



LOTSEARCH
Spatial Intelligence | Mapping Risk



AEBN Webinar Managing Contaminated Land:

A legal and practical approach to manage risk associated with contaminated land.

How to identify environmental hazards before they become a risk

Howard Waldron
Founding Director, Lotsearch

Content

- Introduction

Company Background

Contaminated Land Information

Hazard vs Risk

Definitions of 'Known' Contamination & 'Potential' Contamination

- Key Information Sources

Useful Information To Obtain

Site History & Desktop Assessments

- Lotsearch Reports & Services

A 'One Stop Shop' for Identifying 'Known' & 'Potential' Risk

- Case Studies

'In the News' – Examples of Problem Sites

Lotsearch Insights – How we can help your organisation!

- Summary / Q&A

Company Background

Founded: 2014.

Vision: To build a more environmentally aware Australia.

Mission: Pioneers of best in class environmental information and insight.

Comprehensive: We have built the largest database in Australia with over 700 individual datasets

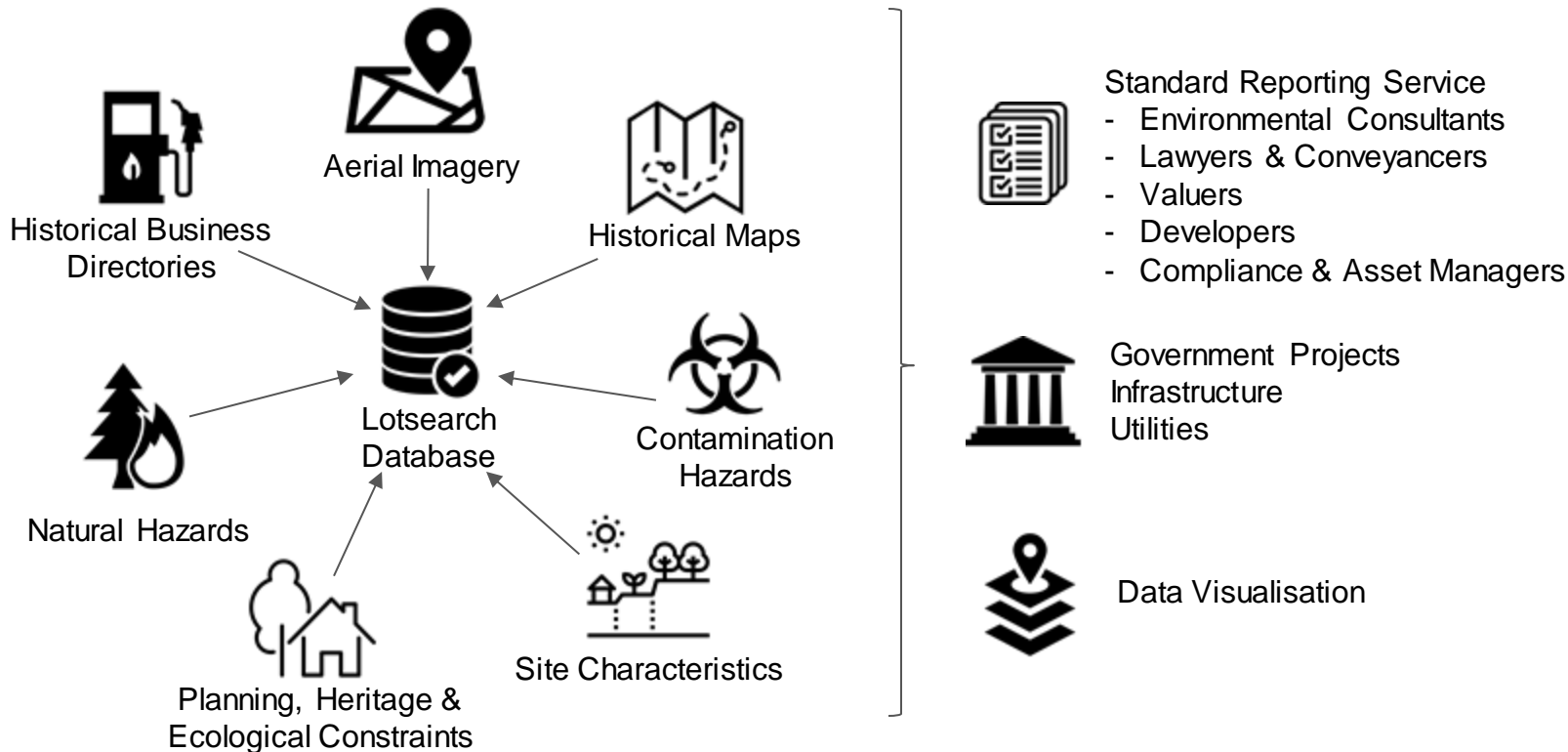
Coverage: We offer nationwide reporting services covering contaminated land, natural hazards, planning, heritage and ecology.

Quality: Our industry leading reporting solutions are used and relied upon by environmental specialists.

Capabilities: We have built a customised suite of reports to empower professionals to help them to make more informed decisions relating to land and property.

Technology: Smart tools and techniques used to enable clients to identify hazards quickly and efficiently saving time and resources later on.

The Leading Provider of Environmental Risk Reporting Across Australia



Lotsearch Reports – Done Well – By Design!



