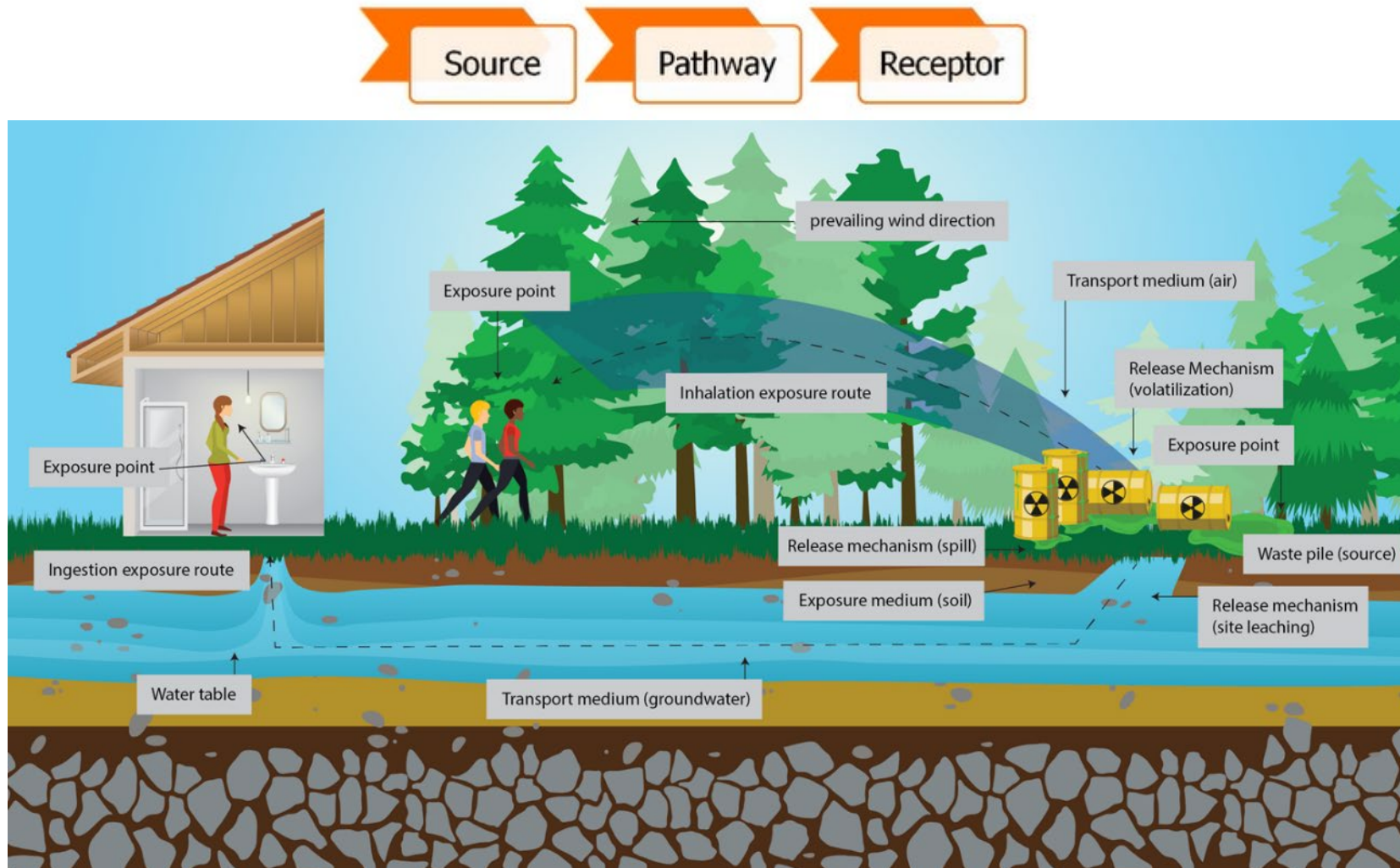








Contaminated Land Management



Contaminated Land Management

Risks & Liabilities – ‘Polluter Pays Principle’

Most legislation dealing with contaminated site management is premised on the principle that the **polluter should be responsible** for the remediation of contaminated land.

However, recognising that in some circumstances it may be impractical or impossible to allocate liability to the polluter, most legislation establishes a **hierarchy of liability**.

Generally, the owner or occupier of the contaminated site will be the next most appropriate person to be allocated liability, followed by lenders (e.g, mortgagees) and local authorities.

In practice, **‘buyer beware’**.



Contaminated Land Management

Key Parties

Environmental Protection Authority

- Protect Human and Environmental Health
- Contaminated sites notified to the EPA
- Environmental Legislation (e.g. NSW CLM Act)
- Contaminated Land Registers
- Licensing & Enforcement



State & Local Government

- Planning & Development Process

Chartered Surveyors and Valuers

- [Environmental Risks and Global Real Estate, 1st Edition](#)
[November 2018](#), RICS and API

Environmental Consultants

- Preliminary Site Investigation (\$5-10k)
- Detailed Site Investigation (\$10-100k+)
- Remediation (\$100k-\$millions)
- Contamination Management Plans
- Site Audit Statements




Potentially contaminated land

Site not identified or notified to EPA or Council



We can help! Lotsearch Contaminated Land Screening Report

Contains: EPA Register & Datasets, Historical Business Directories, PFAS Investigation Areas and Waste Sites.
Includes: Contaminated Land Screening Assessment by GHD.

