



LOTSEARCH
Spatial Intelligence | Mapping Risk



Contaminated Land Screening Report User Guide (NSW)

Contents

1	Introduction	2
1.1	Purpose of the report	2
2	Understanding the Assessment	2
2.1	Purpose of the Assessment	2
2.2	How has the Assessment been prepared?	2
2.1.1	What does Item A – ‘Potential for contamination to affect the site’ mean?.....	3
2.1.2	What does Item B – ‘Inclusion of the site on a register by the environmental regulator’ mean? 4	4
2.1.3	What does Item C – ‘Inclusion of the site or surrounding area (2km) on an environmental regulator’s PFAS (per and polyfluoroalkyl substances) register or program’ mean?	5
2.1.4	What does Item D – ‘Identification of an on-site, adjacent or nearby potential contamination source(s)’ mean?.....	5
2.1.5	What is the Environmental Data Summary Table?	5
2.1.6	Want further advice?	6
2.1.7	Limitations of the Assessment	6
3	Understanding the maps and data tables	6
3.1	Definitions.....	6
3.1.1	Section 1: Contaminated sites on environmental regulator registers	8
3.1.2	Section 2: Land uses with high potential to cause contamination	9
3.1.3	Section 3: Licensed activities from the environmental regulator.....	10
3.1.4	Section 4: Potentially contaminative historical activities	11
3.1.5	Limitations of the historical business directory data.....	12
3.1.6	Section 5: Potential contamination related to disturbed ground	12
3.1.7	Section 6: Contamination related groundwater designations	12
3.1.8	Section 7: Dataset listing table.....	13
4	Next Steps	13

This document is intended to accompany your Contaminated Land Screening Report. The purpose of this document is to provide an explanation of the different sections of the report, including:

- The purpose of the Report;
- An explanation of the Assessment;
- The limitations of the Assessment;
- Definitions of the terms used to describe the data in the maps and tables;
- Descriptions of the datasets used in the report; and
- Next Steps

1 Introduction

1.1 Purpose of the report

The purpose of the Lotsearch Contaminated Land Screening Report (the report) is to assist the interested parties in assessing the potential for contamination to exist on the subject property (the site). To support practitioners in this decision-making process, the first page of each report contains a Contaminated Land Screening Assessment (the Assessment) prepared by specialist contaminated land consultants at GHD.

2 Understanding the Assessment

2.1 Purpose of the Assessment

This Assessment has been prepared to assist the customer to:

- Understand whether the Lotsearch Report contains data which indicates that the subject site is, or may be, affected by contamination;
- Determine whether further professional services, such as those of a contaminated land consultant, should be obtained; and/or
- Determine whether further information should be requested from interested parties.¹

2.2 How has the Assessment been prepared?

This Assessment has been prepared based solely on:

- The information contained within the Lotsearch Report; and
- GHD's specialist knowledge and industry experience in relation to potentially contaminative land uses and the activities which are typically associated with contamination.

This Assessment has been generated by an automated system which utilises a risk screening model developed by GHD. The model takes into consideration the available

¹ Such as a vendor, neighbour, occupier or borrower

data, as presented within the Lotsearch Report, assessing the likelihood that contamination may affect the subject site. The model has been developed by a specialised team of contaminated land professionals within GHD, which has been the subject of rigorous quality control checks.

It is however important to note that:

- The Assessment is a product of the model, with individual sites not specifically reviewed by a contaminated land professional;
- The Assessment does not take into consideration current site activities which are not listed on regulatory registers, including the potential presence of asbestos;
- Determining whether contamination is present, and if so, whether it presents any risks or has other adverse impacts, is outside of the scope of this Assessment. Assessment of the potential consequences of contamination requires the specialised services of a contaminated land professional; and
- This Assessment has not been prepared with reference to any physical site inspections, investigations, assessments or remediation works which may have been carried out at the subject site.

2.1.1 What does Item A – ‘Potential for contamination to affect the site’ mean?

Item A of the Assessment rates the potential for soils and/or groundwater underlying the subject site to be contaminated.

