



Research & Development Highlights

95-204 Technical Series

Environmental Site Assessment Interpretation Guidelines

Introduction

Lands contaminated with heavy metals, gasoline, or industrial chemicals are not ideal places to live. However it is difficult for a builder or householder to properly assess the degree of soil contamination. When a site is found to be contaminated, clean-up is usually mandatory, and the costs of clean-up may exceed the value of the land. Factors such as these have prompted most financial institutions, including CMHC, to require an environmental site assessment (ESA) of the property prior to approving any significant land transaction. Typical ESAs used in land transactions include:

- Phase 1: a relatively inexpensive site history and inspection,
- Phase 2; soil and water testing on a site with suspected contaminants, and
- Phase 3: clearance testing after a contaminated site has been remedied.

The *ESA* reports are submitted to banks and insurers usually by geotechnical firms, and reviewed prior to approval of the transaction. It is rare that the financial institutions have staff with geotechnical or chemical backgrounds, and so the *ESA* review may not be too rigorous. The practice of performing site assessments is relatively new. Assessment standards and professional associations are currently being created. Because of this level of uncertainty,

CMHC wanted to find out whether the ESAs submitted were of good quality, and if the field staff reviewing the ESAs required additional training or information to perform the task competently.

Research Program

A qualified consultant reviewed 70 ESAs submitted to, and accepted by, CMHC offices during 1993. He compared them to industry standards, which include CSA Z768-94, on Phase 1 Environmental Site Assessments, and the CMHC Policy for Managing Environmental Risks. Phase 2 and 3 ESAs standards do not yet exist, and these more complicated ESAs were reviewed for consistency, adherence to good practice, and completeness. The consultant also attended five meetings across Canada, held with CMHC field staff to learn about their concerns and explore training needs.

Findings

The findings are different for Phase 1 ESAs and the more complex Phase 2 and 3 ESAs. In the opinion of the consultant, about 30-40% of the Phase 1 ESAs had deficiencies serious enough to require re-submission of the document by the assessment contractor. In some cases this would involve simple clarifications on oversights. In other cases, the document was entirely wrong in calling for a Phase 2 investigation or in given the site a clean bill of health (when evidence gathered indicated a Phase 2 was necessary).

Generally, the staff interviewed was comfortable making judgments on the Phase 1 ESAs, although they could benefit from more extensive background material. The consultant created a modular reference document, "Phase 1 Environmental Site Assessment Interpretation Guidelines", that gives advice and examples of acceptable responses to the different parts of a Phase 1 ESA. The document was tested on CMHC staff and proved easy to use. It is now available from CMHC.

There were only about 20 Phase 2 and 3 ESAs in the sample assembled for the consultant. These ESAs are intrinsically more complicated, and require a trained assessor for evaluation. The consultant stated that about 50% of the Phase 2 and 3 ESAs reviewed had serious deficiencies. Some of this may simply be a difference of professional opinion. However, many of the ESAs were obviously deficient when compared to other examples, and the assessors conclusions about the site were insupportable. There were few CMHC staff who were currently capable of this professional review, so Phase 2 and 3 ESAs require an outside professional assessment if they are to be

accepted with a degree of certainty.

Implications for the Housing Industry

In order to protect themselves, and in order to satisfy financial agencies, builders and developers will need to have environmental site assessments performed, at least on larger properties. The development of standards for conducting these ESM will help users to obtain satisfactory ESAs. The creation of professional associations and certification will also help.

Documents such as the one produced in this project make it easier for those people without technical training to evaluate the Phase 1 ESM that they commission.

It is unlikely that many people involved in land transactions will have the requisite knowledge to properly review Phase 2 and 3 ESM. Choosing a well-qualified professional or having the work verified by professionals may be the best current options.

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*Research Report: Phase 1 Environmental Site
Assessment Interpretation Guidelines (1994)
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Limited*

*A full report on this research project is available from the Canadian
Housing Information Centre at the address below.*

Housing Research at CMHC

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