

Guidance for a Stage II Preliminary Site Investigation and Detailed Site Investigation

Sections 58 and 59 of the Contaminated Sites Regulation outline the requirements for preliminary and detailed site investigations. Investigators carry out a preliminary site investigation (PSI) in two stages, and the detailed site investigation (DSI) builds on the findings of the PSI. Guidance on a Stage I PSI is found in [Technical Guidance 10](#), and this document covers Stage II PSI and DSI.

The Stage II PSI investigates the findings of the Stage I PSI to confirm whether or not any of the Potential Contaminants of Concern (PCOCs) can be found in concentrations above an applicable numerical standard at each Area of Potential Environmental Concern (APEC). If a Stage II PSI confirms APECs and PCOCs, then a DSI must be completed. A DSI determines the extent and magnitude of any contamination identified in the Stage II PSI. Multiple investigations may be required before the extent and magnitude of contamination is understood at a site. This guidance document provides a summary of the general types of information expected in a Stage II PSI, and detailed site investigation (DSI) as required by the ministry. The information gathered from a Stage II PSI and DSI (along with Stage I PSI) will contribute to the completion of a [Summary of Site Condition](#).

Activities required in a site investigation:

Stage 2 PSI

The second stage of a preliminary site investigation enables the general location and degree of any contamination to be determined. This stage includes:

- sampling of relevant environmental media;
- laboratory or field instrumental analysis of sampled and selected environmental media for substances that may cause or threaten to cause contamination;
- other intrusive or non-intrusive methods of investigating subsurface conditions;
- assessment of substance concentrations relative to the standards in the Hazardous Waste and Contaminated Sites Regulations; and
- activities described in any protocols approved by a director.

DSI

- identify which substances are causing, or threaten to cause, adverse effects on human health or the environment and provide any applicable information on their form;
- identify the specific areas, depths, and degree of contamination at the site, including areas and extent of migration if applicable;

- evaluate contamination relative to standards in the Hazardous Waste and in the Contaminated Sites Regulations;
- describe the relationship between the detailed site investigation and any prior preliminary site investigation, discussing in particular how the methods of investigation and findings of the preliminary site investigation were used to design and carry out the detailed site investigation;
- provide a compilation and presentation of all field observations, field measurement, and analytical data and laboratory analytical data;
- provide an interpretation and evaluation of the data in a manner that clearly shows:
 - the contamination in soil, vapour, groundwater, sediments, or surface water in relation to standards in the Hazardous Waste and the Contaminated Sites Regulations; and
 - specific areas, depths, and degree of contamination, including migration which may have occurred to adjoining properties; and
- include a summary of the report so it can be entered on the Site Registry in a format specified in a protocol established by a director under section 64 of the *Environmental Management Act*.

Stage II PSI and DSI Guidance Checklist

The Stage II PSI and DSI Guidance checklists highlight the important features of a good stage II preliminary site investigation and detailed site investigation. This should be considered as guidance only. Some features are legally required, but not all are relevant in all cases. Environmental consultants and others using the attached checklist when conducting and reviewing stage one preliminary site investigations should also consider site-specific factors and the usefulness of information

provided in the detailed site investigation. The “Reference” column of the checklist references any relevant documents. The “Applicability” column should be reviewed to ensure all appropriate information is included.



Please note that the checklist is a dynamic document that is modified on the basis of input received. We welcome comments on suggested improvements to format and contents and we will continue to work to provide a document that is relevant to users.

Disclaimer

This checklist does not replace the *Environmental Management Act* or its regulations. It does not list all provisions relating to preliminary site investigations. If there are differences or omissions in this document, the Act and regulations apply.

For more information, contact the Environmental Emergencies and Land Remediation Branch at site@gov.bc.ca