LOTSEARCH
Spatial Intelligence | Mapping Risk



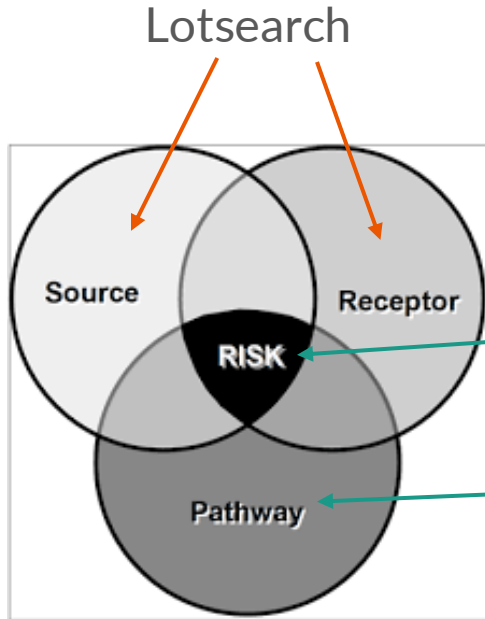


Contaminated Land Information

How to access key information to help meet your duties

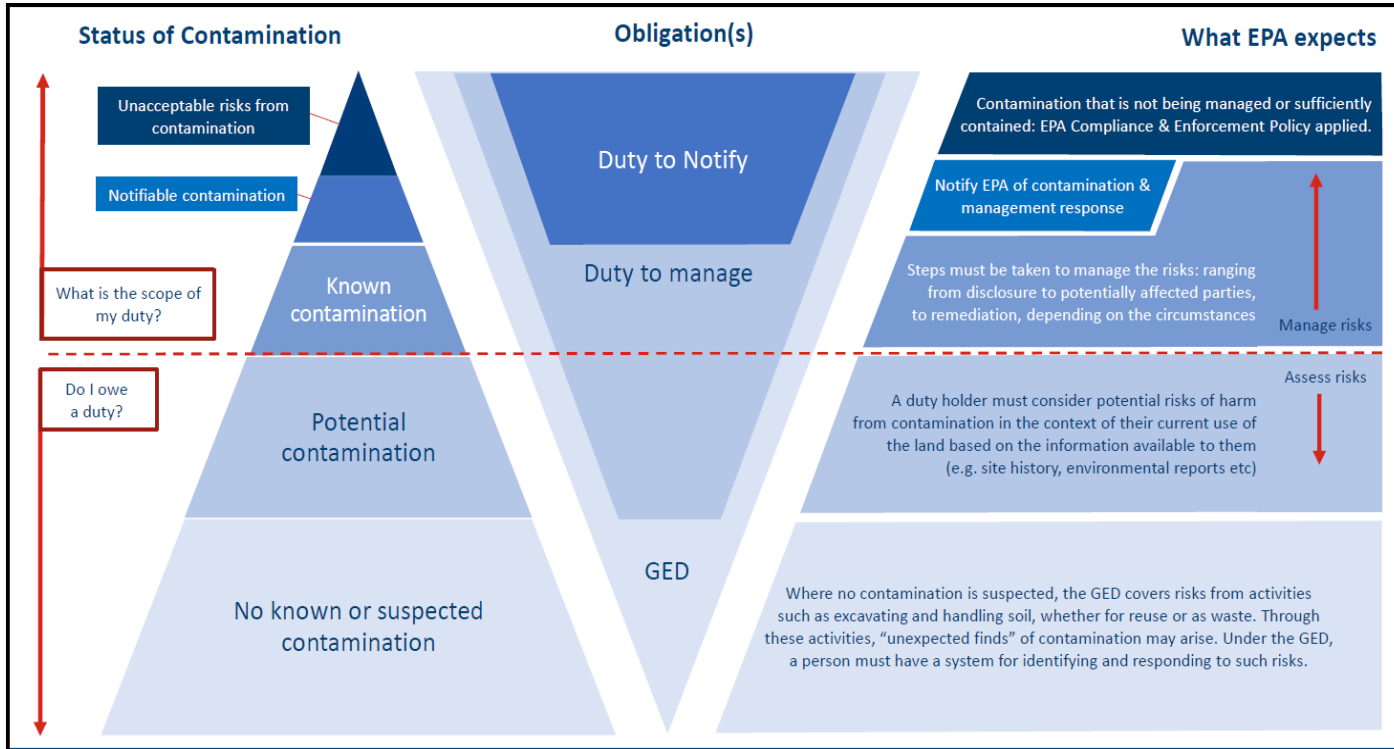


Identifying Hazards Vs Risk (Desktop Review)



You may need to engage a certified and suitably qualified environmental consultant and possibly an auditor depending on the results of the desktop review to determine the actual risk.

New Victorian Legislation – General Environment Duties



The General Environmental Duty (GED) - Known Contamination

Known
Contamination



Steps must be taken to manage the risks: ranging from disclosure to potentially affected parties, to remediation, depending on the circumstances



The General Environmental Duty (GED) - Potential Contamination

Potential
contamination



A duty holder must consider potential risks of harm from contamination in the context of their current use of the land based on the information available to them (e.g. site history, environmental reports etc)





Lotsearch Sources Available (Over 700 Datasets)

Current Datasets

- Contaminated Sites
- Licensed Activities
- Waste/Landfill Sites
- Topography
- Contours
- Features of Interest
- Boreholes
- Hydrogeology
- Geology
- Soil
- Natural Hazards
- Planning
- Landuse
- Heritage
- Ecology
- ...and much more!

Historical

- Business Directories
- Aerial Imagery
- Maps
- Landfills
- Quarries & Mines
- Gasworks

Assemble, map, and utilise multiple lines of current and historical evidence to help generate a robust site history.

In line with requirements of National Environment Protection (Assessment of Site Contamination) Measure (NEMP) 1999

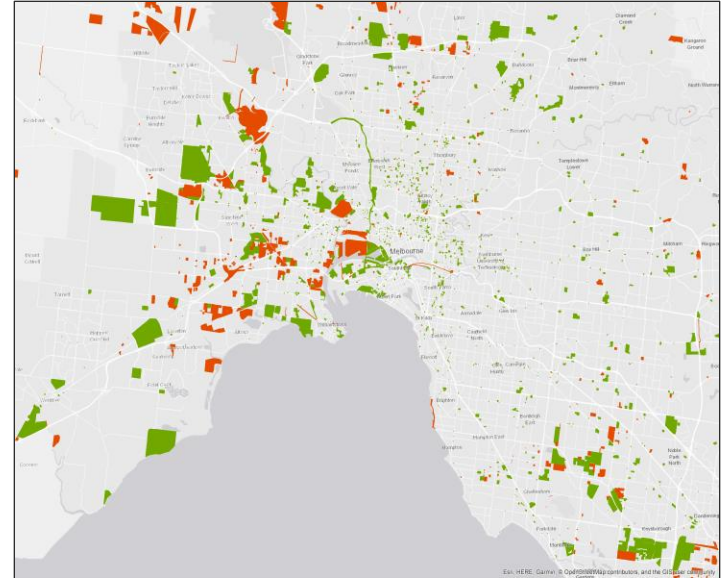


ArcGIS



Contemporary Datasets

- Some datasets are supplied by government agencies as spatial data files.
 - 'Plug and play'
 - Series of checks for spatial accuracy and ensure the data is fit for purpose.
 - Query back to data custodian if errors are found.
- Some datasets are mapped by Lotsearch.
 - Supplied lot/plan numbers, street address, or lat/long co-ordinates are geocoded to polygon boundaries.
 - Each record looked at manually to determine accurate boundary.
 - Contradictory or erroneous records are queried back to data custodian.



EPA VIC Pollution Notices, Priority Sites, and Audits
(~4300 sites in Melbourne region)

Lotsearch Mapping Vs Victoria Unearthed



How to Identify 'Known' Contaminated Land



LOTSEARCH ENVIRONMENTAL

Contaminated Land Search

Data Summary

This report provides information collated from Environment Protection Authority registers and datasets that relate to your site or the surrounding area.