**LOTSEARCH**
ENVIRO RESIDENTIAL

Contaminated Land Screening Report

Lotsearch Reference: LSSample01 SR
Client Id: Client001
Report Date: 25 Oct 2018 18:36:23
Address: 52-62 John Street, Erskineville, NSW 2043
Lot & Plans: Lot 54, DP852576

Disclaimer:
The purpose of this report is to provide an overview of some of the site history and environmental risk information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to the use of this report are set out at the end of this report.

Contaminated Land Screening Assessment Residential Property

Site: 52-62 John Street, Erskineville, NSW 2043
Lot & DP: Lot 54, DP852576
Lotsearch Reference: LSSample01 SR
Date of Issue: 25 Oct 2018

This Contaminated Land Screening Assessment has been prepared to assist interested parties in considering the potential for contamination to be present on the subject residential property (the site), information is provided below about the basis of this assessment, its limitations and how you can get further advice and guidance on additional investigations that could be undertaken.

For additional information please refer to the User Guide. If you have any questions, or need further advice please email support@lotsearch.com.au or call our customer support team on (02) 8287 0680

A. Potential for contamination to affect the site

Unlikely

Possible

Likely

B. Inclusion of the site on a contaminated land register by the environmental regulator

Yes

C. Inclusion of the site or the surrounding area (2km) on an environmental regulator's PFAS (per and polyfluoroalkyl substances) register or program

Yes

Next Steps: To better understand the contamination rating of a property you should discuss your screening assessment with an experienced contaminated land consultant. For further advice about how to manage potential contamination issues and discuss your property with a technical consultant, please contact our customer support team. Email: support@lotsearch.com.au Phone: (02) 8287 0680

This Contaminated Land Screening Assessment has been completed by GHD Pty Ltd (GHD) based solely on the accompanying Lotsearch report. No physical site inspection or survey has been carried out and therefore no consideration has been given to current or proposed uses of the site, or other conditions that may be present. This assessment does not comprise a Phase 1 preliminary site investigation as defined under Schedule B2 - Guideline on Site Characterisation, National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013). As such, no expressed warranty is given by GHD in relation to the accuracy or completeness of the data reported, the actual state or condition of the property, or the suitability of the site for any current or proposed use. This assessment must be read in conjunction with the accompanying Contaminated Land Screening Report which is subject to Lotsearch's Terms and Conditions.

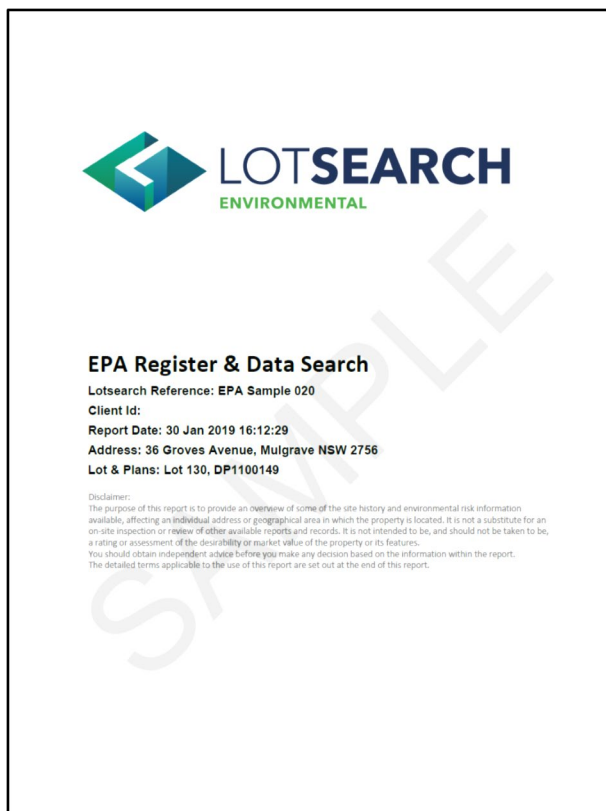
Assessment provided by GHD Pty Ltd.

\$110 Residential Site | \$550 Commercial Site | Delivery 2-5 Business Days
Currently Available in Lake Macquarie, Newcastle, Shellharbour, Sydney & Wollongong.
Due to launch in Melbourne by End of Feb. Available to order through InfoTrack.



We can help!

Lotsearch EPA Register & Data Report



EPA Search Datasets



New South Wales	Victoria
Contaminated Sites Notified to EPA	Current Priority Sites
Contaminated Land Records of Notice	Former Priority Sites & other Pollution Notices
Former Gasworks	EPA Environmental Audit Reports
EPA PFAS Investigation Program	Groundwater Zones with Restricted Uses
Licensed Activities under the POEO Act 1997	EPA PFAS Investigation Program
Delicensed POEO Activities still Regulated by the EPA	Licensed Activities
Former POEO Licensed Activities now revoked or surrendered	Former Licensed Activities
Other Sites with Potential Contamination Issues Known to the EPA	Works Approvals
	EPA Victorian Landfill Register
	EPA Prescribed Industrial Waste

\$27.50 Per Site | Delivery 2-5 Business Days | Available Across NSW & VIC
Order Through InfoTrack (Property Certificates)



Case Study - PFAS

ABC NEWS
Just In Politics World Business Sport Science Health Arts Analysis

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PFAS crisis opens residents to compensation payouts after federal inquiry report tabled

By Kevin Nguyen
Updated 8 Dec 2018, 8:30am

A federal parliamentary inquiry has recommended the Federal Government offer financial compensation to residents caught up in the PFAS contamination crisis.

