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Mine sites and the *Contaminated Sites Act 2003*

The *Contaminated Sites Act 2003* (CS Act) was developed to manage the legacy of contamination resulting from spills, leaks and past waste disposal practices. It complements (rather than duplicates) the measures in the *Environmental Protection Act 1986* (EP Act) aimed at preventing pollution and environmental harm.

What is contamination?

Contamination is any substance present at above background concentrations in the land or waters of a site that presents or potentially presents a risk of harm to human health, the environment or any environmental value (s.4 CS Act). It may be present in soil, surface water or groundwater and may also affect air quality through the release of vapours or dust generation.

Under the CS Act, known or suspected contamination must be reported to the Department of Environment and Conservation (DEC). Once a site is reported, DEC will work with the Department of Health (DoH) and classify the site based on the level of risk it poses to the environment and human health. The CS Act lists seven possible classifications:

1. Report not substantiated
2. Possibly contaminated – investigation required
3. Not contaminated – unrestricted use
4. Contaminated – restricted use
5. Contaminated – remediation required
6. Remediated for restricted use
7. Decontaminated

More information on site classifications can be found in Fact Sheet 9, *Site Classifications – what do they mean?*

Who must report known or suspected contaminated sites?

Under section 11 of the CS Act, any person who knows or suspects a site to be contaminated may report that site to DEC. However, section 11(4) places a duty upon the following people who know or suspect that a site is contaminated to report that site to DEC:

- an owner (see s.5 of the CS Act) or occupier (see s.3 of the CS Act) of the site¹; and
- a person who knows, or suspects, that he or she has caused, or contributed to, the contamination; and
- a Contaminated Sites Auditor (accredited under s.69 of the CS Act) engaged to provide a report that is required for the purposes of the CS Act in respect of the site e.g. when a mandatory auditor's report is required under the *Contaminated Sites Regulations 2006* (Regulations).

The duty to report in the CS Act is deliberately broad, to ensure that all contaminated sites are identified and recorded. In some cases several parties will have a duty to report on the same site. In such cases, the parties involved can choose to collaborate and submit a single, combined report to DEC.

When reporting a site to DEC the cadastral property description, not the mining tenement number, must be used. More information on reporting can be found in the DEC Guideline, *Reporting of known or suspected contaminated sites*.

Only one report is required for each cadastral parcel – even if there are a number of areas of contamination on that one parcel.

A report under the CS Act must be made by submitting Form 1 – *Report of a known or suspected contaminated site* (available on the DEC website at www.dec.wa.gov.au/contaminatedsites). The report should be accompanied by information addressing the contamination, e.g. investigation or remediation and timeframe for completion.

Mine sites and contamination

Mining and extractive industries are listed as potentially contaminating activities under the DEC Guideline, *Potentially contaminating activities, industries and land uses* (December 2004).

¹ Where a mining tenement and/or a pastoral lease is held over Crown Land, the mining tenement holder and/or pastoral lease holder would be considered an "occupier" rather than an "owner" of that Crown Land.

Inclusion in this list does not infer that all mine sites are contaminated sites, but due to the nature of the activities undertaken at the site (e.g. processing of ore, leaching of metals, bulk chemical storage), there is a greater likelihood the site may have been contaminated. It is often the operation and general housekeeping practices at a site that cause contamination, rather than the activity and the associated chemical(s) used at a site.

Management of contamination at mine sites

It is not proposed that all mine sites are reported to DEC as contaminated sites. Contamination at mine sites should only be reported where:

- There are grounds to suspect contamination (e.g. where chemical drums have been stored on an earthen floor (unsealed) with no bund and there has been a history of leaks and spills from the drums)

- There is known contamination (e.g. soil and/or groundwater investigations have been undertaken at a site and indicate contamination).

Before reporting a site under the CS Act, people responsible for reporting contaminated sites should take into account the individual's or the corporation's knowledge of the site and the provisions of the CS Act. If necessary, responsible parties should obtain expert advice as to whether a report is to be made.

Some examples which may be considered when evaluating whether a site should be reported to DEC under the CS Act are shown below. The decision to report a site should not be based solely on these examples.