Icon	Category	Summary
	EPA Contaminated Land	Y On-site: Yes. Records on the EPA priority sites register or other remedial notices have been identified on-site.
	EPA Audits and Groundwater Restrictions	Y On-site: Yes. An EPA environmental audit or groundwater quality restricted use zone has been identified on-site.
	PFAS Investigation & Management	N No records from a PFAS investigation or management program have been identified within the surrounding area (100m). Sites that aren't listed on a PFAS management or investigation program, could still be impacted by PFAS. Further information on PFAS can be obtained here: https://www.epa.vic.gov.au/about-us/efas
	EPA Licences and Works Approvals	N No records from the EPA licence or works approvals datasets have been identified within the surrounding area (100m).
	EPA Landfill and Waste	N No records from the EPA Landfill register or Prescribed Industrial Waste dataset have been identified within the surrounding area (100m).

LOTSEARCH REFERENCE
Sample 003

REPORT DATE
11 Feb 2022 13:49:57

CLIENT ID

ADDRESS
227/231 Barkly Street, Brunswick, VIC 3056

AREA
3342m²

COUNCIL
Melbourn City Council

LOT/PLAN
Lots 1-20 P9716115, L9816245, P9716115, CM1 P9716115

CUSTOMER SUPPORT
support@lotsearch.com.au
+61 (02) 8287 8600
lotsearch.com.au

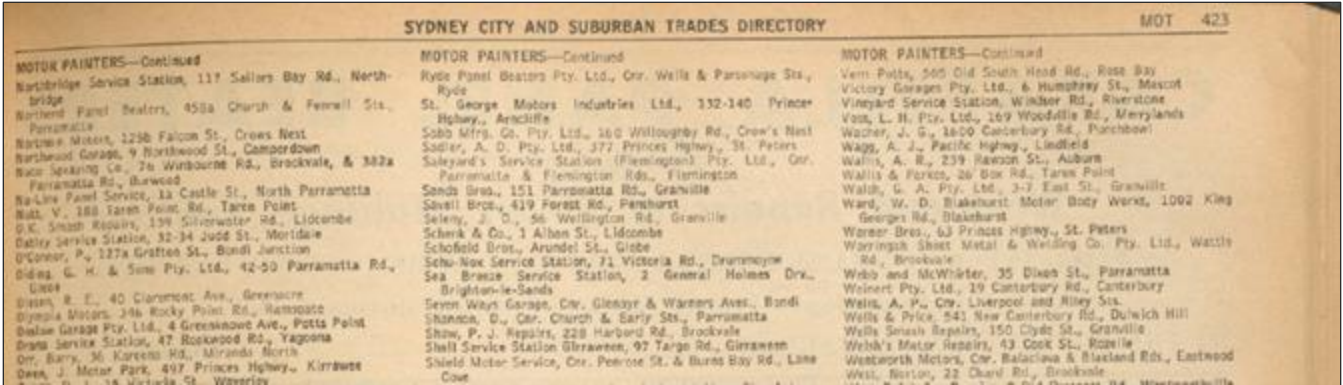
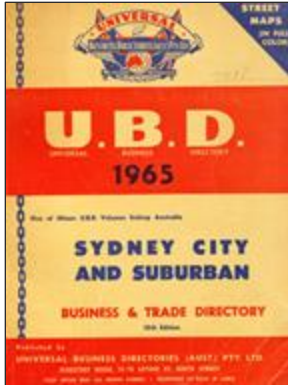


Lotsearch 'Contaminated Land Search'

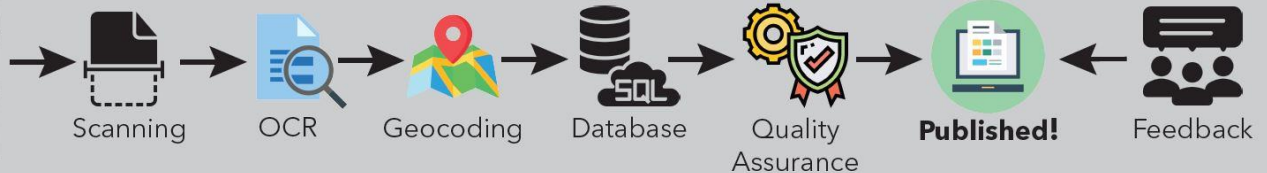
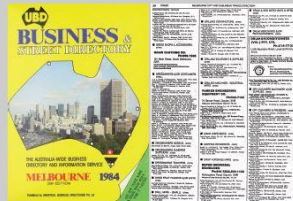
Provides key information from publicly available government registers to identify contaminated land & groundwater



Site History - Historical Business Directories



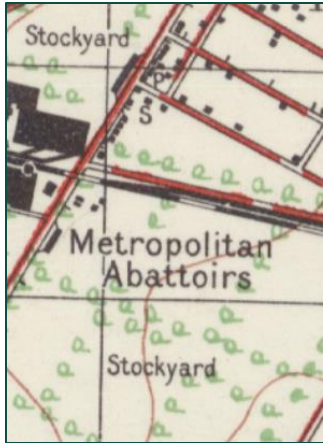
Methodology



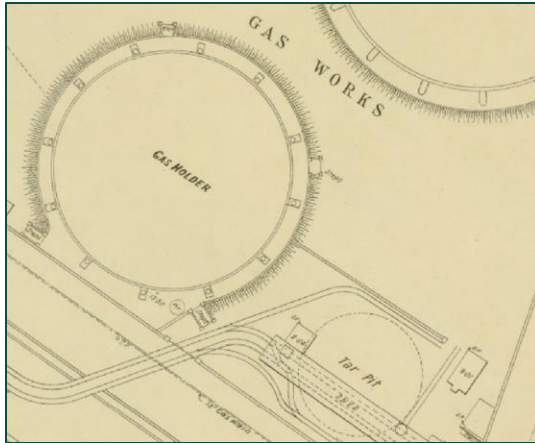


Historical Maps

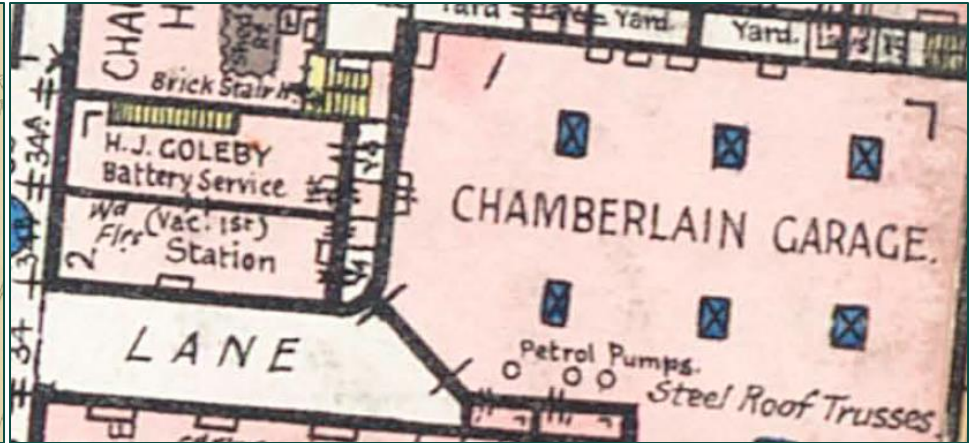
Another great resource for understanding historical land use.



