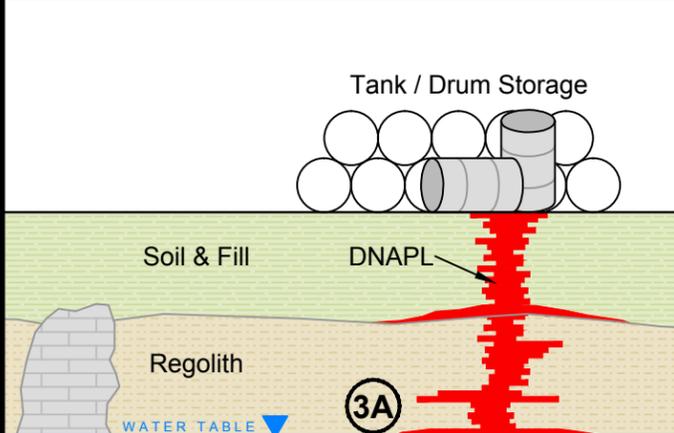
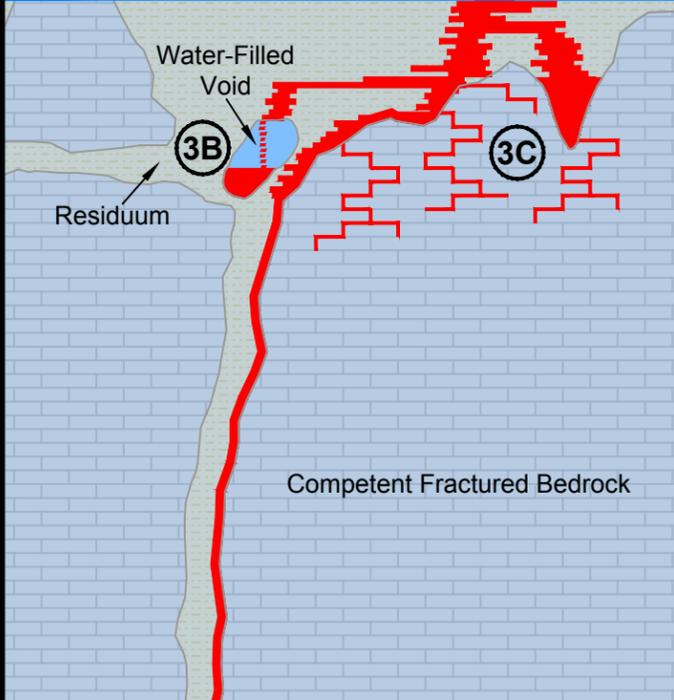
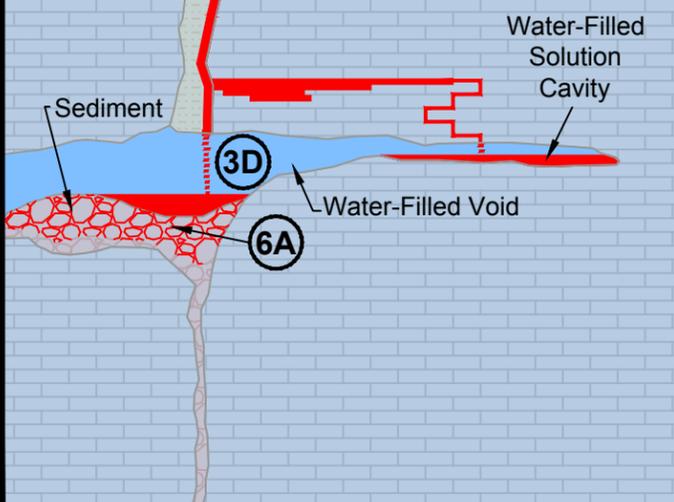


# Figure 1.3-6 Overview of Fate and Transport Mechanisms (Carbonate Bedrock Setting)

1. GEOLOGY	2. HYDROGEOLOGIC ZONES	3. NAPL TRANSPORT PROCESSES	4. AQUEOUS TRANSPORT PROCESSES	5. VAPOR TRANSPORT PROCESSES	6. FATE PROCESSES
 <p>Tank / Drum Storage</p> <p>Soil &amp; Fill</p> <p>Regolith</p> <p>Water-Filled Void</p> <p>Residuum</p> <p>Water Table</p> <p>DNAPL</p> <p>3A</p>	<p>VADOSE ZONE</p> <p>EPIKARST</p>	<p>3A) DNAPL ACCUMULATION AND LATERAL SPREAD ALONG THE RESIDUUM/BEDROCK INTERFACE DIRECTED TO ZONES OF VERTICAL PERM. OR SINKING POINTS, OR POOLED IN CLOSED DEPRESSIONS</p>	<p>INFILTRATION</p> <p>↓ ↓ ↓</p> <p>UNSATURATED FLOW OF GRAVITATIONAL WATER</p> <p>DISSOLUTION FROM DNAPL</p> <p>RECHARGE AT WATER TABLE</p>	<p>DIFFUSIVE LOSS OF VAPOR TO ATMOSPHERIC &amp; INDOOR AIR</p> <p>↑ ↑ ↑</p> <p>VAPOR DIFFUSION</p> <p>EVAPORATION FROM DNAPL</p> <p>VOLATILIZATION FROM THE WATER TABLE</p>	<p>AEROBIC DEGRADATION</p> <p>PARTITIONING FROM SOIL VAPOR TO PORE WATER (REVERSIBLE)</p> <p>SORPTION ONTO ORGANIC CARBON FRACTION OF FORMATION SOLIDS (REVERSIBLE)</p> <p>SORPTION RETARDED INTRAGRANULAR AQUEOUS DIFFUSION (REVERSIBLE)</p>
 <p>Water-Filled Void</p> <p>Residuum</p> <p>Competent Fractured Bedrock</p> <p>3B</p> <p>3C</p>	<p>SATURATED ZONE</p>	<p>3B) DNAPL ACCUMULATION IN SEDIMENT-FILLED AND OPEN VOIDS (SOLUTION CAVITIES)</p> <p>3C) DNAPL SEEPAGE INTO FRACTURES AND BEDDING PLANES</p>	<p>LATERAL ADVECTION (FLOW)</p> <p>→</p> <p>VERTICAL ADVECTION</p> <p>↑ ↓</p>		<p>SORPTION ONTO ORGANIC CARBON FRACTION OF FORMATION SOLIDS (REVERSIBLE)</p>
 <p>Sediment</p> <p>Water-Filled Solution Cavity</p> <p>Water-Filled Void</p> <p>3D</p> <p>6A</p>	<p>KARST AQUIFER</p>	<p>3D) DNAPL TRANSPORT DURING MODERATE TO HIGH TURBULENT FLOW IN SOLUTION-ENHANCED CONDUITS</p>	<p>TRANSPORT WITH SUSPENDED SEDIMENT IN SOLUTION-ENHANCED CONDUITS</p>		<p>6A) SORPTION RETARDED AQUEOUS DIFFUSION INTO RESIDUUM AND ROCK MATRIX (REVERSIBLE)</p> <p>TRANSFORMATION OF PARENT COMPOUNDS TO DAUGHTER PRODUCTS</p> <p>SORPTION RETARDED INTRAGRANULAR AQUEOUS DIFFUSION (REVERSIBLE)</p>