The communities of Williamstown in New South Wales, Oakey in Queensland and Katherine in the Northern Territory have been campaigning for some form of financial redress since it was revealed properties were contaminated with potentially toxic PFAS chemicals from firefighting foam used on nearby defence bases.

The substance, known as per- and poly-fluoroalkyl, has been used in firefighting foams at dozens of bases across the country since 1970, and the chemicals have remained in the soil and groundwater at some Australian airports and defence bases.

The Air Force started phasing out the use of the firefighting chemical in 2004 and undertook a national review of its impact on the environment around bases.

Residents at some impacted sites, such as Richmond Air Base in NSW, were advised by the Department of Defence to [reduce their locally sourced fish, egg and red meat intake](#) due to contamination fears.




PHOTO: Firefighting foam containing PFAS chemicals was used by Airservices Australia until 2010. (CRC CARE)

RELATED STORY: Food contamination warning issued to residents near NSW air base

RELATED STORY: 'World's next asbestos disaster': Fears grow for firefighters exposed to toxic foam

RELATED STORY: 'Our hands were saturated in it': Workers angry contamination risks not explained at airport site

Key points:

- Department of Defence is looking into 28 sites contaminated with PFAS chemicals
- After seven months of investigation the inquiry found residents should be compensated
- Test results from 2013 found aviation firefighters had 20 times the normal level of toxic chemicals in their blood

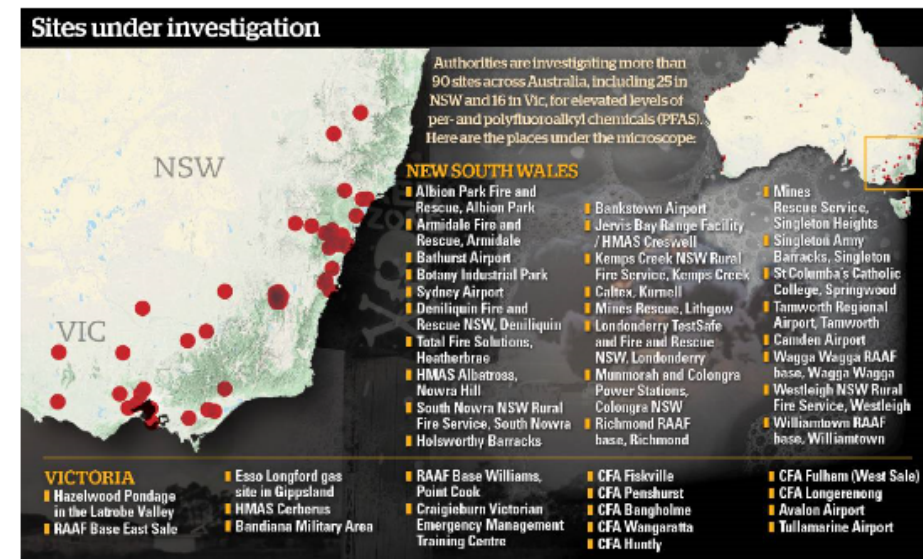
Williamstown, NSW

Katherine, NT

Oakey, QLD

National coalition launches for residents of country's 90 toxic sites

"The aim, he said, was to create a unified national voice that could force the government to clean up contaminated sites and compensate people for depressed property values and business losses".



<https://www.abc.net.au/news/2018-12-03/pfas-contamination-residents-compensated-federal-inquiry/10576552>

<https://www.smh.com.au/national/national-coalition-launches-for-residents-of-country-s-90-toxic-sites-20180702-p4zp1f.html>

Nelson Parade, Hunters Hill, NSW



THE HILLS

Further delay in the clean-up of radioactive contamination at Nelson Parade

John Besley, Northern District Times
December 1, 2015 4:53pm



Hunters Hill Mayor Richard Quinn has slammed the delay of the removal of radioactive waste from Nelson Parade, calling the situation "gravely disappointing."

A Government Property NSW report released last week revealed that the clean-up of radioactive waste that was scheduled to commence earlier this year has been delayed until 2016-17 with the completion of the process in 2018-19.

The delay is due to a change in the location of where the waste will be removed to, after the Baird Government's original plans to transfer the waste to Kemps Creek in Western Sydney were scrapped following public uproar from Kemps Creek residents.

"I'm certainly not happy," said Cr Quinn.