Examples of when to report known or suspected contamination

Example	Report	
	Yes	No
Seepage from the tailings storage facility is uncontrolled (i.e. there is no underdrainage) and groundwater is impacted (known contamination).	✓	
The tailings storage facility is well managed and there is no seepage to the environment.		✓
Chemical drums are located on an earthen floor with no bunding and there has been a history of leaks and spills from the drums (suspected contamination).	✓	
There has been a history of losses from the oil underground storage tanks on site (suspected contamination).	✓	
The diesel underground fuel line ruptured and 100,000L of fuel was released into the surrounding environment before the rupture was detected (known or suspected contamination).	✓	
Results from the groundwater monitoring bores at the site have detected concentrations of substances greater than the assessment levels for water listed in the DEC Guideline <i>Assessment levels for soil, sediment and water</i> (November 2003) (suspected contamination).	✓	
The heap leach pad at the site overflowed due to extreme weather conditions and a significant volume of material was released into the environment. The released material has been removed and validation samples have confirmed that no residual material remains (no contamination remains on site).		✓
There was a chemical spill from the above ground storage tank, which is located within a concrete bund (spill is contained and therefore there is no impact to the environment or human health).		✓
There was a 2L spill of diesel in the vehicle maintenance workshop area (should be cleaned up so as not to pose a risk to the environment or human health).		✓
The tailings pipeline breached and an insignificant volume of tailings were released into the surrounding environment (no impact to the environment).		✓
The waste dumps at the site contain concentrations of minerals in excess of DEC Assessment levels (suspected contamination).	✓	

Mine sites licensed by DEC

All premises affected by contamination issues which are licensed under the EP Act will still need to be reported under the CS Act. As far as possible, management of contamination at licensed mine sites will be co-ordinated with the EP Act licensing process.

Annual Environmental Reporting

EP Act licence conditions require the submission of an Annual Environmental Report (AER). Where there is known or suspected contamination at a site and following a report of the site under the CS Act, the AER will need to detail the contamination i.e. the nature, extent and management of the contamination (as outlined in the DEC Guideline, Reporting on site assessments (December 2001)) to ensure there is no risk to either human health or the environment.

For example, monitoring bores surrounding a tailings storage facility (TSF) are sampled on a quarterly basis, as part of the EP licence compliance. The results from the monitoring program are provided to DEC within the AER. Concentrations of analytes greater than licence limits and the assessment levels for water listed in the DEC Guideline, Assessment levels for soil, sediment and water (November 2003) will need to be highlighted in the report and comment provided on whether the TSF has caused contamination, and if so, how it is being managed.

Discharge of waste reporting

Section 72 of the EP Act requires licensees to report the details to DEC of any discharge of waste that has occurred as a result of an emergency, accident or malfunction, or occurs otherwise than in accordance with a works approval or licence or with a requirement contained in an environmental protection notice.

Where this discharge of waste results in known or suspected contamination, it must also be reported by submitting Form 1.

To help DEC maintain accurate and up-to-date records of contaminated sites, people reporting a discharge of waste under s.72 which they know or suspect has caused or contributed to contamination, are asked to provide a copy of the report to the DEC Land and Water Quality Branch Manager.

For more information, please refer to Fact Sheet 4, *How do I report a site?*

Classification of sites

Based on the information provided in Form 1 and the reports required under the EP Act, DEC and DoH will classify the site based on the level of risk the site poses to the environment and human health. This classification may apply to a whole parcel or reserve of land. There may be a number of areas in a mining operation site that are contaminated to differing degrees and, in such cases, the classification will either be applied to:

- the whole site based upon the most severe contamination at the site or;
- the appropriate portion of the site, provided accurate coordinates of the contaminated area are reported.

Management of contamination at the decommissioning phase

Contamination issues may be managed to prevent harm to human health and the environment with full remediation only being completed at the decommissioning phase. When determining the remediation and management measures required as part of decommissioning, consideration should be given to the final land use for the site (e.g. pastoral use or grazing for native animals) and appropriate remediation completed.

For example, the TSF has been rehabilitated in accordance with the requirements of the Department of Industry and Resources (DoIR) under the Mining Act 1978. From a contaminated sites perspective, the decommissioned TSF will need to be investigated in terms of its risk to human health and the environment e.g. the potential for human health risks if the tailings material is exposed and whether the tailings provide an ongoing source of impact to the groundwater.

Management of contamination at historical/abandoned mine sites

For historical or abandoned mine sites (i.e. where no Environmental Protection Authority or DoIR approvals are relevant), known or suspected contamination will need to be reported to DEC by the owner, occupier, person who caused or contributed to the contamination, and a contaminated sites auditor engaged at the site.

Contaminated sites auditors

Circumstances in which a mandatory auditor's report is required include:

1. a request for a certificate of contamination audit is made in respect of land;
2. contaminated groundwater is moving off the cadastral boundary of the mining operation and impacting a neighbouring property i.e. the site is a "source site"; or
3. an investigation or remediation report is required as part of an Environmental Protection Act licence condition or other statutory approval process or an investigation, clean up or hazard abatement notice has been issued under the CS 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.

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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