



## Resource Sheet 3

### Site assessment

#### Key considerations

<b>Expertise</b>	<p>Consider the type of expertise required to perform the site assessment. 'Environmental Consultants' typically perform assessments for a wide range of contamination issues, while 'Occupational Hygienists' are normally specialists in relation to asbestos.</p> <p>Consider whether an accredited Site Auditor should be appointed to oversee the site assessment and any subsequent remediation works. Site Auditors can be required when works are regulated under the <i>Contaminated Land Management Act 1997</i> or <i>Environmental Planning and Assessment Act 1979</i>, but can also provide great value where complex contamination issues exist, or where the property will be the subject of a high value transaction.</p> <p>Ensure the person carrying out the environmental site assessment is suitably qualified, and consider requirements for formal certification under an EPA-recognised scheme.</p>
<b>Understanding of the identified contamination</b>	<p>Ensure the person carrying out the assessment has access to all relevant property information, and clearly understands the long term objectives for the property.</p> <p>Perform the site assessment to determine the location and extent of the contamination, the fate and transport of the identified contaminants, and the impacts on the property management objectives.</p>
<b>Risks posed by the contamination</b>	<p>Consider evidence of harm to human health and/or the environment, potential exposure pathways and evidence of off-site impacts. Also consider any business risks that may arise due to the contamination, including legal, financial or reputational risks.</p> <p>Assess whether any preventative actions can be implemented to avoid further contamination from occurring.</p>
<b>Reporting to EPA</b>	<p>Results of a site assessment may oblige the land manager to report the contamination under s. 60 of the <i>Contaminated Land Management Act 1997</i>.</p>
<b>Information management</b>	<p>Information generated through the site assessment should be managed in a centralised system to maintain corporate knowledge.</p>

**Financial liabilities**

Consider any requirements for the calculation and reporting of financial liabilities associated with the contamination.

## Guidelines

Source	Resource
NSW EPA	<p><b>Guidelines for Consultants Reporting on Contaminated Sites</b> (August 2011)</p> <p>The purpose of these guidelines is to ensure that reports prepared by consultants on the investigation and remediation of contaminated land contain sufficient and appropriate information to enable efficient review by regulators, the Site Auditor and other interested parties.</p>
NSW EPA	<p><b>Guidelines for the NSW Site Auditor Scheme</b> 2nd edition (April 2006)</p> <p>These guideline apply to individuals seeking to be accredited as site auditors in NSW, to those already accredited, and other people with an interest in contaminated sites – such as consultants and local councils. The guidelines introduce the NSW Site Auditor Scheme, and outline the process for accreditation and renewal of accreditation; conducting site audits and contamination assessment, remediation and management.</p>
NSW EPA	<p><b>Guidelines for the Assessment and Management of Groundwater Contamination</b> (March 2007)</p> <p>The guidelines outline a best-practice framework for assessing and managing contaminated groundwater in NSW. The guidelines focus on groundwater pollution arising from point source contamination rather than on broad-scale groundwater issues arising from diffuse sources.</p>
NSW EPA	<p><b>Sampling Design Guidelines</b> (September 1995)</p> <p>The NSW EPA has prepared these guidelines to encourage the use of statistically-based approach to the design of sampling plans for contaminated sites and the interpretation of these samples for assessing and validating sites; and provide a convenient summary of statistical methods.</p>
NSW EPA	<p><b>Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997</b> (September 2015)</p>

The guidelines provide information on two key aspects of the duty to report contamination under the *Contaminated Land Management Act 1997*. The guidelines sets out the duty of landowners and those who have responsibility for contamination to report it to the EPA. They also outline how the EPA assesses and determines whether contamination is significant enough to warrant regulation.

**National Environment Protection Council**

***National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)***

The National Environment Protection Measure consists of a policy framework for the assessment of site contamination, Schedule A (Recommended General Process for the Assessment of Site Contamination) and Schedule B (Guidelines).

Schedule B guidelines include:

- Guideline on Investigation Levels for Soil and Groundwater;
- Guideline on Site Characterisation
- Guideline on Laboratory Analysis of Potentially Contaminated Soils
- Guideline on Site-specific Health Risk Assessment Methodology
- Guideline on Ecological Risk Assessment
- Guideline on Methodology to Derive Ecological Investigation Levels in Contaminated Soils
- Guideline on Ecological Investigation Levels for Arsenic, Chromium(III), Copper, DDT, Lead, Naphthalene, Nickel and Zinc
- Guideline on the Framework for Risk-based Assessment of Groundwater Contamination
- Guideline on Derivation of Health-based Investigation Levels
- Guideline on Community Engagement and Risk Communication
- Guideline on Competencies and Acceptance of Environmental Auditors and Related Professionals.

**ANZECC**

Published by ANZECC and the Agriculture and Resource Management Council of Australia and New Zealand, Paper No. 4 (October 2000)

**Australian and New Zealand Guidelines for Fresh and Marine Water Quality**

The document

- outlines the important principles, objectives and philosophical basis underpinning the development and application of the guidelines
- outlines the management framework recommended for applying the water quality guidelines to the natural and semi-natural marine and fresh water resources in Australia and New Zealand.