The rating is based on the assessment of current regulated activities and historic land uses/activities at the subject site and in the surrounding area. Based on GHD’s specialised knowledge and experience, a risk rating has been assigned to each land use and activity based on the potential for that use or activity to cause contamination.

The subject site will be classified as one of the following:

Likelihood that the subject site may be affected by contamination	Classification	What does it mean?
Likely	Likely Contamination Source Identified	The available information indicates that the subject site: <ul style="list-style-type: none"> • Is currently identified as being contaminated on a public register of contaminated sites maintained by a regulator; and/or • Is or has been the subject of an activity which is frequently associated with contamination
Possible	Possible Contamination Source Identified	The available information indicates that the subject site: <ul style="list-style-type: none"> • Is or has been the subject of an activity which in some circumstances

		<p>is known to be associated with contamination</p> <ul style="list-style-type: none"> • Has been historically filled with imported material, the origin of which is unknown; and/or • Has groundwater records indicating the potential for contamination. <p>The available information indicates that land within 50m of the subject site:</p> <ul style="list-style-type: none"> • Is currently identified as being contaminated on a public register of contaminated sites maintained by a regulator; • Is or has been the subject of an activity which is in some circumstances known to be associated with contamination • Has been historically filled with imported material, the origin of which is unknown; and/or • Has groundwater records indicating the potential for contamination.
Unlikely	Unlikely Contamination Source Identified	<p>The available information does not indicate that the subject site, or land within 50m of the subject site:</p> <ul style="list-style-type: none"> • Is currently identified as being contaminated on a public register of contaminated sites maintained by a regulator; • Is or has been the subject of an activity which is frequently associated with contamination • Has been historically filled with imported material, the origin of which is unknown; and/or • Has groundwater records indicating the potential for contamination.

2.1.2 What does Item B – ‘Inclusion of the site on a register by the environmental regulator’ mean?

Under current NSW environmental legislation, potentially contaminated sites must be notified to the environmental regulator. However, it should be noted that the notification of potentially contaminated sites has occurred in some but not all cases. Where potentially contaminated sites have been notified the environmental regulator is

required to keep a register of these sites. If a site is included on a register it indicates that there is a high possibility that the site is contaminated.

2.1.3 What does Item C – ‘Inclusion of the site or surrounding area (2km) on an environmental regulator’s PFAS (per and polyfluoroalkyl substances) register or program’ mean?

Some environmental regulators, including the NSW EPA, have instigated programs to investigate the potential presence of PFAS on or under sites, arising from historic or current site activities. If the subject site has been included as part of the NSW EPA program, or is within a 2 km radius of a site that has been part of the NSW EPA program, there is the potential for the subject site to contain a PFAS source or to be impacted by PFAS migrating within groundwater from surrounding sites.

2.1.4 What does Item D – ‘Identification of an on-site, adjacent or nearby potential contamination source(s)’ mean?

Section D of the Assessment shows whether the subject site contains any identified potential on-site sources of contamination and the proximity of an offsite potential source of contamination to the subject site.

Where a site is in close proximity to an offsite potential source of contamination, it does not necessarily mean that the subject site is contaminated. Whether or not this is the case is dependent on a range of factors outside of the scope of the Assessment, including the nature and extent of the contamination source, the age, whether the source has been subject to remedial activities, and the rate/direction of groundwater flows (if any).

The proximity of a site to an offsite potential source of contamination is however an important factor to be considered when determining whether a site has the potential to be affected by an off-site source of contamination.

2.1.5 What is the Environmental Data Summary Table?

The Environmental Data Summary Table within the report provides a summary of the data used to derive the Assessment. The table lists all of the datasets used in the report, along with the number of features from each dataset on, adjacent and in the surrounding area of the site. The Dataset Buffer field shows the maximum distance from the site boundary (in metres) that was used to search for features within each dataset. The search distances have been selected by experienced GHD contaminated land consultants based on their experience of contaminated site investigations across Australia.