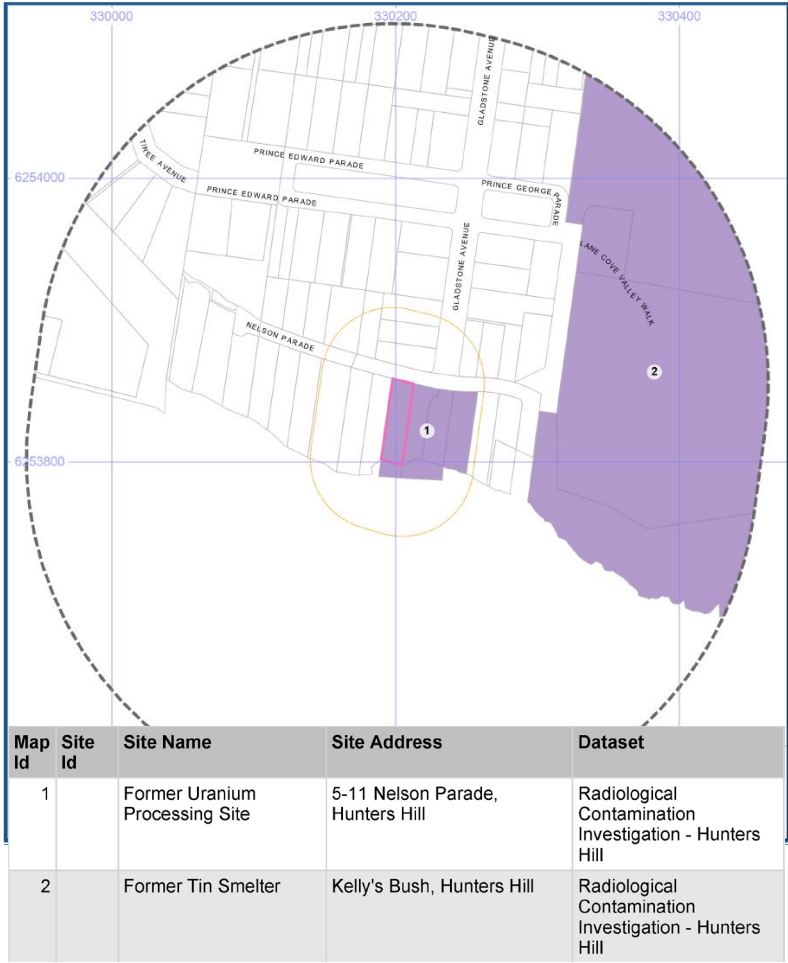
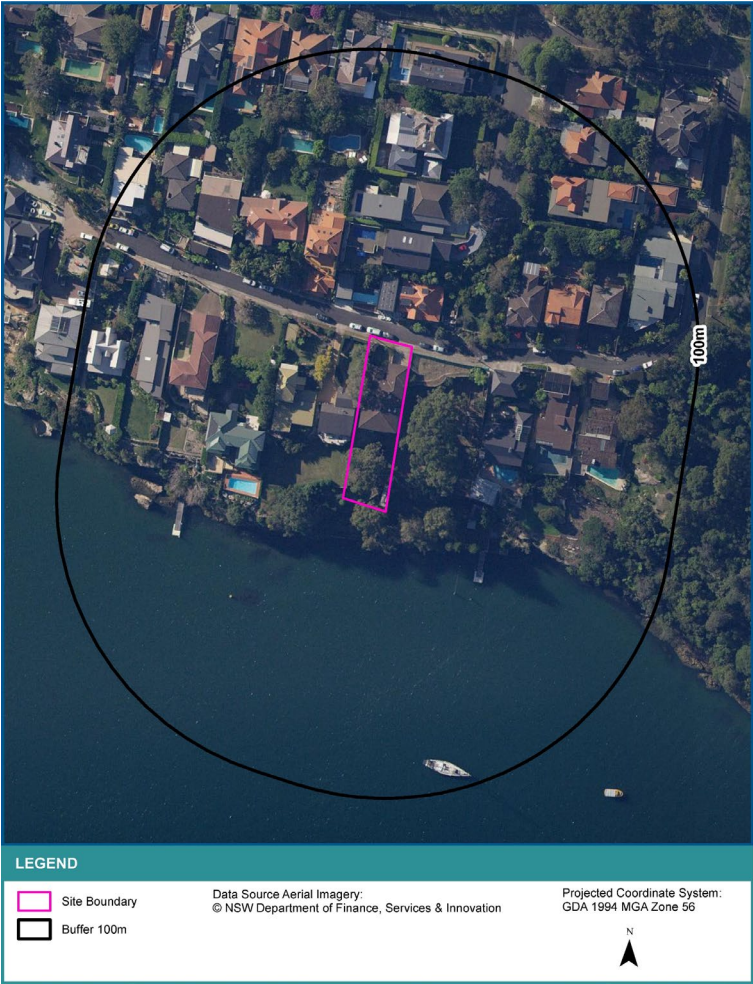
Former Uranium Smelter (1911-1915)

The government has bought contaminated blocks at 7, 9 and 11 Nelson Parade

Parliament inquiry recommending the site be decontaminated



Lotsearch Sample – Hunters Hill



Camden High School, Camden, NSW

ABC NEWS LOCATION: Sydney, NSW [Change](#)

[Home](#) [Just In](#) [Politics](#) [World](#) [Business](#) [Sport](#) [Science](#) [Health](#) [Arts](#) [Analysis](#) [Feedback](#)

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Ex-students and teachers raise fears of cancer cluster at old Camden high school in Sydney

7:30 | By Hayden Cooper
Updated 24 Jul 2013, 4:16pm

Former students and teachers of a New South Wales high school have raised fears of a cancer cluster after dozens became ill and some died.

The old Camden High School in Sydney's west was closed in 2001 after contamination was discovered in soil underneath classrooms.

The school was built on the site of a gasworks that had been in operation since 1911.

Now lawyers say 70 people have joined an investigation into the school to determine the cause of a range of recent illnesses.

The group includes people with various forms of cancer, brain tumours and children with birth defects. Some members of the group represent former teachers and students who have died.

"I don't want to be alarmist about it under any circumstances, but at the moment at this very early stage it could well be defined ultimately as a cancer cluster," lawyer Jim Marsden said.

Mr Marsden says the complaints could lead to a class action against the NSW Education Department.

"If ultimately we find that a department or a number of departments are responsible and then going on from there there has been illnesses caused as a result of these contaminations, ultimately whoever is responsible must be held accountable," he said.

The ABC's 7.30 spoke to several former students who blame their illnesses on the old gasworks site.



