

Dense Non-Aqueous Phase Liquid (DNAPL)

Dense non-aqueous phase liquids (DNAPLs) are denser than water and include chlorinated solvents such as tetrachloroethylene and trichloroethylene.

[Dense, Nonaqueous-Phase Liquids \(DNAPLs-4\)](#)

Section 2 (Overview of the DNAPL Problem)

This section presents an overview of the DNAPL problem, a general description of DNAPL flow in the subsurface, and describes why conventional approaches to characterizing DNAPL site can be ineffective.

[Integrated DNAPL Site Characterization \(ISC-1\)](#)

[Section 2.1;](#)

[Section 2.2;](#)

[Figure 2-1;](#)

[Figure 2-2;](#)

[Section 2.3.1;](#)

[Section 2.3.3;](#)

[Section 2.3.2;](#)

[Section 2.3.6;](#)

[Section 2.3.7;](#)

[Section 2.3.8;](#)

[Section 2.4;](#)

[Table 2-1;](#)

[Section 3.1;](#)

[Section 4.2.6;](#)

[Section 4.7.3;](#)

[Table D-7](#)

This document synthesizes the knowledge of DNAPL site characterization and remediation and provides guidance on simultaneous characterization of contaminant distributions,

hydrogeology, and attenuation processes.

Overview of In-Situ Bioremediation of Chlorinated Ethene DNAPL Source Zones (BIODNAPL-1)

Section 2; 3.1; Figure 2-6; Figure 2-7; Table 2-1

These sections introduce biodegradation and the fundamental principles underlying in-situ bioremediation (ISB) of DNAPL source zones, a description of the mechanisms of ISB, a discussion of the approaches of ISB of DNAPL source zones and the advantages and limitations, and the development of a conceptual site model (CSM) as the first step in assessing the applicability of ISB at a DNAPL site.