The datasets and buffers are not all encompassing and cannot feasibly account for all off-site contamination sources. No hydrogeological information has been evaluated within the Assessment, which means that the degree and extent of contamination to migrate within groundwater has not been assessed.

For further details of each dataset refer to *Section 3: Understanding the maps and data tables*.

2.1.6 Want further advice?

Seeking the advice of a professional contaminated land consultant such as GHD and/or obtaining additional information is generally recommended for sites classified as having either a '**Likely**' or '**Possible**' potential for contamination to affect the site.

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

2.1.7 Limitations of the Assessment

The Assessment is based on a model developed by specialist contaminated land consultants from GHD and data from 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 (available on the website).

The datasets in the Lotsearch report were selected to provide an indication of the presence of contamination on and surrounding the site but may not identify all historical uses and activities which may have caused the site and/or its surrounds to become contaminated. In particular, many sites are impacted by the presence of asbestos infill material from unknown sources usually associated with poor demolition practices, for which a dataset is not available.

The Assessment is based on datasets which were available at the date of the Assessment. These datasets are continually updated as more information becomes available, and additional data obtained in the future may change the outcome of the Assessment.

The Assessment provides an indication of the likelihood of contamination to be present at, or impacting, the site and does not constitute advice as to the value of the site, or the suitability of the site for a particular use or activity. It also does not take into account any environmental investigations or remediation works which may have been undertaken at the site.

3 Understanding the maps and data tables

3.1 Definitions

Useful definitions within the report are detailed in the table below.

Term	Definition
UBD / Universal Business Directory Records	UBD records were published in NSW between 1948 and 1993. Prior to 1985, the UBD records were published as public directories, intended to be used by both businesses and the general public. From 1985 onwards the UBD records were published with the intention to be used by businesses seeking the products or services of other businesses.
Direction	The value given in the direction field is the direction from the subject site boundary to the relevant data record. If the data record falls within the subject site boundary, the value of the direction field will be given as 'onsite'.
Distance	<p>The value given in the distance field is the distance from the subject site boundary to the relevant data record. It should be noted that the distances provided in the tables vary depending on how the different datasets are mapped.</p> <p>For all datasets, with the exception of the UBDs used in Section 4 of the Report, the distance given in the data tables is the shortest distance between the subject site boundary and the boundary of a data record (meters (m)). If the data record falls within or is directly adjacent to the subject site, the distance will be given as 0 m.</p> <p>For the UBD datasets used in Section 4, the historical business activity records are represented by data points on a map. If a data point falls within a current property boundary, the distance given is the shortest distance between that property boundary and the subject site. If the data point falls outside a current property boundary, for example, if the historical activity has been mapped to a road intersection, the distance given is the shortest distance between the data point and the subject site boundary. Again, if the data record falls within or is directly adjacent to the subject site, the distance will be given as 0m.</p>
EPA	The New South Wales (NSW) Environment Protection Authority (EPA) is the primary environmental regulator for NSW.
Location Confidence	<p>Where Lotsearch has mapped data records based on a supplied address or location, a location confidence has been assigned to the data record. This provides an indication of the positional accuracy of the record.</p> <p>Lotsearch undertakes due care in mapping records as accurately as possible. However, in some cases complete or detailed location information is not available. Mapping historical data provides many challenges, as suburbs and roads can be renamed, roads are realigned, areas are redeveloped, and streets are renumbered. Whilst Lotsearch utilises a variety of historical resources, such as historical maps, to identify the correct location of historical records, it is not always possible to map every record to a</p>