Northfield, SA



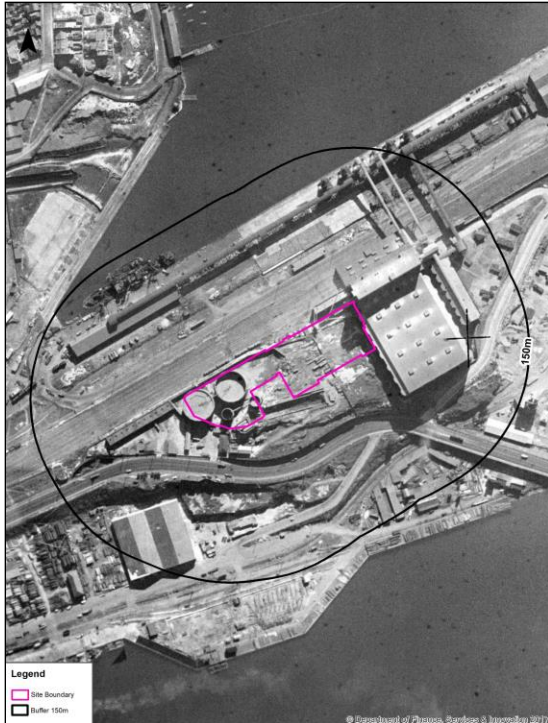
North Melbourne, VIC



Sydney CBD, NSW



Historical Aerial Imagery



1943



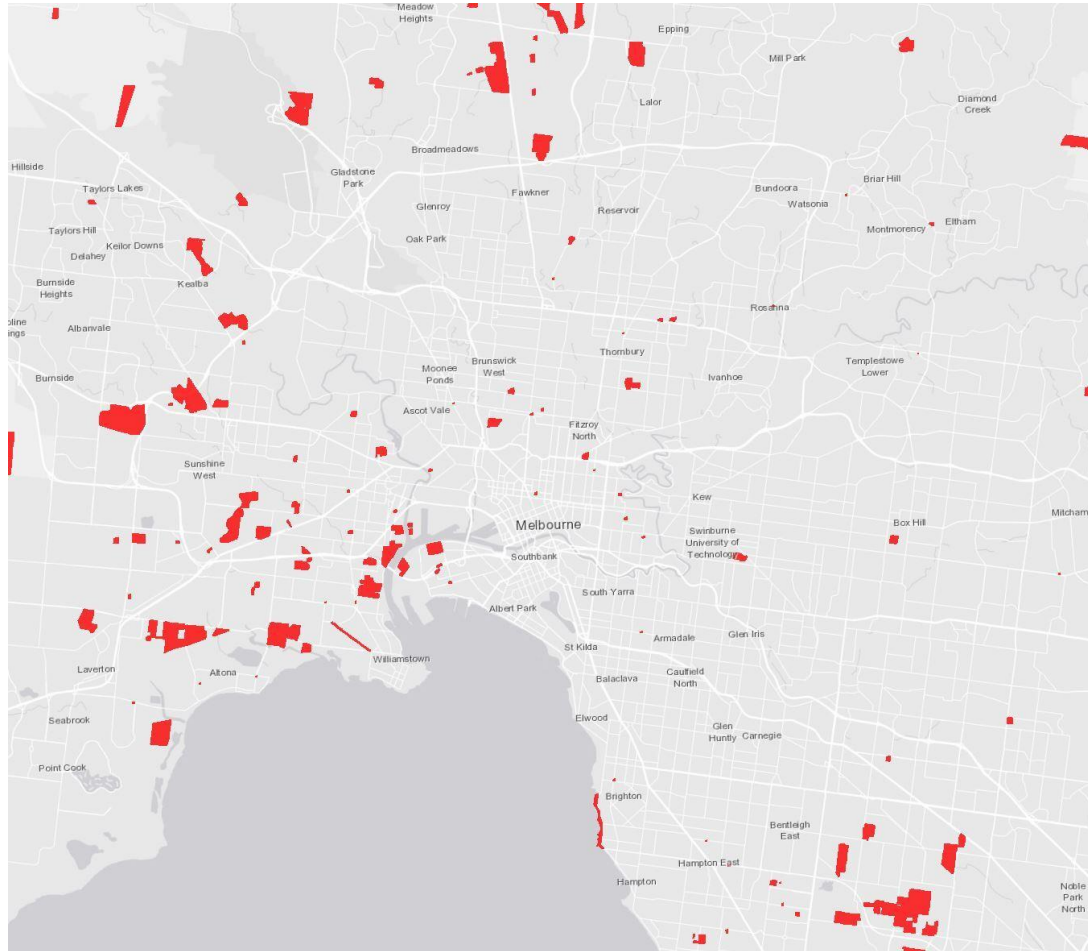
1970



2016

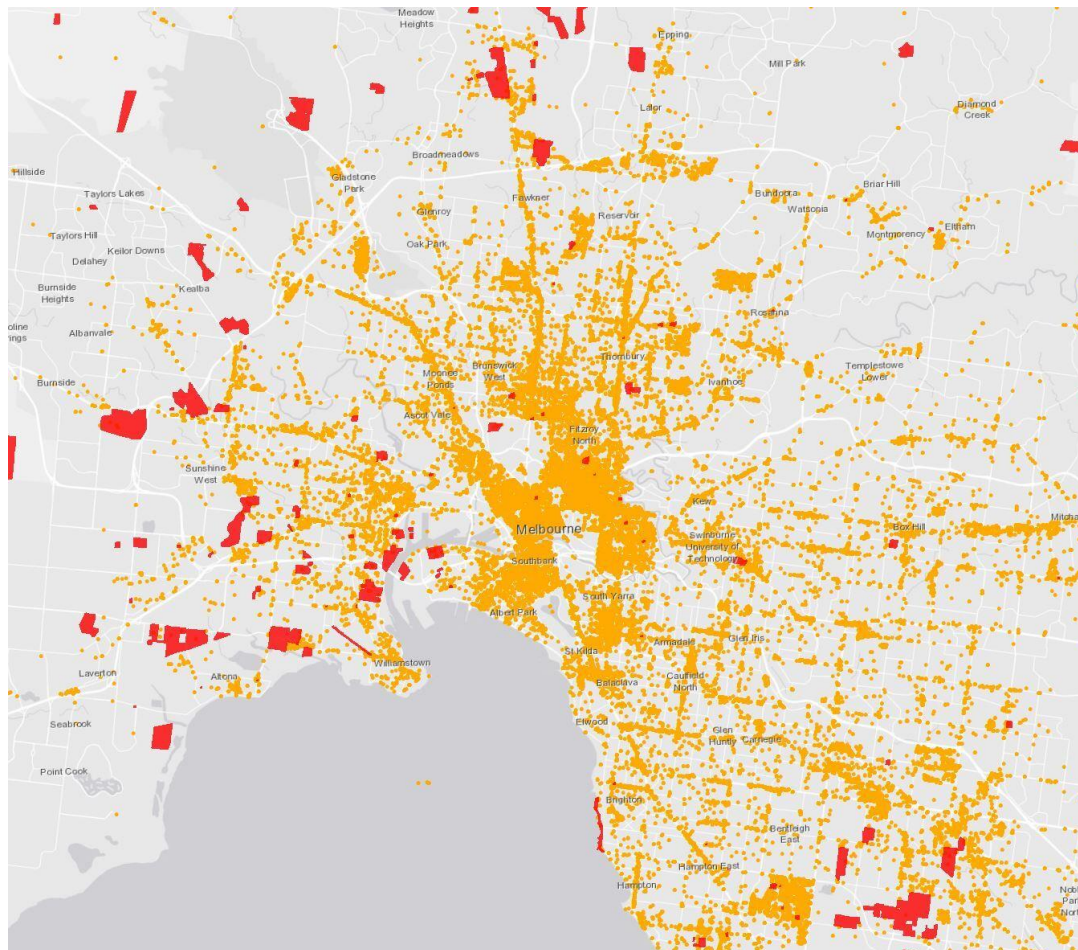


'Known' Contamination – VIC EPA Priority Sites Register





'Potential' Contamination Hazards (+25,000 Sites)



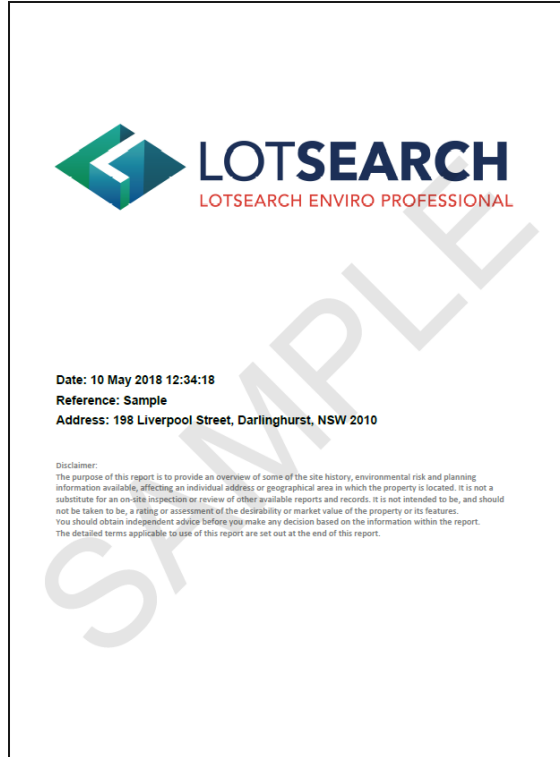


Results

- Lotsearch have developed the most comprehensive 'Historical Land Use Database' (HLUD) in Australia.
- Millions of historical business records (Universal Business Directories & Sands & McDougall).
- Over 500,000 historical aerial photographs.
- Over 50,000 historical maps & plans.
- We have identified over 25,000 'known' contaminated, regulated or sites under investigation.
- We have identified over 250,000 'potentially' contaminated sites (former high-risk activities).
- Site history can now be easily delivered as one package.



Lotsearch Enviro Pro Report




- Detailed Site History
 - Aerial Photos
 - Maps
 - Business Activities
- EPA Public Register Information
 - Priority Sites Register
 - Environmental Audits
 - Pollution Notices
- Site Characteristics, Pathways & Receptors
 - Boreholes
 - Geology, Soils & Hydro
 - Contours

References over 700 Different Datasets



Lotsearch Contaminated Land Screening Report (CLSR)

**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 listing or assessment of the availability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within this 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



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 polyfluoralkyl 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 D&P Pty Ltd (D&P) based solely on the accompanying Lotsearch register. 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 2 preliminary site investigation as defined under Schedule 2 - Guidelines on the Characterisation, Remedial Investigation Feasibility Assessment or the Contaminated Sites and OHS Act 1986 (NSW). As such, its reported findings are general in nature and do not constitute an assessment or compliance of the site against the actual state or condition of the property, or the suitability of the site for any current or proposed use. This assessment should be read in conjunction with the accompanying Contaminated Land Screening Report which is subject to Lotsearch's Terms and Conditions.

Assessment provided to D&P Pty Ltd

Includes 'known' and 'potential' hazards and a contaminated land assessment.



Case Studies – ‘Lotsearch Insights’

Case Study showing modern housing estate built on historical landfill site - Victoria



