

Phase I Environmental Site Assessment

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There are several purposes for conducting a Phase I Environmental Site Assessment (ESA). When a property is in the process of being redeveloped or decommissioned, a Phase I ESA will state any possible sources of contamination that could interfere with the redevelopment or decommissioning process. Banks will sometimes require a Phase I ESA before they agree to provide financing. When selling a property, a potential buyer will request to see a Phase I ESA before agreeing to purchase the property.

A Phase I ESA has three main components:

- **Records Review** – an extensive search of record pertaining to possible sources of contamination on the site is conducted. Some examples of records are: aerial photos, previous environmental investigations and company records. IRT searches all records that are required, and as many of the optional records as are accessible.
- **Site Visit** – an experienced IRT professional walks all over the site to identify any potential evidence of contamination. Some examples of evidence that is searched for include: stains on the floor or walls, underground and aboveground storage tanks, drains and sumps, wastewater and stressed vegetation.
- **Interviews** – these are conducted with at least one person knowledgeable about the history of the site. If possible, interviews are conducted with a third party such as a neighbour, or with government officials such as the Ministry of the Environment.

After these three components are completed, IRT will use the information that was found to write a report that is in accordance with the CSA Standard Z768-01. The report will usually have one of three conclusions:

- there is no evidence of contamination on the property;
- there is evidence of potential contamination on the property; or
- there is evidence of actual contamination on the property.

If the second or third conclusion is found to be true for the property, IRT will recommend that a Phase II ESA be completed.

Phase II Environmental Site Assessment

The purpose of a Phase II ESA is to verify the presence of contaminants on the property, and to characterize the extent and type of characterization. A Phase II ESA will often be recommended if the conclusions from a Phase I ESA show that there is evidence of potential or actual contamination on the property. A potential purchaser of the property may request to see a Phase II ESA before agreeing to buy the property. Phase II ESAs are also used to provide information for a record of site condition or a risk assessment. Sometimes several Phase II ESAs are required to fully determine the extent of contamination if the contaminants have traveled farther than originally anticipated.

Several steps are generally involved in completing a Phase II ESA:

- A Phase I ESA is examined (if available) to determine where potential sources of contamination are located on the property;
- Locations for testing are proposed based on a Phase I ESA, a previous Phase II ESA or a spill. Each location will contain a borehole, a monitoring well, a test pit or a grab sample of soil or water;
- The site investigation will be conducted. Samples of soil or groundwater will be collected from a borehole, a monitoring well, a test pit or a grab sample of soil or water. The samples will be sent to a laboratory and analyzed.
- The analytical data received from the laboratory is examined and the concentrations are compared to the appropriate Ministry of the Environment standards to determine if the concentrations are too high.

IRT then completes a report detailing the investigation. This report is in accordance with the CSA Standard CAN/CSA-Z769-00. There are several conclusions that could be drawn from a Phase II ESA:

- no evidence of contamination has been found;
- evidence of contamination has been found, and the extent has been delineated; or,
- evidence of contamination has been found, and the extent has not been delineated.

Depending on the conclusion, nothing more may need to be completed. A record of site condition can be drawn up. A risk assessment can be completed to determine the risks of the elevated levels of contamination on the site. Remediation can occur to clean up the contamination.