- provides a summary of the water quality guidelines proposed to protect and manage the environmental values supported by the water resources
- provides advice on designing and implementing water quality monitoring and assessment programs
- has also been revised using data, relevant literature, and other information available to at least 1996.

**NSW EPA**

**Assessment and remediation of Light Non-Aqueous Phase Liquid (LNAPL) contamination** (August 2015)

This technical note describes the steps the EPA expects to be taken to identify any release of Light Non-Aqueous Phase Liquid and the EPA's general expectations in relation to the management and remediation of Light Non-Aqueous Phase Liquid contamination at a site.

**NSW EPA**

**Investigation of service station sites** (April 2014)

This technical note describes industry best practice in the assessment of service station sites in line with relevant legislation, policies and the National Environmental Protection (Assessment of Site Contamination) Measure 1999.

**NSW EPA**

**Landfarming** (April 2014)

This best practice note outlines the EPA's expectations for those who undertake soil remediation in NSW using landfarming. It aims to promote good practice and assist practitioners to comply with the requirements of the *Protection of the Environment Operations Act 1997*, particularly the uncontrolled release of emissions to air, land and water.

**NSW EPA**

**Information for the assessment of former gasworks sites** (July 2005)

This resource provides Information about a broad explanation of the contamination associated with former gasworks sites. It includes background information about gasworks sites, a summary of existing guidance material to assist in the assessment of these sites and useful references for further reading.

**NSW EPA**

**Underground Petroleum Storage Systems (UPSS)** (September 2014)

This resource provides background on the Underground Petroleum Storage Systems Regulation and guidance materials available for assessing sites with underground fuel storage.

NSW EPA	<p><b>Vapour Intrusion</b> (September 2010)</p> <p>This technical guidance provides an advisory note to assist practitioners on the assessment of vapour intrusion on contaminated land in NSW. It should be read in conjunction with national guidance documents, recognised industry best practice, standards and other technical publications.</p>
NSW EPA	<p><b>Assessment and Management of Sites Impacted by Hazardous Ground Gases</b> (November 2012)</p> <p>These guidelines provide advice on recognising and appropriately managing risks due to hazardous ground gases during the assessment and remediation of potentially contaminated land or during the development of land adjacent to sites impacted by hazardous ground gases.</p>
WorkCover NSW	<p><b>Managing asbestos in or on soil</b> (March 2014)</p> <p>Provides general guidance on the assessment and management of asbestos in soil. The guidance provided in this document applies principally to legacies from poor historical onsite management of asbestos materials, and not to illegal disposal or landfilling activities related to waste generated offsite.</p>
NSW EPA	<p><b>Guidelines for Assessing Banana Plantation Sites</b> (October 1997)</p> <p>These guidelines relate to sampling former banana plantation sites to estimate the extent of contamination posed by primary contaminants, specifically arsenic and organochlorine pesticides, and validating the remediation of sites, i.e. demonstrating that cleanup criteria have been met and that the site is suitable for residential use.</p>
NSW EPA	<p><b>Guidelines for the Vertical Mixing of Soil on Former Broad-acre Agricultural Land</b> (January 1995)</p> <p>The guidelines are aimed at environmental professionals or council staff who want to investigate the feasibility of using vertical mixing, whether for large development projects or single building allotments. Vertical mixing of soil is essentially the process of remediating contaminated surface soils by mixing them with cleaner soils found at greater depths. The guidelines also contain a number of prerequisites for using vertical mixing.</p>
NSW EPA	<p><b>Guidelines for Assessing Former Orchards and Market Gardens</b> (June 2005)</p> <p>The guidelines are primarily for local councils, the urban development industry, environmental consultants and other groups</p>

with an interest in site redevelopment. Using a mix of technical and nontechnical information, they provide basic guidance about the contamination issues to consider when deciding on the suitability of new uses for former orchard and market garden sites.

<b>Australian Standards</b>	<b>Provisions, Contingent Liabilities and Contingent Assets (AASB137)</b>
	The Standard sets out requirements for the calculation of provisional and contingent liabilities.

## Tools

Source	Resource
NSW EPA	<b>Consultants and the site auditor scheme</b>  The NSW EPA website has useful information on how to engage a consultant.
NSW EPA	<b>Guidelines under the CLM Act</b>  The NSW EPA website lists guidelines made or approved under s.105 of the <i>Contaminated Land Management Act 1997</i> .
NSW EPA	<b>Further guidance</b>  The NSW EPA website lists further technical guidance on the assessment of contamination in NSW.
AIOH	<b>Australian Institute of Occupational Hygienists</b>  The Australian Institute of Occupational Hygienists website provides information on hygienists that satisfy the requirements for Australian Institute of Occupational Hygienists membership.

### Disclaimer

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