

April 2, 2019

Ms. Jennifer Dorman  
Environmental Program Associate  
Remediation and Redevelopment Program  
Wisconsin Department of Natural Resources  
2300 N. Dr. Martin Luther King Jr. Drive  
Milwaukee, WI 53212-3128

**Subject:       RESPONSES TO WDNR COMMENTS**  
**Site Investigation Work Plan**  
Milwaukee Die Casting Company Site  
4132 North Holton Street, Milwaukee, Wisconsin  
WDNR BRRTS # 02-41-000023  
WDNR FID # 241228240

Dear Ms. Dorman,

The purpose of this letter is to document our responses to the Wisconsin Department of Natural Resources' (WDNR's) comments to the December 14, 2018 Site Investigation Work Plan ("Work Plan") for the Milwaukee Die Casting Company Site ("Site") as transmitted via email from Mr. Stephen Mueller to Geosyntec Consultants (Geosyntec) on February 13, 2019. The Work Plan, prepared in accordance with NR 716.09, was submitted to the WDNR pursuant to Item 2 on Page 3 of WDNR's August 10, 2018 letter to Pharmacia and Fisher Controls International, Inc. (Fisher). This letter is being submitted on behalf of Pharmacia which is acting on behalf of Fisher in this matter.

Our comment responses are provided below, inclusive of WDNR's comment, in the order presented in WDNR's February 13, 2019 email.

**WDNR Comment 1:** *"Please provide the utility assessment information -- types, sizes, depths, locations, etc., relative to the site geology and including city information regarding backfill materials -- before we can approve the SIWP. Make sure to include all the underground utilities, including the 72" diameter M.I.S. to the east of the MDC property. Former wells GMMW-6, GMMW-200, and temporary wells GM-17 thru GM-22 were all installed to the east of the sewers/utility trenches and were reported clean. We need to know if the trenches are intercepting the residual groundwater contamination and thereby allowing migration to the north and/or south. Several of proposed wells MW-8 thru MW-11 (or additional wells) should intercept the trenches to evaluate this concern, especially at the north and south ends of the site. "*

**Response:** Pursuant to Work Plan Sections 3.2 and 4.2, the plan was to conduct the utility assessment as part of the Work Plan implementation and adjust the monitoring well locations, if needed, based on the assessment findings. It is our understanding that this approach is consistent with NR 716.09.

However, considering the further clarification that WDNR (Mr. Stephen Mueller) provided to Geosyntec via email on February 28, 2019, Pharmacia will complete the utility assessment work (and incorporate the findings in the proposed additional groundwater investigation plan as requested) prior to resubmittal of the Work Plan to WDNR. This work will delay the submittal of the updated Work Plan.

**WDNR Comment 2:** *“The proposed locations for MW-5 & MW-6 are on the TSCA Cap and should be moved to the east enough to avoid the cap and deep areas of the excavation that have been filled with clean or relatively clean soil. (All proposed new wells should be monitoring residual groundwater contamination/conditions, not clean fill.)”*

**Response:** Proposed groundwater monitoring well locations MW-5 and MW-6 will be re-evaluated based on Comment 1 above and also moved outside the cap and deep excavation areas. The final locations will be presented in the updated Work Plan.

**WDNR Comment 3:** *“The proposed location of MW-1/PZ-1 makes sense if the former UST was the source of the high CVOCs in former GMMW-104. However, the source may be releases from the degreasing area inside the former building and, therefore, the proposed MW-1/PZ-1 location may not be adequate for evaluating the CVOc plume behavior. An additional downgradient well or several may be required in the future.”*

**Response:** The need for additional wells will be evaluated based on the results of the proposed groundwater investigation.