Term	Definition
	<p>specific building or address. As a consequence, the following location confidences appear in the report:</p> <ul style="list-style-type: none"> • Premise match: this indicates the record has been mapped to a specific address or premise. • Road intersection: this indicates the record has been mapped to the intersection of two or more roads. The supplied data may specify an address such as 'corner of x and y roads'. Alternatively, Lotsearch may not be able to determine which side of an intersection an address should be assigned. • Road match: this indicates the record has been mapped to a specific road. The supplied data may not provide an address number, or Lotsearch may not be able to determine a specific building or premise from the supplied address. • General area or Suburb match: Lotsearch has not been able to determine a specific building or road from the supplied address, but they have been able to map it to a general area or suburb.
LS Ref	The LS Ref is a unique identifier for each record in a dataset, used internally by Lotsearch.
PFAS	Poly- and per-fluoroalkyl substances (PFAS) are a group of chemical compounds that are widely used in a range of products in Australia and internationally. PFAS are an emerging contaminant, which means that their ecological and/or human health effects are unclear.

3.1.1 Section 1: Contaminated sites on environmental regulator registers

The maps and tables in Section 1 of the report detail sites which are known to environmental regulators as being potentially or actually contaminated. These include sites on:

- **The list of NSW contaminated sites notified to the EPA.** As listed under Section 60 of the *Contaminated Land Management Act (CLM Act) 1997*. A listing indicates that the notifiers (generally the site owner or occupier) consider that the site(s) is contaminated and warrants reporting to the NSW EPA. However, the contamination may or may not be significant enough to warrant regulation by the NSW EPA. The NSW EPA needs to review and, if necessary, obtain more information before it can make a determination as to whether the site warrants regulation. For more information please refer to the NSW EPA website:

<https://www.epa.nsw.gov.au/your-environment/contaminated-land/notification-policy/contaminated-sites-list>

- **The contaminated land record of notices.** A site will be included in the record if the NSW EPA has issued a regulatory notice in relation to the site under the *CLM Act 1997*. The contaminated land public record is a database of notices which

includes but is not limited to orders, notices, voluntary management proposals and site audits statements as required under the *CLM Act 1997*. For further information on the record please refer to the EPA website:

<https://www.epa.nsw.gov.au/your-environment/contaminated-land/notification-policy/record-of-notices>

- **The NSW EPA PFAS investigation program.** The NSW EPA is undertaking an investigation program to assess the legacy of PFAS use across NSW. The EPA is investigating to better understand the extent of PFAS use and contamination in NSW. This will enable the EPA to be better prepared to respond if any health and environmental impacts become known. For further information please refer to the EPA website:

<https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program>

Lotsearch has mapped the location of each NSW EPA record based on the information available at the time the data was extracted from the NSW EPA website. Where the EPA has not provided any additional documentation (e.g. maps showing the boundary of the record), Lotsearch has inferred the location of the record based on the address or property information supplied.

3.1.2 Section 2: Land uses with high potential to cause contamination

The maps and tables in Section 2 of the report detail sites which, based on the historical site activities known to have occurred at the property, have a high potential to cause contamination. These include:

- **Former Gasworks.** The NSW EPA maintains a list of former gasworks sites. Gas manufacturing plants, known as gasworks, produced town gas for heating, lighting and cooking. The operation of gasworks throughout NSW has left a legacy of soil and groundwater contamination, in some cases extending beyond the subject sites boundary. For further information, refer to the NSW EPA website:

<https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/former-gasworks-sites>

- **The National Waste Management Facilities Database.** Geoscience Australia maintains a database of the locations of known landfills, waste transfer stations and waste reprocessing facilities in Australia. The data is compiled from various government, council and industry databases. The list is not all encompassing and does not necessarily include the locations of all former or historical landfill or waste disposal areas. For further information, refer to the Australian Government website:

<https://data.gov.au/dataset/waste-management-facilities>

- **National Liquid Fuel Facilities.** Geoscience Australia maintains a database of the locations of known petrol stations, fuel depots, fuel terminals, and fuel refineries in Australia. Geoscience Australia compiled the data from various owner/operator websites and validated against aerial imagery. The list is not all encompassing and

does not necessarily include the locations of all fuel facilities. For further information, refer to the following Australian Government webpages:

