**Section 740.420 Comprehensive Site Investigation**

The comprehensive site investigation is designed to identify all recognized environmental conditions and all related contaminants of concern that may be expected to exist at a remediation site. The comprehensive site investigation shall be performed in two phases as set forth in subsections 740.420(a) and (b).

a) Unless an alternative is approved by the Agency, the phase I environmental site assessment shall be designed and implemented in accordance with the procedures for such assessments set forth in "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM E 1527-00), incorporated by reference at Section 740.125 of this Part.

b) The phase II environmental site assessment shall determine the nature, concentration, direction and rate of movement, and extent of the contaminants of concern at the remediation site and the significant physical features of the remediation site and vicinity that may affect contaminant fate and transport and risk to human health, safety and the environment. At a minimum, the phase II environmental site assessment shall include:

1) Sampling, analyses, and field screening measurements indicating the concentrations of contaminants, if any, from the Target Compound List at Appendix A of this Part and any other contaminants whose presence has been indicated by the phase I environmental site assessment. Based on the phase I environmental site assessment, the Agency may add or delete contaminants from the Target Compound List for sampling, analyses, and field screening measurements;

2) Characterization of sources and potential sources of recognized environmental conditions and the related contaminants of concern, identifying:

A) The sources or potential sources of contamination;

B) The contaminants of concern;

C) Statutory or regulatory classification of the contaminants of concern and contaminated materials (e.g., hazardous waste, hazardous substance, special waste);

3) Characterization of the extent of contaminants of concern, identifying:

A) The actual contaminated medium or media;

B) The three-dimensional configuration of contaminants of concern with concentrations delineated; and

C) The nature, direction, and rate of movement of the contaminants of concern;

4) Characterization of present and post-remediation exposure routes, identifying:

A) All natural and man-made pathways that are on the remediation site, in rights-of-way attached to the remediation site, or in any areas surrounding the remediation site that may be adversely affected as a result of a release (from the recognized environmental conditions) and whether there is evidence of migration of contaminants of concern, in either solution or vapors, along such pathways that may potentially threaten human or environmental receptors or that may cause explosions in basements, crawl spaces, utility conduits, storm or sanitary sewers, vaults or other spaces;

B) The locations of any human and environmental receptors and receptor exposure routes; and

C) Current and post-remediation uses of affected or potentially affected land, groundwater, surface water, and sensitive habitats; and

5) Characterization of significant physical features of the remediation site and vicinity that may affect contaminant fate and transport and risk to human health, safety and the environment.

(Source: Amended at 26 Ill. Reg. 7197, effective April 25, 2002)