2015



1984

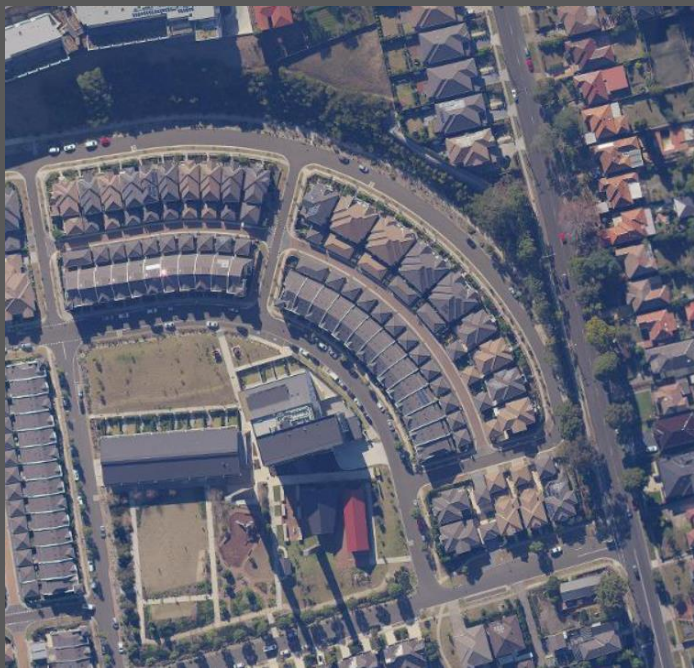


1954



1931

Case Study showing modern housing estate built on historical filled land - NSW



2018



1943

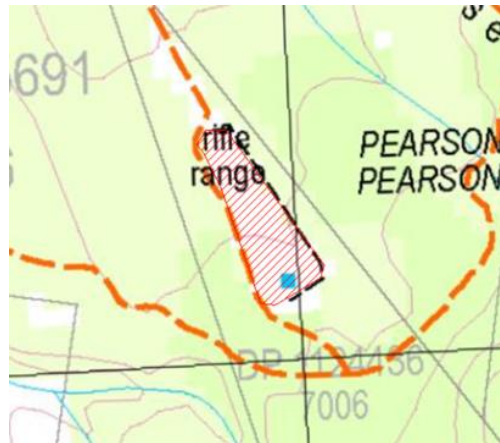
Insights From Historical Maps & Imagery



Map - 1936



Map - 1975

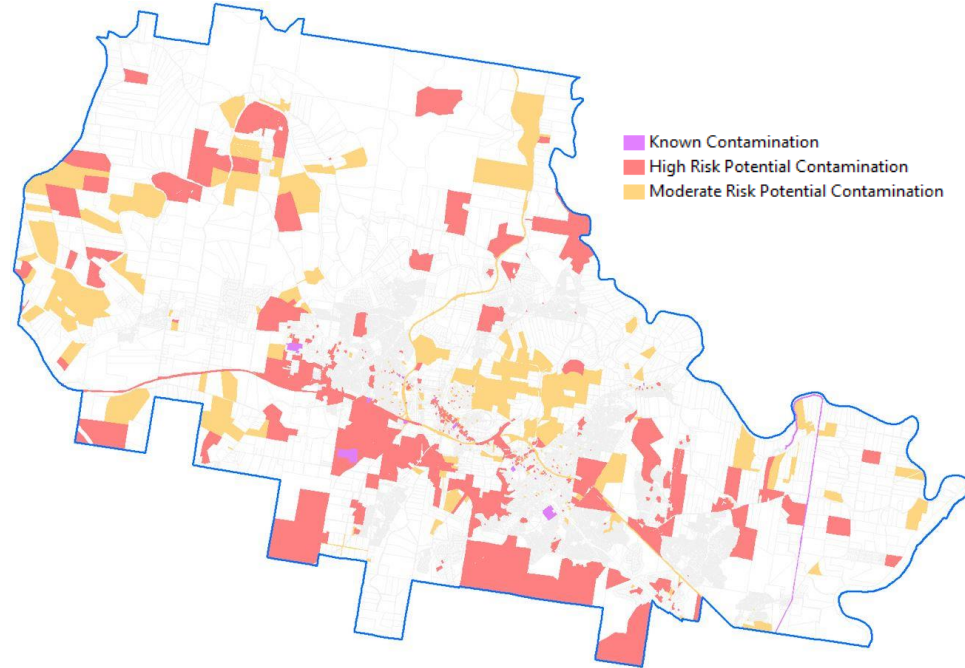


Map - 2015

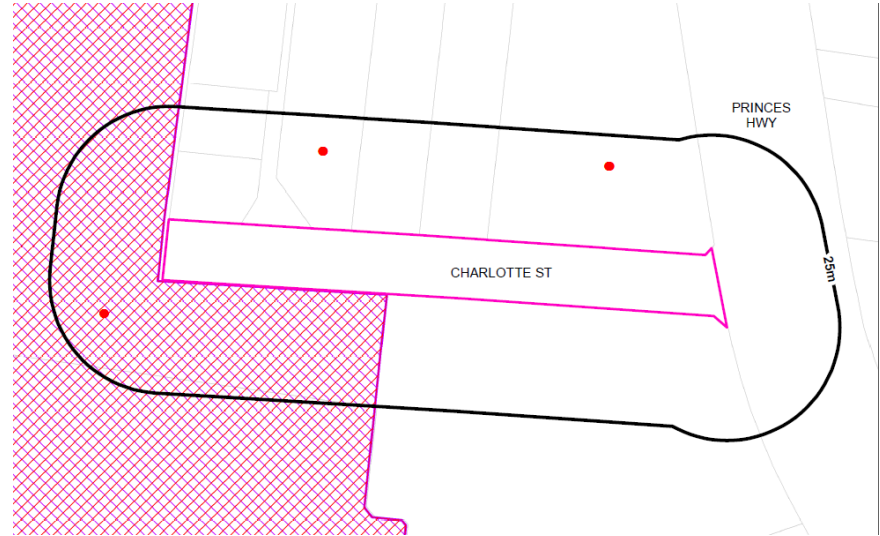


Ray Proudley – a history of the gas industry in Victoria

Local Government Authority (LGA) Insights!



Infrastructure & Utility Projects

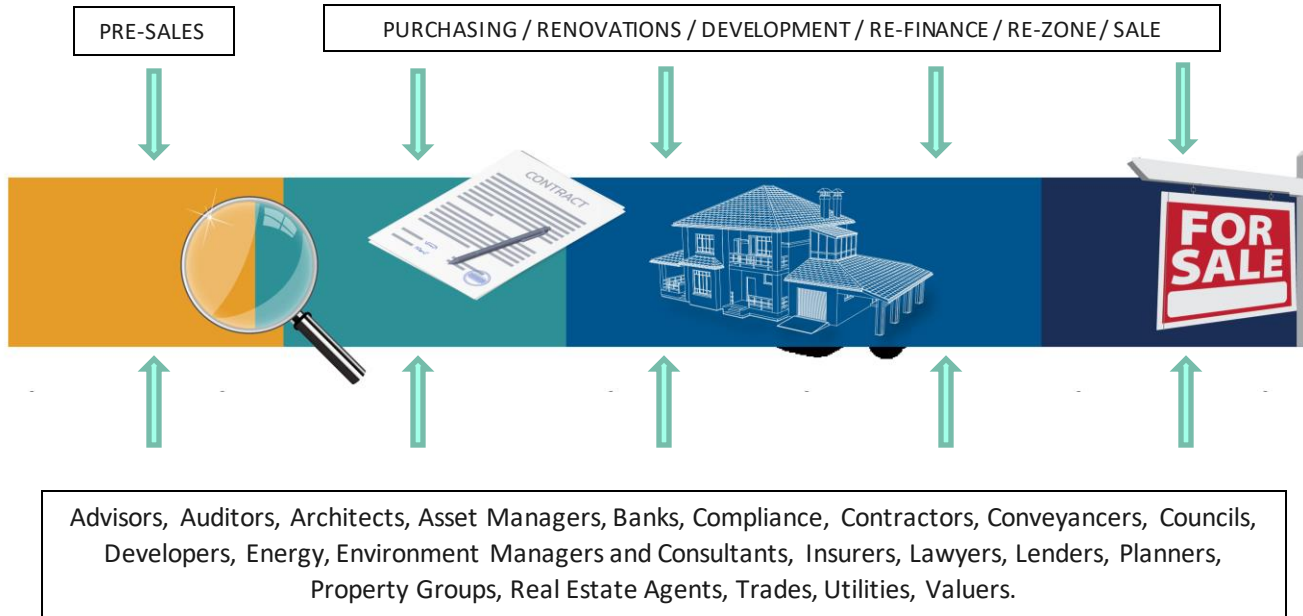




Summary



Property & Development Lifecycle



Lotsearch reports can be used throughout the lifecycle to identify potential hazards and risk



Who Can Utilise Our Services?

