

CONTAMINATED LAND – WHAT? WHO? AND WHAT NEXT?

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INTRODUCTION

The investigation of contaminated land is a growing field. Land prices are rising rapidly and there are big profits to be made through development of small pieces of land. Brownfield sites (those previously occupied by an industrial use) are now more appealing to the developer. Associated with this is the concern over contamination :

- Is there likely to be any?
- Would it affect human health or the environment?
- When would it have occurred?
- What can we do about it?
- Who was responsible?

The Environmental Protection Act (Part IIA (2000)) enforced a legal duty of care on Local Authorities and Regulators to ensure that risks to human health or the environment is within acceptable limits.

INVESTIGATIVE STEPS

Phase 1 Report

- Information gathering to ascertain site history and possible links to contamination. Includes topography, hydrology, and geology.
- Site visit to look for possible sources of contamination.
- Assess need for an intrusive environmental investigation. If YES, a Phase II investigation will take place.



Is this diesel tank responsible for an environmental crime?

GATHERING THE EVIDENCE

Phase 2 Investigation

- Intrusive investigation of site to examine soil, groundwater and landfill gas.
- Lab analysis of samples for contaminants relating to former/current site use.
- Monitoring to determine if site contamination, caused on site or outwith boundaries. Detailed chemical speciation for determining link between land use and contamination.
- Is it fresh or weathered?
- How deep is it?
- How far has it spread and where is the point source?

CASE STUDIES

- A former pig farm is set for redevelopment as luxury homes when a neighbouring resident objects on the grounds that pig carcasses had been buried on the site. Can we prove/disprove this and if it is true does it constitute a risk?
- A partly-full diesel tank was stolen – was there a fuel leak during the theft? Which route did thieves take? Has fuel contaminated only the soil or also leaked into the groundwater?

Such real case studies require investigation of the facts to determine the extent of any contamination and to form plans of action.



Who caused this soil to become contaminated with oil residues?



Sometimes the cause seems obvious but a thorough investigation is needed

WHO IS THE CULPRIT?

'Appropriate persons' are identified from evidence gathered as:

- Class A – those who cause or allow the pollution of the land.
- Class B – are the owner(s) or occupier(s) of the land.

If the investigation cannot identify a Class A person, a Class B person may become liable. If the Local Authority cannot identify a Class A or Class B person they may have to share the remedial works cost. Any appropriate persons identified in relation to the land contamination must pay a share of the remediation costs.

Sometimes land is "sold with information" relating to the possibility of contamination existing on the site, at a cheaper price. Therefore the new owner accepts responsibility for cleaning up the site.

WHAT NEXT?

Assuming contamination and responsible persons are found, clean-up operations can commence. Actions depend on the degree of contamination, timescale, budget and intended use of the site.

- Risk assessment modelling can be used for scenarios of future use (e.g. commercial/industrial, residential with/without gardens, parking).
- Acceptable limits of contamination depend on end use. If a site will "fail" for the residential use but "pass" for an industrial use, the owner may decide to alter intended use.
- Remediation work may require material to be removed and disposed, known as "dig and dump".
- Contamination regarded as immobile and non-volatile can be capped off from site users by geotextile membranes, concrete and tarmac barriers.
- Soil can be remediated using a range of methods.

A final Site Validation Survey ensures fitness for purpose and poses no threat to the users or the environment.

JUSTICE IS DONE



Development of the brownfield land can now commence