

US EPA ARCHIVE DOCUMENT

In order to properly understand the safeguards which the CWU will provide, it is important to review some basic facts about PCBs. Firstly, it is a widely recognized fact that PCBs are non-volatile, virtually insoluble, and have very low mobility in the environment. These properties are problematic where PCBs were historically discharged to rivers and streams. Whereas soluble and mobile contaminants that were historically discharged and dispersed throughout the waterways, the insoluble PCBs accumulated in, and bound to, the bottom sediments where they remained exposed and accessible to the aquatic life food chain. This eventually allowed fish used for human consumption to bioaccumulate unhealthy concentrations of PCBs. While these conditions result in an environmental hazard in uncontrolled settings, they do not occur in a properly sited, designed, and operated landfill such as the CWU. In fact, the very properties that result in PCB hazards in an uncontrolled environment make landfilling PCBs very secure. Once buried in a landfill, the PCBs will be isolated from any direct contact with living organisms. Furthermore, the non-volatility of the PCBs will prevent their release to the atmosphere, and their insolubility will prevent their migration to groundwater. As a result of these factors, the Mahomet Aquifer will never be impacted by the CWU.

The following paragraphs provide more details substantiating how the CWU will protect local and regional groundwater resources (including the Mahomet Aquifer) below the site:

- Leachate data from two USEPA-permitted chemical waste landfills that accept PCB waste were acquired via the Freedom of Information Act (FOIA). These two facilities, Wayne Disposal, Inc. (WDI) landfill located in Michigan (USEPA Region 5) and Clean Harbors Grassy Mountain facility located in Utah (USEPA Region 8), are also permitted as Resource Conservation and Recovery Act (RCRA) Subtitle C landfills. The leachate data from these facilities were reviewed and summarized. The WDI facility leachate data (monthly data from 2005 to 2007) indicated that PCBs were detected in only 7 of 231 samples analyzed for PCBs. The highest concentration of PCBs detected was 0.0026 mg/L or 0.0026 parts per million (ppm). The Grassy Mountain facility leachate data (semi-annual from 2001-2007) indicated that PCBs were detected in only 2 of 1,575 samples analyzed for PCBs. The highest concentration of PCBs detected at the Grassy Mountain facility was 0.00148 mg/L or ppm. The lack of PCB detections and low reported concentrations (when detected within the leachate) are due to the immobile nature of PCB wastes. It should be noted that the WDI and Clean Harbors Grassy Mountain facilities are allowed to dispose PCB wastes exhibiting concentrations greater than 500 ppm. However, CLI has agreed to not accept PCB wastes at concentrations greater than 500 ppm. Based on this agreement, one would expect the PCB concentrations in the leachate at the proposed CWU to be even less than the minimal detections discussed above.
- All water that contacts waste (leachate) will be collected and properly treated to EPA standards prior to discharge. Any leachate that collects in the bottom of the landfill will be pumped out and stored in a dual contained storage tank before being managed in accordance with the Application.
- Although not specifically required by the Chemical Waste Landfill regulations, CLI will install a multiple layer composite liner and liquids collection system beneath the CWU. At a minimum, the liner system will include 3 feet of clay which will be placed and densely compacted in 6 inch layers under the supervision of an independent licensed Professional Engineer. Two layers of 60-mil thick high density polyethylene (HDPE) geomembrane, separated by a highly transmissive geonet drainage layer will directly overlie the