- Environmental Consultants
- Local Government Authorities
- Infrastructure & Utility Firms
- Lawyers & Conveyancers
- Private Companies
- Asset, Risk & Portfolio Managers
- State Government Departments



Summary

- **2014** – Lotsearch Founded
- **2015–2018** – Lotsearch launch **Enviro Pro Report**
(contains known, potential and site characteristics)
- **2018** - Lotsearch launch the **Contaminated Land Screening Report**.
(contains known, potential contamination and assessment)
- **2019** - Lotsearch launch the **Contaminated Land Search**.
(contains ‘known’ contamination from public registers)
- **2021-2022** – Lotsearch awarded contracts to work with regional councils in NSW to help support their capacity building program / initiative.

Lotsearch provide automated reports and searches that help in the due diligence process by identifying potential environmental hazards that may require further assessment.



Accurate &
Comprehensive
Data



Easy to
Interpret
Reports



Fast & Cost
Effective
Service



Industry Leading Solutions

Contaminated Land Search



EPA Priority Sites Register
EPA Pollution Notices
EPA Licences
EPA Audits
EPA Waste
+ More Registers

Contaminated Land Screening Report



EPA Public Registers
National Contamination Datasets
Historical Business Activities & Land Use
PFAS Investigation Sites
Contaminated Land Assessment (GHD)

Lotsearch Enviro Pro



EPA Public Registers
National Contamination Datasets
Historical Business Activities & Land Use
Historical Aerial Photos & Maps
PFAS Investigation Sites
Site Characteristics
Potential Receptors



Free Consultation

Available for any AEBN member

Initial session to gather requirements, identify simple, cost effective and best practice approaches for your organisation to identify environmental hazards.



Q&A

Contact Details:

Name: Howard Waldron

Email: howard.waldron@lotsearch.com.au

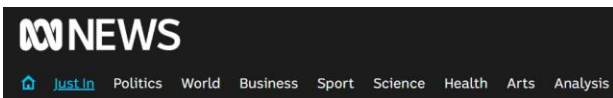
Phone: 0416 568 331

Website: www.lotsearch.com.au



Case Studies – ‘In the News’

Private Companies



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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 Williamtown 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:

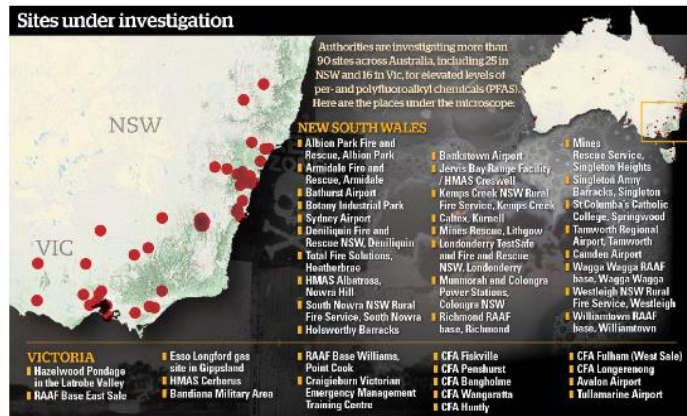
- Department of Defence is looking into 28 sites contaminated with PFAS chemicals
- After seven months of investigation the inquiry found residents should be compensated
- Test results from 2013 found aviation firefighters had 20 times the normal level of toxic chemicals in their blood

Williamtown, 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.smb.com.au/national/national-coalition-launches-for-residents-of-country-s-90-toxic-sites-20180702-p4zp1f.html>

Case Study – PFAS

ABC NEWS

Just In Politics World Business Sport Science Health Arts Analysis

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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

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<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>

Williamtown, 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**".





Nelson Parade, Hunters Hill, NSW



Contaminated site of former Radium Hill smelter at Nelson Parade Hunters Hill.

THE HILLS

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

John Beasley, 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.

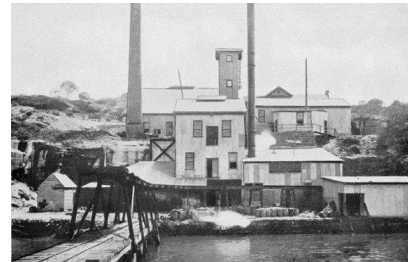
The delay is due to a change in the location of where the waste will be removed to, after the Baird Government's original plans to transfer the waste to Kemps Creek in Western Sydney were scrapped following public uproar from Kemps Creek residents.

