



August 6, 2021

Christopher J. Clark  
Pharmacia, LLC  
235 East 42<sup>nd</sup> Street, 219/5/1  
New York, NY 10017

Subject: Review of Supplemental Site Investigation Report and Additional Groundwater Investigation Work Plan and Groundwater Monitoring Plan  
Milwaukee Die Casting Co.  
4132 N. Holton St., Milwaukee, WI 53201  
BRRTS #: 02-41-000023; FID #: 241228240

Dear Mr. Clark:

The Wisconsin Department of Natural Resources (DNR) received the “Supplemental Site Investigation Report” (Report) and the “Additional Groundwater Investigation Work Plan and Groundwater Monitoring Plan” (Work Plan) on May 11, 2021 and July 6, 2021 respectively. GeoSyntec Consultants prepared the Report and Work Plan for Pharmacia, LLC for the former Milwaukee Die Casting Co. site located at 4132 N. Holton St., Milwaukee, WI (Site). The Report and Work Plan were submitted with fees for DNR review and written response. Submittal of the Report and Work Plan is required per Wis. Admin. Code §§ NR 716.15 and NR 716.09, respectively as this site is subject to regulation under Wis. Stat. ch. 292. The DNR reviewed the Report and Work Plan on July 27, 2021 for consistency with Wis. Admin. Code §§ NR 716.07, NR 716.09 and NR 716.15 and has determined that the general code requirements have been met.

#### Report Review

The Report describes supplemental site investigation that was conducted to evaluate groundwater conditions and potential preferential pathway vapor migration following the removal of polychlorinated biphenyl and chlorinated volatile organic compounds (CVOC) impacted soil from the Site. An emerging contaminant scoping statement was also provided in the Report per Wis. Stat. ch. 292. After review of the Report, the DNR requests the following additional information.

1. The emerging contaminant scoping statement needs to provide additional information regarding the potential use of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) and 1,4-dioxane at the Site. Additional information should provide more details about whether die casting was the only manufacturing operation at the Site and whether PFAS may have been used in die casting operations such as the reported use of a liquid sprayed on dies prior to injection of molten aluminum and zinc alloys.

Additional information should also be provided on how trichloroethylene (TCE), and possibly 1,1,1-trichloroethane (1,1,1-TCA), were used in manufacturing processes and whether 1,4-dioxane may have been used to stabilize TCE if used with reactive metals such as aluminum.

The April 27, 2021 groundwater sampling detected 1,1,1-TCA at monitoring wells MW-4, MW-6 and MW-7 and 1,4-dioxane at monitoring wells MW-1, MW-5, MW-6, MW-7 and MW-14 indicating the possible use of these compounds at the Site.

2. The DNR concurs that further preferential pathway evaluation for vapor migration associated with the sanitary and storm sewers and utility trenches located adjacent to the east and west boundaries of the Site is not necessary at this time. A revised Table 3 “Summary of Soil Gas Sample Analytical Results” should be provided that compares the soil gas probe results to indoor air Vapor Action Levels and Vapor Risk Screening Levels for residential, small commercial, and large commercial/industrial buildings. CVOCs remain in soil and groundwater at levels that will require additional vapor intrusion evaluation if buildings of any type are constructed on the Site in the future.

#### Work Plan Review

The Work Plan describes additional groundwater investigation and monitoring to further evaluate the degree and extent of CVOCs and 1,4-dioxane in the groundwater underlying the Site. The Work Plan proposes installing two piezometers: PZ-1A adjacent to monitoring well MW-1 and piezometer PZ-1; and PZ-6 adjacent to monitoring well MW-6. The purpose of the additional piezometers is to further define the vertical and horizontal degree and extent of CVOC-impacted groundwater near or within bedrock at the Site. The Work Plan also proposes a groundwater monitoring plan to demonstrate a stable or receding groundwater plume and the degradation of CVOCs by natural attenuation. The DNR requests that you proceed with the proposed work while incorporating the following comments into the Work Plan.

1. The DNR concurs that groundwater sampling at monitoring wells MW-3, MW-10, MW-11 and MW-12 may be discontinued based on the groundwater results for the first three quarters of sampling. The DNR requests continued groundwater sampling at piezometer PZ-2 to monitor possible deeper CVOC-impacted groundwater in the area of MW-2, and at piezometer PZ-10 to monitor possible deeper CVOC-impacted groundwater downgradient of monitoring wells MW-2, MW-4 and MW-5. Newly installed piezometers PZ-1A and PZ-6 should be sampled quarterly for the monitoring parameters proposed in the Work Plan.
2. CVOCs and 1,4-dioxane degrade under different conditions and natural attenuation may not be an effective remedy for both CVOCs and 1,4-dioxane depending on whether there are aerobic or anaerobic groundwater conditions at the Site. The Work Plan states that dissolved oxygen (DO), oxidation reduction potential (ORP), and other field parameters will be recorded during groundwater sampling. DO, ORP and the other field measurements should be added to the tabulated groundwater sampling results to aid in determining groundwater conditions. The DNR concurs that the natural attenuation sampling frequency can be reduced from quarterly to semi-annually.

#### Next Steps

The groundwater investigation and monitoring plan should incorporate the DNR’s requested revisions and proceed upon receipt of this letter. Semi-annual groundwater monitoring reports should be submitted as proposed with the first report to be submitted with the results of the July 2021 groundwater sampling.

A revised emerging contamination scoping statement that provides the requested additional information for manufacturing operations, TCE use, and the possible use of 1,4-dioxane and 1,1,1-TCA may be submitted to the DNR in a stand-alone document for review. The revised summary table for the soil gas sample analytical results may be included with the first or second semi-annual groundwater monitoring report.

The DNR appreciates the efforts you are taking to address the contamination at this site. If you have any questions about this letter, please contact me at (262) 202-3921 or [gregory.moll@wisconsin.gov](mailto:gregory.moll@wisconsin.gov).

Sincerely,



J. Gregory Moll, P.G.  
Hydrogeologist  
Remediation and Redevelopment Program

cc: Mary Jo Anzia, BSI  
Gregory Johnson, GeoSyntec Consultants