VIDEO: Watch Hayden Cooper's report (7.30)



PHOTO: The former school was built on the site of a gasworks. (ABC 7.30)

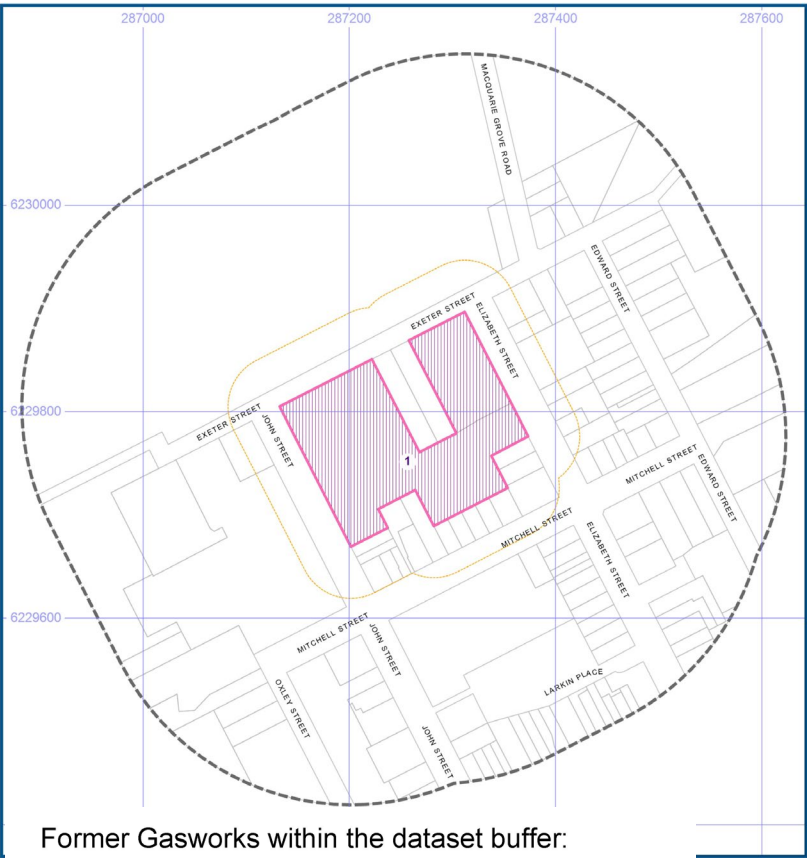
School was built on the site of a Gasworks.

After deaths and illness, a class action against NSW Education Department is likely.

School was closed in 2001 after contamination was discovered in soil.



Lotsearch Sample – Former Camden High School



Former Gasworks within the dataset buffer:

Map Id	Location	Council
1	John Street, Camden	Camden Council



Brunswick, VIC

NEWS

Spotless slammed by Supreme Court on Brunswick apartment block contamination

Ben Butler, HeraldSun
October 6, 2007 12:00am



TACTICS adopted by listed catering and cleaning group Spotless lacked "commercial morality", a Supreme Court judge said yesterday.

Justice David Byrne said the company has used the corporate veil of the law to claim it was not responsible for the chemical contamination of a Brunswick apartment block.

He said the company's course of action "... reflects no credit on the commercial morality" of those involved.

Spotless chief executive Peter Wilson defended the company and its people. He said an appeal was being considered.

In a 233-page judgment, Justice Byrne ordered Spotless to pay between \$3 million and \$4 million to Premier Building and Consulting for the clean-up of a residential development in Barkly St, Brunswick, next door to a former dry-cleaners operated by the company.

Although Spotless has not operated a dry-cleaning business at the address since 1989, Justice Byrne found it liable under the Environment Protection Act.

The judgment may have significant consequences for Spotless which operated dry-cleaning businesses across Australia.

A nationwide clean-up of all these sites could cost the company hundreds of millions of dollars.

However, the amount is not clear because the company says it does not know precisely how many sites there are.

The case has been running since 2003 and legal costs, expected to be millions of dollars, will be decided later this year.

