



## Is this a Contaminated Site?

### ■ Introduction

This fact sheet provides information for land owners, developers, earthworking crews, contractors and consultants about contaminated sites, including the causes and effects of contamination as well as what to look out for.

### ■ Causes of contamination

Past or present land use on a site can cause contamination. Some industrial or agricultural/horticultural land uses have a higher probability of contaminating a site than others and can include:

- Use of agricultural chemicals e.g. in glasshouses, orchards, vineyards and market gardens
- Waste disposal (controlled or uncontrolled)
- Accidental chemical spills or leaks
- Storage or transportation of contaminants into a site from neighbouring land, either as fill material, vapour, leachate or movement of liquids through the soil

Persistent contaminants can remain in the soil or groundwater for many, many years.



The Ministry for the Environment has developed a Hazardous Activities and Industries List (HAIL: [www.mfe.govt.nz/issues-industries-list.pdf](http://www.mfe.govt.nz/issues-industries-list.pdf)) of land uses that have a high probability of contaminating a site.

## ■ What is contaminated land?

Land is contaminated when environmentally hazardous substances are present in the soil, sediment, or groundwater at concentrations in excess of local, natural background levels.

Assessment may indicate a short or long-term risk to human health and the environment.

The RMA and PARP:ALW contain regulatory definitions of “contaminated land”, and the PARP:ALW also defines “land containing elevated levels of contaminants”.

## ■ How can I tell if a site is contaminated?

### **Odours and discolouration**

- Does it look or smell contaminated (i.e. diesel or household refuse)

### ■ **Know former land uses**

- Check the history of a site (e.g. old service station; industrial or horticultural land use; Auckland CBD location; Auckland waterfront location; historical filling) before starting earthworks and excavations
- Check with the Auckland Regional Council (ARC) or relevant city/district council for records of former land uses, any spills or pollution incidents
- Look at aerial photos of former sheep dip and horticultural sites, talk to landowners and neighbours and look for shelterbelts on the property (suggesting past horticultural use)
- This knowledge may indicate contaminants that can't be seen or smelt such as arsenic, lead and DDT

## ■ If you suspect contamination:

- Stop work in the area and engage a suitably qualified and experienced consultant to investigate the extent of contamination noting location and possible sources etc.

## ■ When should a site be investigated?

The ARC requires you to investigate any site that could have been contaminated from the current and/or historic land uses. An experienced site investigator needs to carry out the investigation and to test the soil for contaminants. The ARC has a list of consultants experienced in this work on its website.

Soil and water samples should be analysed to determine:

- The extent of the contamination and the location of any hotspots
- The depth to which the contaminants have migrated
- Whether, and to what extent, the contamination has affected groundwater, surface water and sediment runoff

A contaminated site needs to be investigated so that its risk level can be assessed. Because the former land use will determine the source and location of the contaminants (e.g. hydrocarbons around an underground diesel tank, DDT or other pesticides in the surface soils of horticultural sites) it is vital that the soil and groundwater are investigated and sampled before earthworks start.

## ■ Soil from a contaminated site should not be disposed of as cleanfill material.

## ■ Why do contaminated sites sometimes require remediation?

Contaminated soil, surface water, sediment or groundwater may adversely affect human health or the environment e.g. streams and estuaries.

The effects on human health from contaminated soil can arise from contact with the soil or groundwater, ingestion of soil, inhalation of dust and consumption of contaminated vegetables from the site, as well as from uptake and subsequent bioaccumulation by plants and animals.

The effects on the environment can occur in several ways, including direct uptake of contaminants by plants and animals, or through the movement of contaminants to ground or surface waters. Some contaminants, such as copper, are more toxic to aquatic plants and animals than to humans.



## ■ Your site is contaminated: now what?

Contact the ARC to discuss remediation or management options. This is to ensure the contamination does not pose an unacceptable risk for the proposed land use and that, if necessary, appropriate consents are obtained for remediation or management of your site.

## ■ For more information

The ARC has another fact sheet "Cleanfills", which contains information about managing cleanfills and protecting the environment from contamination. Copies are available online at [www.arc.govt.nz](http://www.arc.govt.nz) or upon request.

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