"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

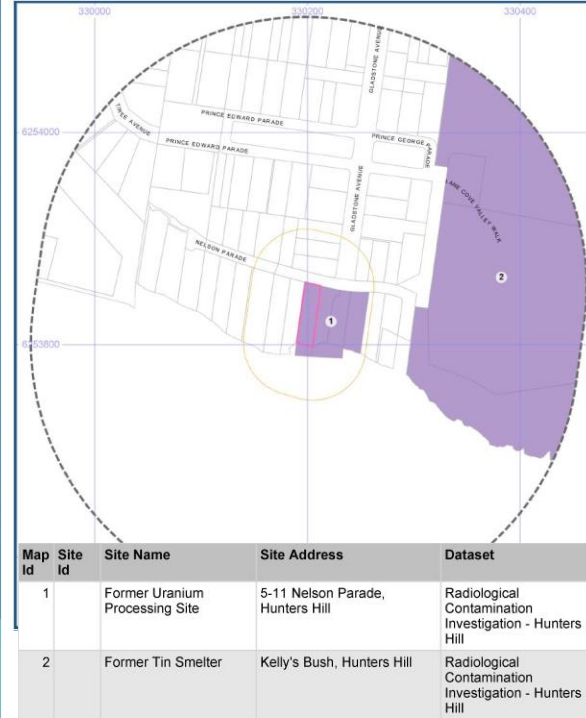
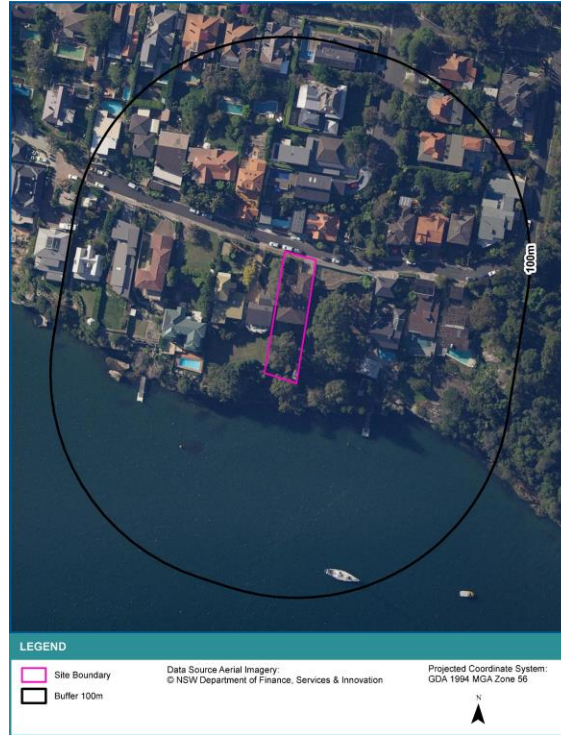
Parliament inquiry recommending the site be decontaminated



<https://www.smh.com.au/environment/radioactive-waste-haunts-hunters-hill-residents-20111029-1mpb6.html>



Lotsearch Sample – Hunters Hill



10/05/2023



Camden High School, Camden, NSW

ABC NEWS LOCATION: Sydney, NSW Change

Just In Politics World Business Sport Science Health Arts Analysis

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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.

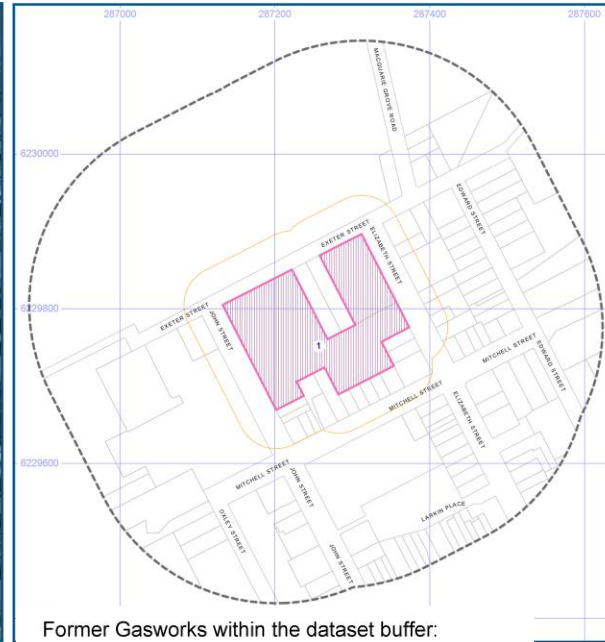
After deaths and illness, a class action against NSW Education Department is likely.

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

<http://www.abc.net.au/news/2013-07-23/cancer-cluster-fears-over-former-sydney-high-school/>



Lotsearch Sample – Former Camden High School



Map Id	Location	Council
1	John Street, Camden	Camden Council



Spotless Dry Cleaners, 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



Map Id	Business Activity	Premise	Lotsearch Ref	Risk Rank	Location Confidence	Distance (m) to Property Boundary or Road Intersection	Direction
1	DRY CLEANERS & PRESSERS.	Ensign Services (Aust.) Pty. Ltd., 225 Barkly St., Brunswick.	17911	HIGH	Premise Match	0	East
	DRY CLEANERS & PRESSERS.	Spotless Group Limited, 225 Barkly St., Brunswick.	18050	HIGH	Premise Match	0	East
	DRYERS INDUSTRIAL.	Ensign Services (Aust.) Pty Ltd., 225 Barkly St., Brunswick.	18100	MODERATE	Premise Match	0	East
	DRYERS INDUSTRIAL.	Spotless Group Limited, 225 Barkly St., Brunswick.	18103	MODERATE	Premise Match	0	East



Former Tip, Ballarat, VIC

Black Hill residents trash Ballarat Council over former tip contamination

ABC Ballarat | By Danna Diaz
Updated 24 Jun 2016, 11:56am

Victoria's environmental watchdog has intervened in a dispute between the City of Ballarat and a resident, who is claiming 10 Olympic-sized swimming pools of rubbish has contaminated his property.

Mark Hosking, who owns a three-acre property across the road from the landfill, points to a large pile of rocks covering what used to be a trench.

After initially uncovering trash on his property in 2005, he paid an environmental firm, Cardno Land Pipier, to assess the full extent of the problem.

"That's where they dug up and found the rubbish," he said.

The firm found almost 14,000 cubic metres of waste underneath an acre of Mr Hosking's property, equating to an area about the size of 10 Olympic swimming pools.

It is believed to have leaked from the historic council-owned Black Hill tip, now known as the Chisholm Street Recreation Reserve across the road.

Rubbish removal quote \$3.5M

The former paramedic said he had spent more than \$350,000 on legal fees in an effort to get the Ballarat Council to own up to the contamination.

"I'd just like the council to take responsibility for this and take responsibility for their lack of transparency," he said.

"I had a quote on removing the rubbish from my land and it was \$3.5 million dollars."

Mr Hosking said his property was now worthless because of the extent of the waste.

"Basically, I've got a noose around my neck and the council is pulling it tighter," he said.

Robert Brookes used to own a house on the same street, and believes the nearby Leerama Court housing estate was actually built on top of a rubbish dump.

Mr Brookes said when he worked on the site in 1991, now the site of 21 houses, he often dug out large mounds of trash including rubble and plastic.

"When I was digging stuff out, I could smell all the gases coming out of the ground," he said.

"As they started building more blocks for the housing, more and more was coming up. There was a hell of a lot of it there.

"The land developers should have been on to that straight away because they knew it was there, but why didn't they say something?"

How did they even get permits to build houses on it?

EPA calls on council for report on tip boundary

The Environment Protection Authority (EPA) has ordered the City of Ballarat to "detail exactly where waste extends beyond the boundary of its former Black Hill landfill".



PHOTO: Black Hill resident Mark Hosking on his property. (ABC Ballarat, Danna Diaz)

Resident discovered that his property had waste underneath equating to the size of ten Olympic swimming pools.

Rubbish removal quote for \$3.5 million.

Historical aerial photos highlight former tip.