

Why Clean Up Contaminated Sites?

A number of sites in British Columbia contain chemicals that cause damage to human health, the environment, and even underground services. Others pose a threat if they are not managed appropriately. Many of these are abandoned or underutilized commercial and industrial properties where there is an active potential for redevelopment. These types of sites are called “brownfields.”

What chemicals are found at these sites?

Heavy metals such as lead, arsenic, cadmium, and mercury are the most common inorganic substances found at sites in BC. Organic chemicals, including benzene and toluene in gasoline, occur at about two-thirds of our sites. Chlorophenols are common at wood treatment operations, as are benzo[a]pyrene and naphthalene from creosote. Polychlorinated biphenyls (PCBs) often occur at sites where electrical equipment has been in use.

What hazards do these chemicals pose?

Human health – The potential effects of hazardous chemicals on humans range from minor physical symptoms to life-threatening diseases such as cancer. Children are often most at risk from exposure to contaminated soil, air, water, and food.

Environmental health – Contaminated sites can seriously affect the environment by releasing chemicals that kill fish, impair the reproduction of birds, and contaminate the food web.

Utilities and services – In several cases, chemical contamination has affected underground

services. For example, short circuits in street lighting have been reported, the result of wire insulation being corroded by gasoline leaking from an underground tank.

What advantages are there to brownfield cleanups?

Left idle and unmanaged, brownfields represent a significant loss of economic opportunity. Cleaning up and redeveloping these sites offer such public benefits as:

- job creation,
- new housing and business development,
- additional property tax revenues,
- lower municipal infrastructure costs,
- preservation of agricultural land, and
- revitalized older neighbourhoods.

Who wants these sites cleaned up, and why?

- *Local governments* want land in their jurisdictions put to the most productive use, and are concerned about their potential liability when approving developments on contaminated land.
- *Land owners and developers* want to take advantage of business opportunities, and wish to avoid long-term liability for contamination and its effects.
- *Bankers* are reluctant to lend money for development of contaminated land, fearing they may have to pay for site cleanups if loans default.
- *The ministry* wants to ensure that high risk contaminated sites are cleaned up to ensure environmental and human health protection.

What legal controls are in place?

The *Environmental Management Act* is the main law governing contaminated sites in BC. It was brought into force in July 2004 (replacing the former *Waste Management Act*) and contains specific provisions for these sites, including standards for site identification, assessment, and remediation. Other provisions are laid out in the newly amended Contaminated Sites Regulation, which also took effect in July 2004.

Based on the 2003 report of the Minister's Advisory Panel on Contaminated Sites, recent amendments include provisions for:

- streamlining the cleanup of low and moderate risk sites by adopting increased reliance on the advice of approved professionals;
- sharpening the focus of ministry staff solely on high risk sites; and
- encouraging the use of risk-based site cleanups, where contaminants are left in place and exposure to them is managed to meet provincial standards.

Goals of the legislation and regulations

The *Environmental Management Act* and Contaminated Sites Regulation are intended to:

- **Provide environmental protection** by using a consistent approach to ensuring that human health, the environment, personal property and utilities are protected from contamination.
- **Establish requirements for site remediation** by reducing current impacts and preventing future problems from site use, off-site migration of contaminants, and inappropriate off-site soil relocation.

- **Implement the “polluter pays” principle** by ensuring that those responsible for causing contamination pay for remediation.
- **Foster independence and efficiency** by offering mechanisms for cleaning up sites independent of government involvement.
- **Enhance business certainty** by providing clear rules and information so business can predict costs quickly and easily.
- **Establish flexible standards** by providing practical options to ensure that soil remediation and contaminated soil relocation meet provincial standards.
- **Focus ministry efforts on high risk sites** by requiring reports and plans for low and moderate risk sites to be reviewed by approved professionals.
- **Provide access to site information** by enabling all stakeholders to quickly and easily obtain information about the nature and legal status of sites.
- **Enable formal certification** by issuing formal approval documentation to those parties planning and completing site remediation.
- **Provide liability protection** for local governments in their administration of the contaminated sites legislation and regulations.

For more information, contact the Environmental Management Branch at site@gov.bc.ca