Michigan Department of Environmental Quality

Summary of Recent Response Actions
Gelman Sciences Inc. Site
March 25, 2004

For more background and details, see the Information Bulletin on the DEQ's Gelman Sciences Web Page.

Unit E Aquifer

Investigation: In July 2003, Pall Life Sciences (PLS) drilled a test boring on the west side of the Maple Village Shopping Center (MVSC) as part of an effort to drill a test well for use as a potential extraction well. Sampling results obtained from the test boring determined that the highest concentration of 1,4-dioxane at that location was 282 parts per billion. Therefore, it was decided that the location of the test boring was not optimal for groundwater extraction. A new location for a test well was selected and the well was installed (TW-16) near the intersection of Jackson and Maple Roads. An aquifer performance test was done in August 2003, and the results will be considered by the Department of Environmental Quality (DEQ) in its review of remedial options to be proposed by PLS.

Current Issues: In November 2003, PLS performed a series of tests to determine if *in situ* (in place) oxidation of groundwater with ozone and/or hydrogen peroxide is a feasible remedial option and determined the need to do additional testing. This has delayed the planned submittal date of a comprehensive Feasibility Study (FS) to examine options for addressing the entire Unit E Aquifer contamination. At the request of the DEQ, PLS submitted an interim FS in January 2004 to review remedial options considered to date. The DEQ will provide comments on the interim FS prior to submittal by PLS of a comprehensive FS that will also consider *in situ* remedial options.

The DEQ has reviewed and approved, with conditions, PLS's *In Situ* Work Plan dated February 17, 2004. PLS expects to implement the work plan starting in March, and will evaluate the results for inclusion in the comprehensive FS, if applicable. The DEQ has also reviewed and approved a Work Plan for the Installation of Two Extraction Wells on PLS property, dated February 24, 2004. These documents are available on the DEQ's Gelman Sciences Web Page.

At a status conference in Washtenaw County Circuit Court on February 25, 2004, the court ordered PLS to submit their comprehensive FS by June 1, 2004, and the DEQ to respond to the FS by September 1, 2004.

The DEQ will establish a public comment period and date for a public meeting prior to responding to the comprehensive FS submittal. See the Public comment/meeting schedule/agenda (http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846_9847-72765--,00.html) on the DEQ's Gelman Sciences Web Page for schedule information as it becomes available.

Remediation: Since May 2002, PLS has been using two extraction wells (TW-11 and TW-12) in upgradient portions of the Unit E Aquifer on their property. As of December 2003, these extraction wells are removing about 150 gallons per minute (gpm). The concentration of 1,4-dioxane in these wells ranges from 100 to 920 parts per billion (ppb).

Core System (Unit C_3 Aquifer)

Remediation: As of December 2003, nearly 370 gpm of contaminated groundwater was being removed from the Core System (not including the southern-most portion) by six extraction wells, and the concentration of 1,4-dioxane ranges from 250 to 9,030 ppb. The southern-most portion of the Core Area, which PLS calls the Southwest Property Area (SWPA), is being remediated with five additional extraction wells that are removing about 40 gpm of contaminated groundwater. In December 2003, the concentration of 1,4-dioxane in these wells ranged from 501 to 1,276 ppb.

Evergreen System (Unit D_2 Aquifer)

Remediation: As of December 2003, three extraction wells in the Evergreen subdivision and four upgradient extraction wells (including the two horizontal wells), closer to the source where contamination is higher, are removing about 540 gpm of contaminated groundwater. In December 2003, the concentration of 1,4-dioxane in these wells ranged from 94 to 2,266 ppb.

Western System (Unit D_0 Aquifer)

Remediation: In April 2002, PLS submitted a report and groundwater model that they believe demonstrates that the generic residential cleanup criterion will be achieved through natural processes by July 2005. The DEQ did not accept the conclusions of the report. In response to the DEQ's concerns, PLS installed an extraction well near MW-53i, northwest of Little Lake, as a contingency. The concentration of 1,4-dioxane in MW-53i had slowly decreased to the 110 ppb range until the fall of 2002, when concentrations increased to the 150 ppb range. PLS then implemented its contingency plan of batch purging from the extraction well in February 2003. Concentrations in MW-53i have been decreasing since that time. However, the concentration from the extraction well increased to 175 ppb in December 2003. The batch purging of about 30,000 gallons is now being done once per month, with the extracted groundwater being trucked to the PLS property for treatment.

Investigation: PLS has agreed to submit a work plan for additional investigation by March 15, 2004.

Marshy System

Remediation: Contaminated groundwater in this area is being extracted at a rate of six gpm from one extraction well (PW-1). The concentration of 1,4-dioxane in this well was 2,300 ppb in December 2003. PLS is submitting annual reports to evaluate the status of the system and whether the Marshy System will continue to contribute to groundwater contamination in the Core Area after July 2005.