

Environmental Site Assessments

Introduction

LEHDER has the capability of conducting Environmental Site Assessments from the Phase I investigation through to Remedial Plan development and implementation.

Phase I

A Phase I property evaluation is the first step in evaluating whether there may be any environmental liabilities associated with a property. Phase I assessments are often requested by owners, purchasers or financial institutions prior to a property transfer or as a preliminary step in facility decommissioning.

LEHDER Phase I Capabilities

LEHDER conducts detailed Phase I assessments for a variety of industrial and commercial clients. These Phase I assessments typically include review of the following:

- Historical air photographs of the site
- Insurance maps and files
- Health and safety committee activities
- Raw materials used in the processes and by-products created
- Detailed building drawings
- Corporate environmental files
- Information on the land title
- Regulatory agency environmental files

In addition to these reviews, a site inspection must be done to visually identify any potential environmental problems such as staining of surface soil, stressed vegetation, and underground storage tanks. LEHDER also conducts interviews with management and supervisory personnel regarding housekeeping and historical disposal practices.

Phase II

A Phase II site investigation may be required as a result of a Phase I property assessment. A Phase II will assist in evaluating any suspected environmental liabilities identified in a Phase I assessment.

LEHDER Phase II Capabilities

LEHDER conducts Phase II investigations for a variety of industrial and commercial clients. The scope and extent of these investigations is very site specific and may include:

- Asbestos, PCB and other designated substances characterization
 - Waste characterization of process and other materials
 - Underground storage tank testing
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LEHDER Phase II Capabilities /Continued

- Soil gas surveys to detect leaking hydrocarbons or volatile contaminants
- Geophysical surveys to identify tanks, sewers or contaminant occurrence
- Surface water or sewer sampling
- Surface and subsurface soil sampling
- Ground water monitor well installation, testing and sampling

The results must be interpreted according to the management objectives of the site, the nature and environmental mobility of contaminants present and the intended use of the site.

Hydrogeological Studies

A hydrogeological study is often conducted in conjunction with Phase II environmental site assessments to determine potential liability associated with contaminated property.

The hydrogeological investigations are required to determine:

- the nature and extent of any subsurface contaminants present
- if ground water is a significant contaminant pathway, and
- the rate and direction of contaminant migration and any potential receptors which may be exposed to these contaminants

The results of these studies may be used in:

- site management or cleanup plans
 - routine site monitoring
 - design and management of solid or liquid waste facilities
 - managing ground water supplies and water quality
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LEHDER Hydrogeological Studies Capabilities

LEHDER has assembled a multi-disciplinary team of hydrogeologists, engineers, and contractors to plan and implement rigorous, site specific hydrogeological assessments.

The key elements of these programs are to:

- develop clear objectives for the investigation
 - review relevant background information including previous site studies, published studies on site setting, and chemical properties of potential contaminants
 - develop a “conceptual” site model of groundwater conditions
 - implement a strategic monitoring and testing program to validate the conceptual model with representative site information
 - identify and obtain the remaining critical data to complete the objectives of the investigation and overall understanding of site conditions
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**Phase III
Remediation**

The remediation plan must be designed according to the management objectives of the site, the nature and accessibility of the contaminants present and the intended use of the site. In Ontario, site management or cleanup objectives may be developed through generic guidelines or risk assessment. Depending upon the nature of environmental liabilities encountered, detailed engineering may be required to plan and implement the most cost effective remediation.

**LEHDER
Remediation
Program
Capabilities**

LEHDER conducts remediation programs for a variety of industrial and commercial clients. The scope and extent of these programs varies with client needs. LEHDER has conducted many remediation programs including:

- Bioremediation of soils contaminated with styrene
 - Decommissioning underground storage tanks (UST's)
 - Clean up of petroleum hydrocarbon spills
 - Removal of buried process wastes
 - Removal of contaminated sediment
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**For further
information**

For further information please contact:

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**About
LEHDER**

LEHDER recognizes our client's need to make decisions that provide for operational flexibility while meeting regulatory, economic and social requirements.

LEHDER Environmental Services Limited provides totally integrated solutions to industrial clients throughout North America. Our team of consulting professionals is built around our core strength in industrial environmental, health and safety management.

Visit our web site at www.lehder.com

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