Three Spotless subsidiaries operated dry-cleaners at the Brunswick site

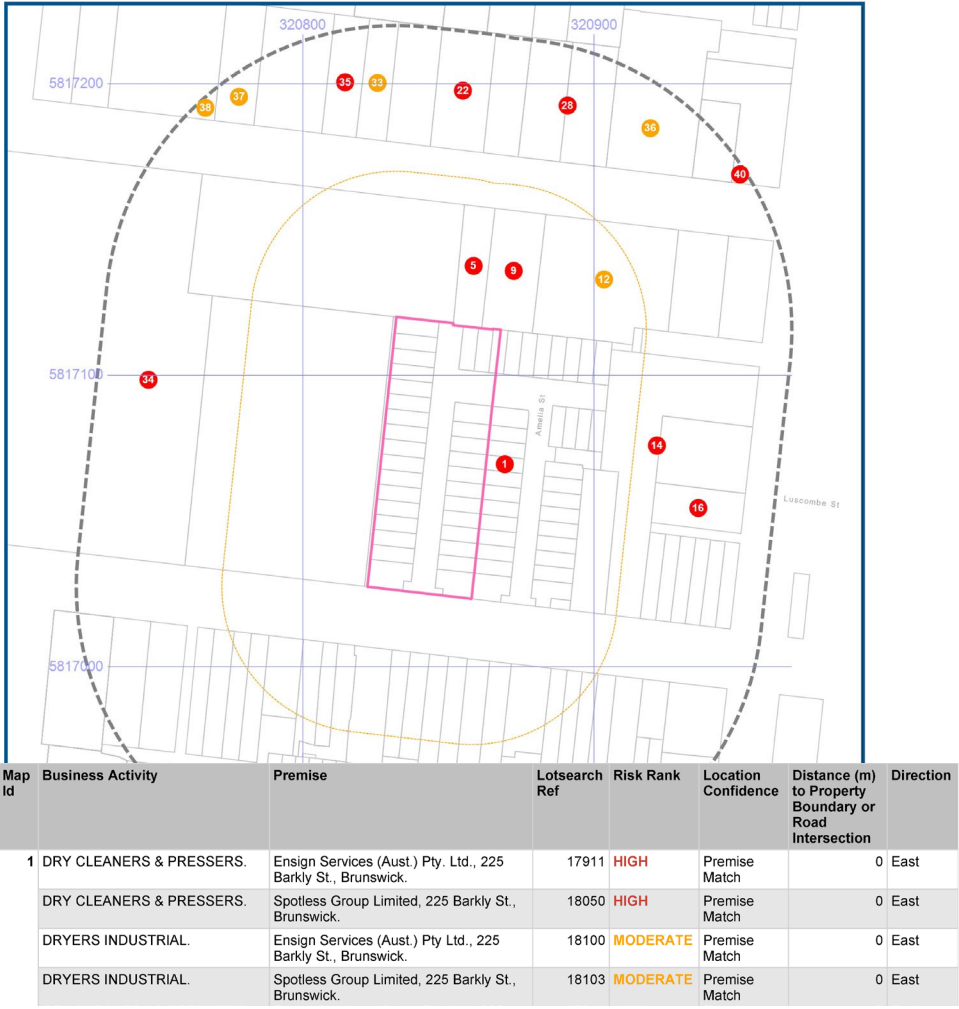
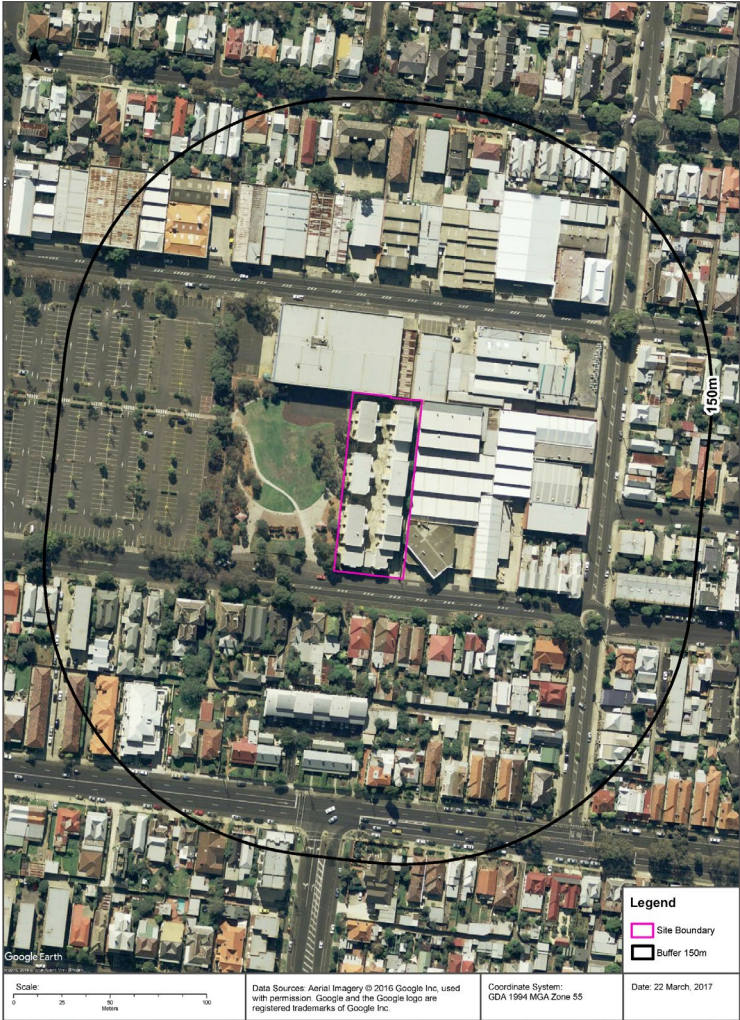
The 49 unit project pre-sold the flats without first obtaining Environment Protection Authority certification that the land was habitable.

The company had to cancel the sales AND pay construction costs of the building, forcing them into administration.

Colonial First State, was the major investor behind the \$14 million project.



Lotsearch Sample – Brunswick



Centenary Park, Homebush West

EXCLUSIVE NATIONAL NSW DEVELOPMENT

'Appalling': Contamination probe delay at a sprawling Sydney housing estate

By Megan Gorrey

February 11, 2019 – 12:00am



f t e A A A

9 View all comments

The owners of a sprawling housing estate in Sydney's west are being ordered to probe for a potential leak of chemicals - more than three years after the possible contamination risk to thousands of residents was first recognised.

Since 2015, Ford Motoring Company has suspected chemicals, including ammonia, could have spread from a former waste dump at its old factory to the residential precinct at Centenary Park in Homebush West.



Centenary Park apartments overlook the former landfill site used by Ford motoring company. The fenced-off site was remediated in the 1990s. JAMES BRICKWOOD

But the extent of any contamination, or any safety risk to the thousands of residents, remains unknown.