- <https://data.gov.au/dataset/ds-ga-cc365600-2959-597d-e044-00144fdd4fa6/details?q=petrol%20stations>
 - <https://data.gov.au/dataset/ds-ga-cc365600-2958-597d-e044-00144fdd4fa6/details?q=liquid%20fuel>
 - <https://data.gov.au/dataset/ds-ga-cc365600-2956-597d-e044-00144fdd4fa6/details?q=refineries>
 - <https://data.gov.au/dataset/ds-ga-cc365600-2957-597d-e044-00144fdd4fa6/details?q=fuel%20terminals>
- **Other potentially contaminated sites known to the NSW EPA**, as listed on their website, including:
 - James Hardie asbestos manufacturing and waste disposal sites. The NSW EPA is working with the City of Parramatta Council and other state government authorities under the guidance of the Heads of Asbestos Coordination Authorities to re-assess the risk of contamination at properties around the Parramatta local government area where James Hardie may have disposed of asbestos waste materials. For further information, refer to the NSW EPA website:
<https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/james-hardie-asbestos-contamination>
 - Radiological investigation sites in Hunters Hill. For further information, refer to the EPA website:
<https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/former-uranium-processing-site>

Lotsearch has mapped the location of each NSW EPA record based on the information available at the time the data was extracted from the NSW EPA website. Where the NSW EPA has not provided any additional documentation (e.g. maps showing the boundary of the record), Lotsearch has inferred the location of the record based on the address or property information supplied.

3.1.3 Section 3: Licensed activities from the environmental regulator

The maps and tables in Section 3 of the report detail sites which are listed on the *Protection of the Environment Operations Act 1997 (POEO Act)* public register.

The NSW EPA is required by law to maintain several public registers. These registers provide information about specific companies and specific circumstances or events, such as environmental protection measures and regulatory actions. The POEO public register contains information about environment protection licences and other regulatory information required under the *POEO Act*.

For this report we have identified sites that have been subject to activities undertaken under an environment protection licence (EPL). Activities which have not been

included in the report include the application of herbicides to waterways, logging, railway system activities, road construction and irrigation. These types of activities are considered unlikely to have caused significant contamination at a property.

Lotsearch has mapped the location of EPL activities based on the information available at the time the data was extracted from the NSW EPA website. Where the EPA has not provided any additional documentation (e.g. maps showing the boundary of the record), Lotsearch has inferred the location of the record based on the address or property information supplied.

3.1.4 Section 4: Potentially contaminative historical activities

The maps and tables in Section 4 of the report detail published historical businesses and their activities. The Universal Business Directories (UBDs) were published in NSW between 1948 and 1993, providing a comprehensive list of businesses operating at the time. The UBD directories provide nationwide coverage across Australia and New Zealand, listing the business activity being undertaken, the business name and an address. Lotsearch has a licence agreement to use this data in its reports. Lotsearch extracts the information from each directory into a digital format. Once in a digital format, Lotsearch map each business record to its location as listed in the directory.

There are many challenges with mapping historical data, as suburbs and roads can be renamed, road alignments can change, and streets can be renumbered. Lotsearch undertakes quality assurance steps to ensure that the businesses are mapped to the correct location, using a variety of resources to achieve this, including historical maps.

The report currently includes nine years of UBD records for the majority of the Sydney region, specifically 1991, 1986, 1982, 1978, 1975, 1970, 1965, 1961 and 1950. Some reports run on sites in the outer areas of the Sydney region, will not include UBD data from 1965, 1975 or 1978 due to changes in data coverage. The selected years were chosen to give an even temporal spread of business activity data. Additionally, UBD records for service stations, motor garages and dry cleaners have been extracted for the majority of years between 1948 and 1993, except for the years 1987, 1977, 1974, 1973, 1963, 1960, 1957, 1955, and 1951. These activities have been selected as they are well known to be potentially contaminative, with contaminative liquids often stored in underground and above ground tanks, with the potential for leaks or spills over time.

Each business has been mapped as a spatial data point. Records that are listed with the same address will appear as a single point on the map. Each point is labelled with a number that corresponds to the *Map ID* shown in the accompanying data table. The data table lists all records for each point on the map.

