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Department of Biodiversity,  
Conservation and Attractions

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## Identifying possibly contaminated sites

### What is contamination?

Contamination occurs when a substance that is detectable above natural background concentrations in the land or waters of a site is at a high enough concentration that it presents, or has the potential to present, a risk of harm to human health, to the environment or any environmental value.

Common contaminants of concern include:

- Heavy metals (such as lead, mercury and chromium);
- Fuels (such as petrol and diesel), oils and greases;
- Solvents, paints and glues; and
- Asbestos.

### What may have caused contamination on a site?

Contamination most often occurs because of poor practices undertaken on industrial, commercial or agricultural land. Such contamination often results from leaking containers, accidental chemical spills, or improper waste disposal practices. Highly contaminated sites are often a result of long-term bad practices and are usually contaminated by a wide range of substances. In the past, contaminated soil may also have been unknowingly imported onto sites as fill material for earthworks.

Land use activities that may cause contamination include, but are not limited to:

- Fuel storage (including service stations);
- Chemical manufacturing (including pesticide formulation);
- Power stations;
- Gasworks;
- Agricultural use (including market gardens);
- Landfill sites; and
- Large industrial facilities.

Historical records from local government authorities and the Department of Land Information may help to identify past owners and land uses. The Department of Environment and Conservation (DEC) Guideline,

*Potentially contaminating activities, industries and land uses (October 2004)*, provides you with advice on how to determine whether a site has previously supported a potentially contaminating activity, however the list is not exhaustive.

It is important to note that site contamination can originate from a nearby property, which may impact adjacent sites through surface drainage and/or movement of groundwater. You should therefore also consider land uses of neighbouring sites when attempting to determine if a site may be contaminated.

### What are the typical signs of contamination?

Effects of contamination can be seen in a variety of different ways, both obvious and subtle. Some contaminants may exhibit no observable effects in the immediate area. Contamination may be present in soil, surface water or groundwater, and may affect air quality through the release of vapours or if dust is generated.

Some visible signs of potential contamination may include:

- Presence of chemical storage containers or fuel tanks, particularly where losses or spills have occurred, or storage is substandard.
- Surface chemicals or wastes noted in the soil during site works.
- Abnormal odours, discolouration or staining of soil (on surface soils or when conducting earthworks).
- Oily or discoloured surface waters on or near the site.
- Vegetation death or impact, or ground where plants will not grow.
- High numbers of animal deaths (e.g. birds, fish).
- Evidence of a former landfill or historical, illegal or uncontrolled areas of waste disposal e.g. rubbish emerging from the ground.
- Continued health complaints from members of the local community e.g. headaches, nausea, skin problems.



One or more of these signs existing on or near a site may mean that the site is contaminated, and further investigations of the site may be necessary. You should also be aware that the absence of these indicators does not guarantee that the site is free from contaminants, and the only way to determine the status of the land is to have the appropriate investigations conducted (refer to Fact Sheet 2, *Staged approach to site assessments*). Environmental consultants can determine the type and extent of contamination on a site and, if needed, provide you with the cost estimates associated with site remediation (clean-up). For further information please refer to Fact Sheet 5, *How to hire a contaminated site consultant or an Accredited Auditor*.

### **What is not considered 'contamination' under the *Contaminated Sites Act 2003*?**

Examples of sites that are not considered contaminated under the Act include:

- A site containing a substance above background concentrations (such as sodium chloride) resulting from land salination associated with broad scale agricultural practices.
- An area containing an explosive substance within an unexploded ordnance.
- Surface waters affected by eutrophication (increased level of nutrients) where no other contaminants are present.
- A site where domestic sewerage systems (e.g. septic tanks) and areas of land around these systems have a substance, such as sewage effluent, present (from correctly using the system).
- Substances contained within a building or part of a building structure, such as asbestos within asbestos cement sheeting/tiling/insulation within a building.
- Land that has been subject to correctly applied fertiliser, herbicides or pesticides.

### **Why should I assess my site if contamination is suspected?**

- Contamination on a site can harm human health and the environment.
- Contaminants can spread to neighbouring properties, greatly increasing the costs of investigation and remediation. This may be prevented if contamination is detected early.
- Health problems reported by workers or occupiers of the site resulting from unknown contamination can result in legal action against the site owner.

- Modification of the site (e.g. subdivisions or changes in land use) may be prohibited if contamination is present or suspected.
- Loans from financial institutions may be rejected when borrowing against the site, if the institution suspects the site may be contaminated.
- Future owners of the site may be able to hold you responsible for remediation costs.

### **Who do I contact?**

DEC should be informed if you know or suspect a site is contaminated to prevent any adverse effects on the occupiers of the site, their neighbours or the environment. Under the Act, it is an offence for certain people (such as the owner/occupier of a site or a person who caused contamination) not to report a known contaminated site to DEC. Failure to report a site by these parties attracts fines of up to \$250,000 for individuals and \$1,250,000 for companies, along with additional daily penalties until the site is reported. Third parties, such as neighbours, can also report suspected contaminated sites to DEC, but have no legal duty to do so under the Act. Fact Sheet 4, *How do I report a site?* provides more information on how to report a known or suspected contaminated site to DEC under the Act.

### **Need more information?**

DEC has published a series of fact sheets and administrative and technical guidelines to assist with the assessment, management and remediation of contaminated sites in Western Australia; these are available by going to [www.dec.wa.gov.au/contaminatedsites](http://www.dec.wa.gov.au/contaminatedsites).

Further information is available by mail from the address below or by calling the Contaminated Sites Section on 1300 762 982.

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