That is because Ford and the developer, Telmet Ventures, have not agreed for Ford to have access to test for the presence of any chemicals on the site.

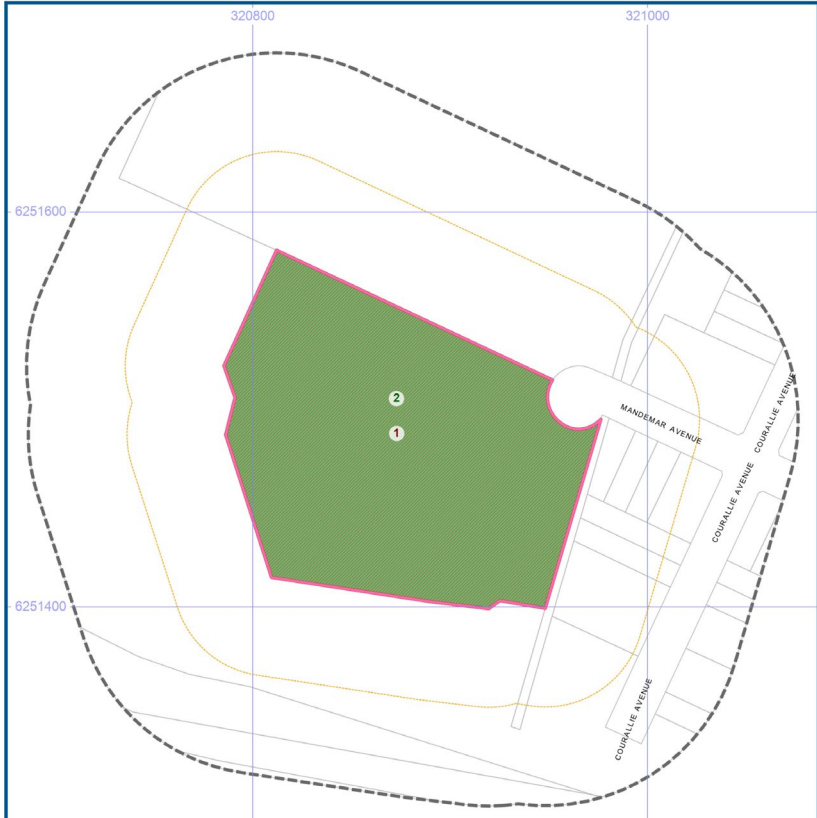
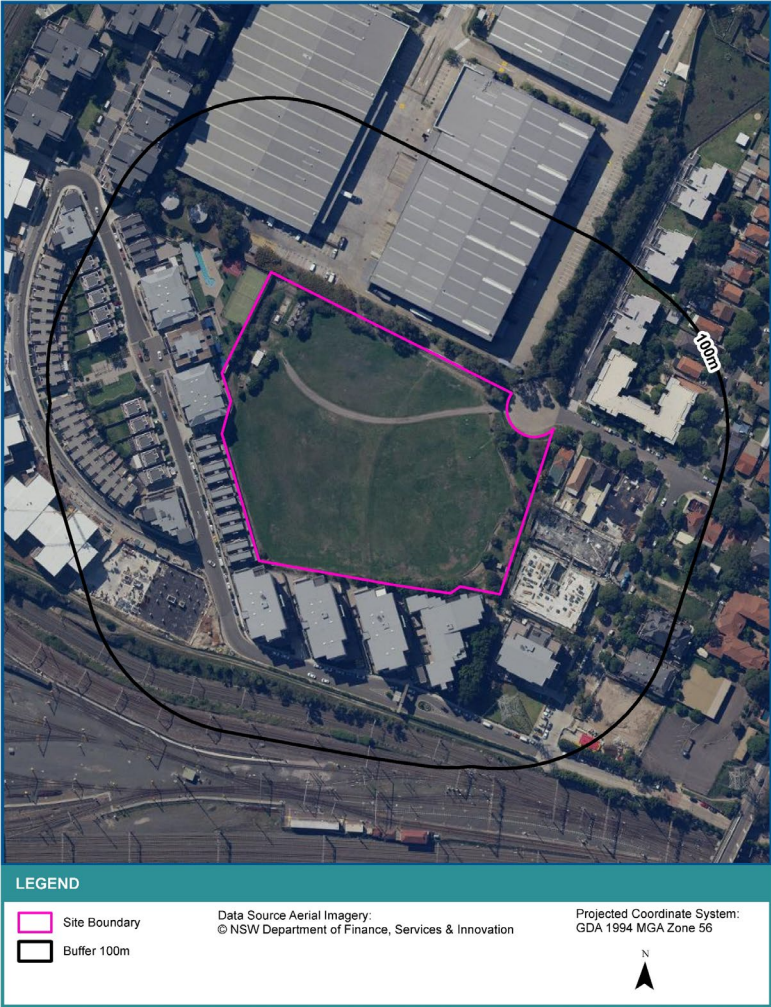
Since 2015, Ford Motoring Company has suspected chemicals, including ammonia, could have spread from a former waste dump at its old factory to the residential precinct at Centenary Park

"The work required by the EPA is to investigate whether groundwater from the landfill is moving towards the Centenary Park development site and whether any contamination is present."

Strathfield MP Jodi McKay said, "I think it is just appalling that there could be 2500 residents who've been exposed to very dangerous chemicals for four years,".



