MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Sybil Kolon, Gelman/Pall Life Science (PLS) Project Manager
RRD, Jackson District Office

FROM: Jim Coger, Senior Geologist
RRD, Jackson District Office

DATE: June 16, 2014

SUBJECT: Review of the April 1, 2014, Pall Life Science (PLS) Little Lake Area System Supplemental of Previous Notice of Termination of Extraction from the Ann Arbor Cleaning Supply Well.

I have reviewed the subject submittal and the PLS August 1, 2012 Little Lake Area Evaluation of a Reduction in the Batch Purge Frequency at the Ann Arbor Cleaning Supply Well (A^2CSW).

The April 1, 2014 PLS submittal provides a brief history of the batch purging operation from the A^2CSW, and concludes that batch purging can be terminated in the Little Lake Area (LLA). PLS believes that the batch purging can be terminated as area monitoring wells have not detected 1,4-dioxane contamination above 85 ug/l during recent sampling events.

PLS concludes that the monitoring data collected from various monitoring wells, on different monitoring schedules (monthly, quarterly, or semi-annually) during the reduced batch purging activities is sufficient to demonstrate that contaminant trends will not increase and that the plume will remain stable, subsequent to termination of the A^2CSW batch purging activities.

Page 4 of the August 1, 2012 PLS submittal documents that 1,4-dioxane contaminant concentration levels actually increased between August- 2011 and May- 2012, during non-purge sampling events in the A^2CSW. Monitoring data collected on a quarterly or semi-annual basis from LLA monitoring wells may not reflect real time changes in contaminant trends and plume stability during purging vs non-purging conditions.

Monitoring wells MW-61s&d are located approximately 1000 feet downgradient from the A^2CSW. MW-61s&d are designated LLA Compliance Wells on a semi-annual monitoring schedule. These wells were only sampled three times during the reduced purging period. The three event data set from these wells, collected during the quarterly batch purging period, is not adequate for making plume stability assumptions when purging activities are terminated.

Historically, (1988-1990) 1,4-dioxane was detected at levels exceeding 100 ug/l at several locations on an east/west axis along Park Road (4742 Park, and 4401 West Park Road). The Sunward Cohousing (Sunward) property is located south of Park Road, between the impacted residential well properties. There are no monitoring wells east of the MW 61s&d nest, that establish what current 1,4-dioxane contaminant levels are on the Sunward property. The limited data set from monitoring locations downgradient from the A^2CSW is not adequate for assessing plume stability as hydraulic conditions equilibrate from purging to a non-purging environment.

All the DEQ approved Little Lake Area Monitoring Wells should be sampled on a monthly basis, including static water level measurements, for six months to evaluate contaminant distribution and plume stability.

The monthly sampling will provide data before and after the next quarterly batch purging event and allow the DEQ to determine if the data indicates that termination of extraction is appropriate.

If upward contaminant trends are observed in the monthly monitoring data additional response activities may be required.

If you have any questions or comments, please let me know.

cc: Mitch Adelman, RRD