

February 24, 2014

**FILE COPY**

**VIA E-MAIL AND REGULAR MAIL**

Mercer University  
c/o Dr. James S. Netherton, Executive VP for Administration & Finance  
1400 Coleman Avenue  
Macon, Georgia 31207

Re: EPD Comment Letter  
Voluntary Investigation and Remediation Plan and Application, September 30, 2013  
Mercer University Triangle Site, HSI No. 10779  
1535 Montpelier Avenue, Macon, Bibb County, Georgia  
Tax Parcel ID: P0820075 SWC65 1A

Dear Dr. Netherton:

The Georgia Environmental Protection Division (EPD) has reviewed the Voluntary Investigation and Remediation Plan (VIRP) dated September 30, 2013, submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act). EPD offers the following comments which should be addressed in subsequent progress reporting:

1. Although the VIRP does not present a complete Conceptual Site Model (CSM) or preliminary remediation plan, EPD is accepting the application because we concur with the report's conclusion that soil meets Type 1 risk reduction standards (RRS) and because the property qualifies for the groundwater corrective action exemption provided in Section 12-8-107(g)(2) of the Act. The VIRP adequately demonstrates that potential exposure pathways are incomplete, with the exception of the potential for vapor intrusion.
2. The tetrachloroethylene plume underlies a number of buildings as indicated by Figures 5A through 5D. Therefore, Mercer must evaluate the potential vapor-intrusion pathway within any buildings that may overlie the groundwater plume (current or future). This evaluation should include an EPA-recognized or otherwise peer-reviewed vapor-intrusion model (Johnson & Ettinger is an example of one such model) and a discussion of the findings. The evaluation should be conducted assuming maximum current concentrations and residential use in order to demonstrate which properties, if any, will require vapor intrusion controls.
3. EPD agrees that delineation is not completed horizontally or vertically. However, since the property qualifies under Section 12-8-107(g)(2) of the Act, delineation requirements may be reduced based on the results of the fate and transport modeling and the vapor intrusion analysis.
4. The report refers to Table 1 as the delineation criteria for soil and groundwater. However, Table 1 includes both Type 1 and Type 4 RRS values. In accordance with the Act, Type 4 RRS are not acceptable for delineation purposes. The values provided in Table 1 are the correct Type 1 values with the following exceptions: cis-1,2-dichloroethene – 7 mg/kg and 70 ug/L (soil and groundwater, respectively); Acetone – 400 mg/kg; Ethylbenzene – 70 mg/kg; Trichloroethene – 5 ug/L; and Naphthalene – 20 ug/L. The soil analytical results tables also

include some incorrect RRS; however, since soils meet Type 1 RRS, no corrections are needed.

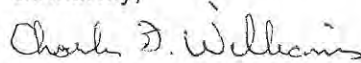
5. EPD was unable to replicate the BIOCHLOR plume centerline results presented in Appendix F. However, we concur with the report's conclusion that the plume will not migrate beyond the campus boundary, so the fate and transport model does not need to be resubmitted at this time. In any future model submittals to EPD, please include a table listing all input parameters used, the value itself, the source and justification for the data that were used for both calibrating and running the model simulations, and a sensitivity analysis.
6. The CSM must present a graphical, three-dimensional model that lists all complete and incomplete exposure pathways, as well as all potential receptors. The CSM should also include a narrative describing site-specific hydrogeologic conditions including stratigraphy, hydraulic gradient, hydraulic conductivity, and seepage velocity. Each Progress Report should include revisions to the CSM. The following comments are in reference to the cross sections provided as Figures 7, 7A, and 7B which are described as the CSM schematics.
  - a. Figures 7, 7A, and 7B do not provide relevant information regarding the potential migration of contamination, e.g. stratigraphy, contaminant concentrations, etc.
  - b. Inferred correlations of stratigraphic/hydrogeologic unit contacts and/or the extent of contamination in groundwater not supported by information acquired from boring logs and/or soil or groundwater sample analytical results should be clearly identified with dashed lines.
  - c. The potentiometric surface should be drawn with groundwater elevations from the same monitoring event only.
7. Please note the following comments applicable to the tables and figures submitted with the VIRP application.
  - a. The potentiometric surface depicted in Figure 3 did not include flow direction arrows. Please ensure that flow direction arrows are incorporated in the potentiometric surface figures presented in the semi-annual progress reports.
  - b. In Figures 5C and 5D, the plume outline should be dashed where it is inferred and not supported by groundwater data. Since the highest concentrations are in the source area, please either make these figures 11 by 17 or include a zoomed in section of the source area.
  - c. In tables that extend onto multiple pages, please carry the table title forward to subsequent pages.
8. The VIRP did not describe the groundwater sampling methodology used in the October 2012 and April 2013 sampling events. Sampling should be conducted in accordance with EPA Region 4 Field Branches Quality System and Technical Procedures, Science and Ecosystem Support Division (SESD OPs), "Procedure SESDPROC-301-R3, Groundwater Sampling," effective date March 6, 2013.

- a. In future reports that include sampling data, please provide a detailed narrative of protocols utilized during the event. The narrative should include detailed information on sampling equipment, collection techniques, sample handling/preservation, and decontamination procedures. EPD prefers use of the "soda straw" method when sampling groundwater with a peristaltic pump for volatile organic compound (VOC) analysis, but may accept other methods on a case-by-case basis.
- b. Groundwater sampling field logs were not included in the report. In subsequent reporting, please include field logs for the most recent groundwater-sampling event discussed. Note that on all groundwater sampling field logs, the depth to the tube or pump intake should be included.

The above comments must be addressed to EPD's satisfaction in order to demonstrate compliance with the provisions, purposes, standards and policies of the Act. EPD may, at its sole discretion, review and comment on documents submitted by Mercer University. However, failure of EPD to respond to a submittal within any timeframe does not relieve Mercer University from complying with the provisions, purposes, standards, and policies of the Act.

If you have any questions, please contact Montague M<sup>c</sup>Pherson of the Response and Remediation Program at (404) 657-8600.

Sincerely,



Charles D. Williams  
Program Manager  
Response and Remediation Program

c: Jason A. Cooper - Geotechnical & Environmental Consultants, Inc.

File: HSI# 10779

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