The classification of business activities in terms of the potential contamination risk they pose, has been determined by environmental scientists from GHD, based on their extensive experience of contaminated sites across Australia, and with reference to the following documents:

- *Potentially Contaminated Land, General Practice Note (PPN30)*, Victorian Department of Sustainability and Environment 2005;

- *Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land*, NSW EPA 1998

The report automatically identifies any moderate or high-risk businesses, as categorised by GHD that are located within the relevant dataset buffers. Low risk business activities have not been included in the report as they are not considered to represent a significant potential of contamination.

3.1.5 Limitations of the historical business directory data

Addresses from the historical business directories have been used to derive a spatial point for each record. Where possible, these points use the extent of the current property parcel they are mapped within for reporting purposes. However, point-based data has the limitation that representing the whole extent of the relevant address is not always possible. For instance, some addresses are made up of multiple property parcels.

Mapping historical data has many challenges. In addition to re-named and re-numbered roads, property boundaries can also change over time as sites are subdivided or merged together. Current properties may have formed part of a larger site historically and some historical records may not match current addresses.

The limitations of point-based data and mapping historical records means that some data records that could relate to or impact on the report property, may be mapped outside the site boundary or the report buffer. Users should refer to data records mapped outside the site boundary to consider whether they could relate to or impact on the site.

3.1.6 Section 5: Potential contamination related to disturbed ground

The maps and tables in Section 5 of the report detail where disturbed ground has been identified as part of the soil map information published by the NSW Office of Environment and Heritage (OEH).

For additional information of the characteristics of disturbed ground, refer to the NSW OEH information sheet:

<https://www.environment.nsw.gov.au/Salis5app/resources/spade/reports/9130xx.pdf>

3.1.7 Section 6: Contamination related groundwater designations

The maps and tables in Section 6 of the report detail groundwater designations including:

- **The WaterNSW groundwater database.** WaterNSW maintain a database of groundwater bores installed across NSW. Groundwater wells can be installed for various reasons including irrigation, agriculture, and environmental monitoring purposes. The presence of groundwater wells at a site may be an indication that previous environmental investigations have been undertaken, particularly if multiple wells have been installed. For this reason, the report only lists groundwater bores which were installed for the purposes of monitoring, investigation, or remediation. It is noted that not all groundwater bores are required to be licensed under the *Water Management Act 2000*. Therefore, the dataset does not contain a

comprehensive list of groundwater bores in NSW. For further information regarding the groundwater bore database, refer to:

<https://realtimedata.waternsw.com.au/>

- **Botany groundwater exclusion zones.** Groundwater in parts of the Botany Bay area are known to be polluted. In 2006, the NSW Government introduced a ban on domestic use of groundwater within these areas. For further information, refer to the NSW Government website:

<https://www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions/botany-sands-gw>

3.1.8 Section 7: Dataset listing table

The dataset listing table provides details of the datasets used in the report, and includes the following fields:

- **Dataset Name** – the full name of the dataset;
- **Custodian** – the authority responsible for maintaining the dataset;
- **Supply Date** – the date the dataset was last retrieved from the custodian by Lotsearch;
- **Currency Date** – the date the dataset was last updated by the custodian; and
- **Update Frequency** – the frequency at which Lotsearch checks for updates to the dataset.

4 Next Steps

If you have any questions or require further advice, please send an email to support@lotsearch.com.au or call our customer support team on (02) 8287 0680.

Whilst the report draws information from a number of regulatory and historical data sources, it is not an exhaustive review of all information relating to potential contamination sources. Other datasets and searches exist that can provide additional information on the potential for contamination. These include but are not limited to:

- Title searches;
- Council property searches/certificates;
- Information on the potential presence of asbestos;
- Historical maps;
- Historical aerial photos;
- Dangerous goods search;
- Pollution notices, environmental management plans, and environmental audits;
- Acid sulfate soil potential; and
- Levels of soil salinity