Lotsearch Sample - Centenary Park

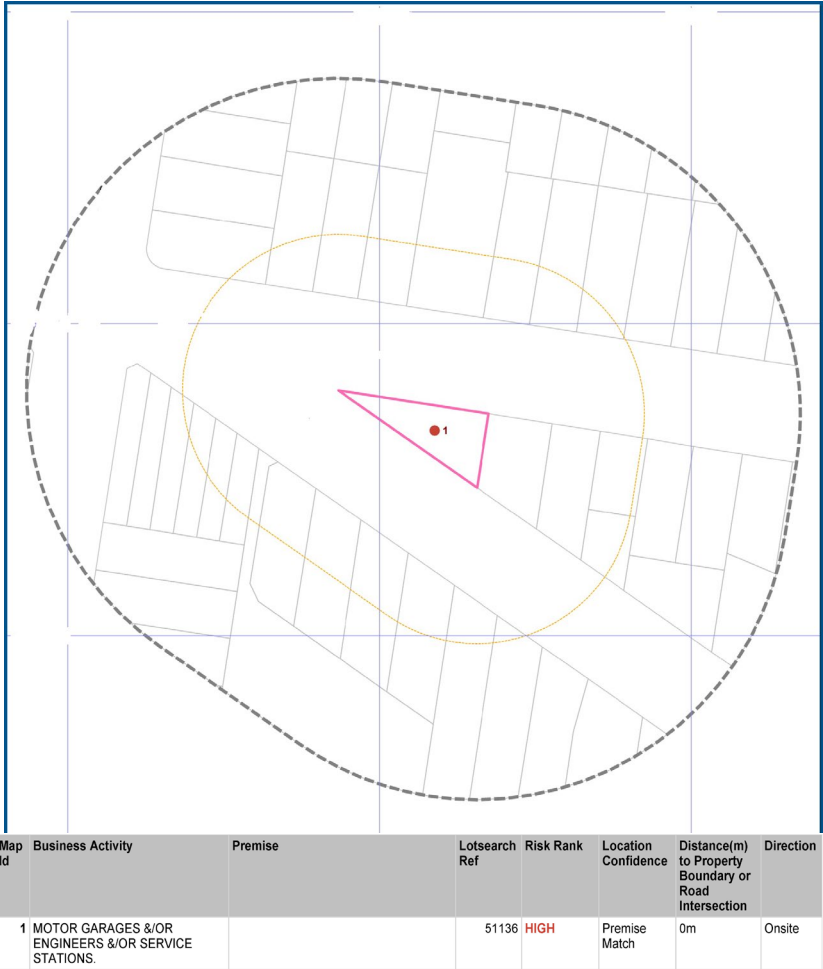
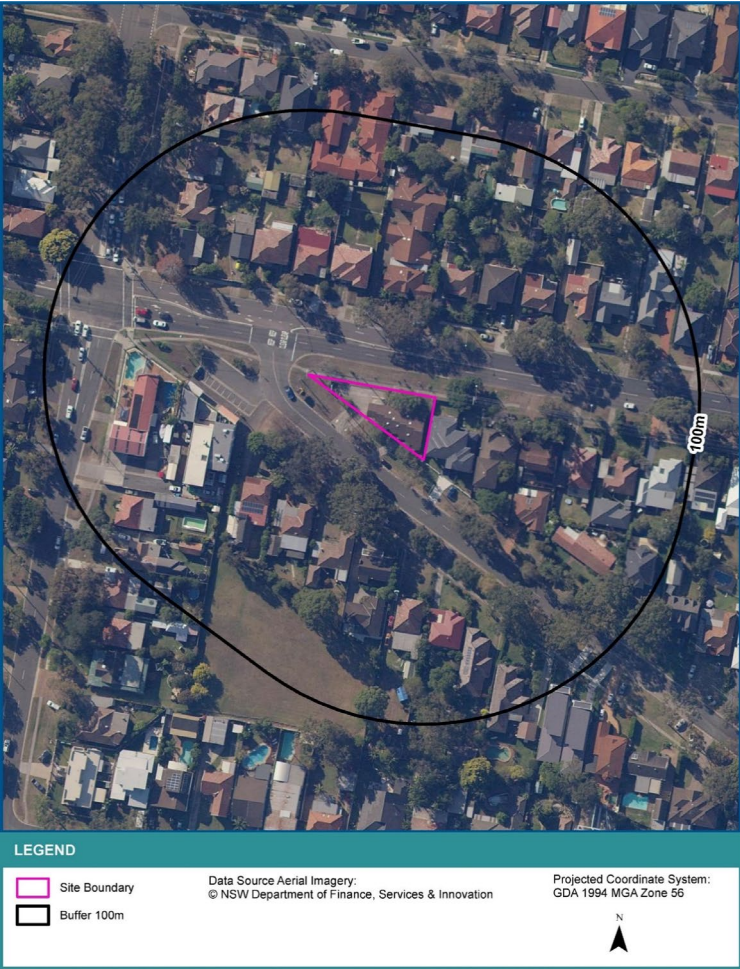


Map Id	Site	Address	Suburb	Activity	Management Class	Status	LS Ref	Location Confidence	Dist (m)	Direction
1	Former Ford Landfill	22 Mandemar AVENUE	Homebush West	Landfill	Under assessment	Current EPA List	1764	Premise Match	0m	Onsite

Map Id	Name	Address	Suburb	Notices	Area No	LS Ref	Location Confidence	Dist (m)	Direction
2	Former Ford Landfill	22 Mandemar Avenue	Homebush West	3 former	3134	2570	Premise Match	0m	Onsite



Lotsearch Sample – Former Service Station



Live Demonstration

Thank you!

Questions?