



April 28, 2015

Ms. Susan Doolin
Former Packard Way Cleaners
HCRI Box 73
Pembine, WI 54156

SUBJECT: Review of Supplemental Investigation Work Plan, dated January 27, 2015
Former Packard Way Cleaners, 3650-3652 East Barnard Avenue, Cudahy, WI
WDNR BRRTS Activity #: 02-41-515150
FID #: 241490920

Dear Ms. Doolin:

On February 3, 2015 the Wisconsin Department of Natural Resources (the Department) received a Supplemental Site Investigation Work Plan (the Work Plan) prepared by EnviroForensics for the former Packard Way Cleaners property at 3650-3652 East Barnard Avenue, Cudahy, WI. The Work Plan stated that soil and groundwater contaminated with Chlorinated Volatile Organic Compounds (CVOCs) associated with former dry cleaning operations is present at this property. The Department requires a Site Investigation (SI) be completed to determine the degree and extent of the identified contamination.

A fee was paid to the Department to review the Work Plan and determine whether the proposed activities will complete the SI. The Department provides the following comments regarding the proposed activities:

- 1) The Work Plan proposes to abandon the temporary monitoring well network and install seven (7) permanent monitoring wells and two (2) piezometers. In addition, EnviroForensics proposes to evaluate soil and groundwater contaminant concentrations vertically to determine the vertical extent of migration with depth to facilitate an appropriate remedial approach.
 - a. Sufficient soil samples will need to be collected to define the limits of contaminated soil and to determine whether soil contamination extends onto neighboring properties. According to the Work Plan, it does not appear the proposed locations will define the degree and extent of contamination as the proposed sampling locations are limited to the northern extent of the property along the alleyway. Soil data collected from previous site investigation activities should be utilized in establishing proposed soil sampling locations. The Work Plan should have included an isoconcentration map identifying the previous soil sample locations and associated analytical data values. Proposed soil sampling locations should be established based on this isoconcentration map. Offsite residential property access agreements from the surrounding properties may need to be secured to establish the degree and extent of contamination.
 - b. According to the Work Plan, it does not appear the proposed permanent monitoring well locations will define the degree and extent of contamination as the proposed locations are limited to the northern extent of the property along the alleyway. Groundwater data collected from previous site investigation activities should be utilized in establishing the

proposed permanent monitoring well network. The Work Plan should have included an isoconcentration map identifying the previous groundwater sample locations and associated analytical data values. A proposed permanent monitoring well network should be established based on this isoconcentration map. If the proposed wells do not define the extent of contamination, more wells will be needed to complete the investigation. Offsite residential property access agreements from the surrounding properties may need to be secured to establish the degree and extent of contamination.

- c. The integrity of the interior temporary monitoring wells (TW1 and TW2) not selected for abandonment should be evaluated and considered for sampling. TW1 and TW2 are located within the former dry cleaning facility and have shown CVOC detections in previous site investigation sampling events.
- d. In addition to sampling for VOC's via U.S. EPA SW-846 Method 8260, sampling for natural attenuation parameters should be considered in establishing an appropriate remedial approach in the future. Natural attenuation data can be utilized to evaluate the natural breakdown of contaminants within the environment and aid in remedial action planning, especially bioremediation.
- e. The Department concurs with the proposed locations of the two (2) piezometer wells but an appropriate well screen interval depth should be considered to accurately assess the vertical extent of contamination. The Work Plan proposes to install the two (2) piezometer wells to depth of 40 feet below ground surface (bgs) and seven (7) permanent monitoring wells to a maximum depth of 15 feet bgs based on the results of vertical soil classification. The Work Plan should provide justification for the proposed placement of the two (2) piezometers to 40 feet bgs and address the approximately 20-25 feet of vertical groundwater data gap between the piezometer wells and the permanent monitoring wells, as no groundwater data has been previously collected below the existing shallow temporary monitoring well network.

In addition to the items listed above, the Department requires the following:

- 2) Verify the integrity and effectiveness of the existing vapor mitigation systems installed at 3650/3652 E. Barnard (the property) and 3654 E. Barnard (east of the property) and provide the results to the Department.
- 3) Assess the extent of offsite CVOC contamination and determine if adjacent buildings need sub-slab vapor sampling. Based on the current information provided to the Department, an assessment of vapor intrusion at 3648 E. Barnard (west of the property) and 3658 E. Barnard (east of the property) should be completed at a minimum to determine if a threat of exposure exists.
- 4) Include laboratory data tables, isoconcentration maps, geologic cross-sections, and groundwater elevation contour maps with a future submittal. None of which were included as part of the Supplemental Investigation Work Plan submitted for review.
- 5) As long as the site remains open you must continue to submit NR700 semi-annual progress reports.

- 6) Sample analytical results must be reported to the Department within 10 business days of receiving the results. The "Site Investigation Sample Results Notification" form (Form 4400-249) may be used for this purpose. This form can be found at:
<http://dnr.wi.gov/files/PDF/forms/4400/4400-249.pdf>.

We appreciate your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at (414) 263-8524 or by email at trevor.nobile@wisconsin.gov.

Sincerely,



Trevor Nobile, P.G., CPG
Hydrogeologist
Remediation & Redevelopment Program

cc: Rob Hoverman, EnviroForensics, N16 W233390 Stone Ridge Drive, Suite G, Waukesha, WI 53188 (electronic)