Groundwater treatment technology put to the test

continued from cover

"The data we collect from this study will be used in the design of the full-scale treatment in order to ensure the best possible outcome."not

ZERO VALENT IRON

When zero-valent iron (ZVI) particles are injected or placed into the groundwater through boreholes or wells, a natural reaction is expected to occur.

The ZVI material has shown to be an effective method for breaking down the volatile organic compounds (VOCs) into safe compounds that will be naturally degraded over time.

The results of ZVI injection can be affected by several factors that may vary from site to site. These factors include the direction and speed of groundwater flow, the type of soil, the size of the affected groundwater area (called a plume), and the concentration levels of VOCs.

The Dunn Field Proposed Plan recommends using ZVI injection to treat those areas of the shallow aquifer where the highest concentrations of VOCs were detected.

PERMEABLE REACTIVE BARRIER (PRB)

A PRB is a wall or barrier that will be installed underground in the natural flow path of affected groundwater beneath Dunn Field.

The PRB is made of a permeable material, which means it has tiny holes that allow the groundwater to flow through it. This underground wall will contain granular ZVI material that will cause a natural reaction when it comes into contact with VOCs in the groundwater. This reaction is expected to break down the VOCs into safe compounds that will degrade naturally over time.

The Proposed Plan recommends installing a PRB approximately 1,000 feet long. It will be located in an area with lower concentrations of VOCs than the ZVI treatment zone.

MONITORED NATURAL ATTENUATION:

Monitored Natural Attenuation is the preferred alternative for areas where the concentrations of VOCs in the groundwater are the lowest. This will involve monitoring the natural breakdown of VOCs over time to ensure that the groundwater quality continues to improve.

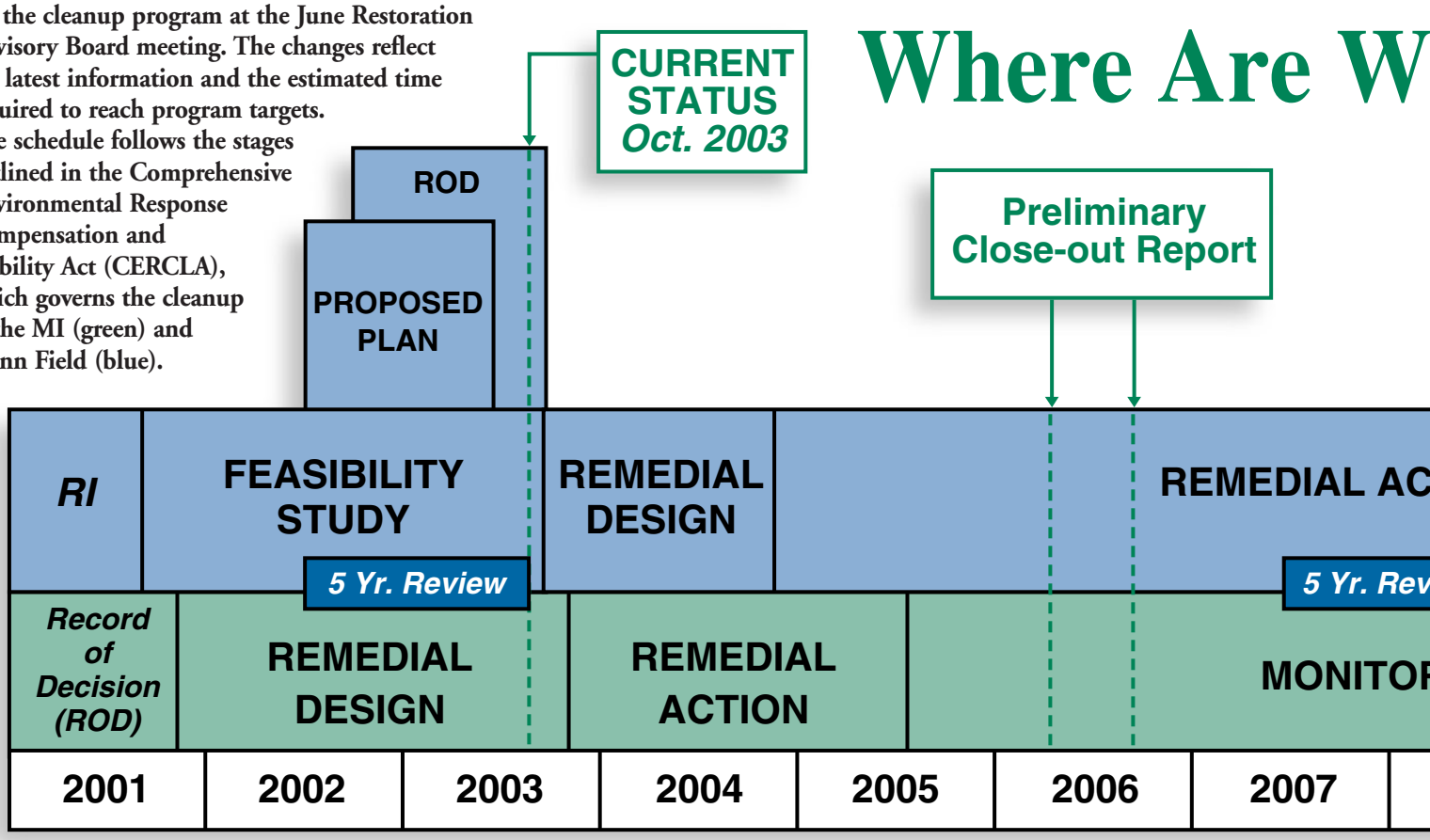
The Groundwater Treatability Study will not affect the deeper aquifer, known as the Memphis Aquifer. This aquifer, which supplies drinking water to Memphis and Shelby County, has not been affected by past operations at the Depot.

For more information on this study, contact the Depot's Community Relations Office. Phone (901) 544-0613. ❑

John DeBack, the Depot's Base Transition Coordinator, provides an update on the Depot's environmental program at the June 19, 2003 Restoration Advisory Board meeting.

The Depot presented a revised project schedule for the cleanup program at the June Restoration Advisory Board meeting. The changes reflect the latest information and the estimated time required to reach program targets. The schedule follows the stages outlined in the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), which governs the cleanup at the MI (green) and Dunn Field (blue).

Where Are W



Projected dates are based on current information and are subject to change