**WDNR Comment 4:** *“Please show on cross-sections the proposed water table monitoring well and, especially, piezometer screen intervals relative to site geology and utility trenches.”*

**Response:** The requested information will be provided in the updated Work Plan.

**WDNR Comment 5:** *“To reduce chances of cross-connection with surface air, RR800 (2018 guidance) directs that soil-gas (SG) probes should be installed at least 3-4 ft bgs, if not deeper, depending on depth to groundwater saturated soils, and set within utility corridors. (The SIWP proposed 5 ft bgs; historical water levels in former wells on the west side of the MDC property ranged from 5-13 ft bgs.) Preferably, the SG probes will intersect utility trench backfill far enough from surface exposures (e.g., sewer grates, manholes) to avoid cross-connection effects.”*

**Response:** Pursuant to Work Plan Section 5.2, the final soil gas probe locations and depths were to be based on the findings of the utility assessment. Consistent with our response to Comment 1, the updated Work Plan will provide further detail on the vapor pathway investigation locations, depths and implementation procedures (based on the utility assessment findings).

**WDNR Comment 6:** *“Include PCBs (unfiltered & filtered) and SVOCs (incl., 1,4-dioxane) in the initial two rounds of groundwater sample analysis. Discuss proper PCB filtering methods and materials with the lab to avoid sorption problems.”*

**Response:** The groundwater sampling analyte list proposed in the Work Plan was established based on WDNR’s August 10, 2018 letter. WDNR asserted in the August 10, 2018 letter that PCE, TCE, and related breakdown products are the primary groundwater contaminants of concern (COCs) at the Site. The Work Plan was prepared consistent with this assertion.

In response to the comment, PCBs (unfiltered and filtered) will be added to the groundwater sampling analyte list. However, the requested inclusion of semi-volatile organic compounds (SVOCs) and 1,4-dioxane to the groundwater analyte list is not supported by NR 716.07, which emphasizes that the knowledge and history of the site should be the basis for scoping site investigations. SVOCs and 1,4-dioxane are not COCs for the Site and have never been considered COCs based on the breadth of investigation conducted since 1991.

Soil and groundwater samples were analyzed for SVOCs during multiple past investigation phases. These results indicate that SVOCs were substantially not detected except for sporadic low concentrations. EPA’s February 29, 2012 Removal Site Assessment Summary Report which documents Site-wide soil and groundwater sampling by EPA, does not identify SVOCs as COCs for the Site.

Pursuant to EPA’s November 2017 “Technical Fact Sheet - 1,4-Dioxane”, 1,4-dioxane is particularly associated with 1,1,1-trichloroethane (TCA) [*“Historically, the main use (90 percent) of 1,4-dioxane was as a stabilizer for chlorinated solvents such as TCA (ATSDR, 2012)”*]. TCA is not a Site COC. TCA has only been sporadically detected in soil and groundwater at the Site at low concentrations. The following example data sets support this assertion:

- In the most recent groundwater sampling event (Arcadis, 2013), TCA was only detected in one (1) of 15 groundwater samples and the outlying detection was an order of magnitude less than the NR 140 preventative action limit (PAL).
- In the groundwater sampling event conducted by EPA in 2011 (as documented in EPA’s February 29, 2012 Removal Site Assessment Summary Report), TCA was only detected in one (1) of 24 collected groundwater samples and the outlying detection was less than the NR 140 PAL.

The updated Work Plan will include the addition of PCBs (filtered and unfiltered) to the groundwater sampling analyte list and will provide a description of the filtering method.

Pharmacia will proceed with the utility assessment. We request written confirmation that the responses provided in this letter are acceptable to the WDNR. The updated Work Plan will be submitted to WDNR within 30 days of completion of the utility assessment, which will be completed within 60 days

Ms. Jennifer Dorman  
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Page 4

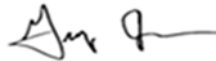
following WDNR's written confirmation. The proposed schedule is contingent on the property owner granting access to the Site for this work.

Please contact us if you have any questions regarding this letter.

Sincerely,



Jeremiah Johnson, P.G.  
Project Geologist  
(licensed P.G. in WI)



Greg Johnson, P.H., P.G., P.E.  
Senior Engineer  
(licensed P.E. in WI, P.H. in WI, P.G. in IL, WI)

cc: Mr. Christopher Clark, Pharmacia LLC  
Ms. Mary Jo Anzia, BSI  
Mr. Stephen Mueller, WDNR