Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King, Jr. Dr., Suite 1456, Atlanta, Georgia 30334
Judson H. Turner, Director
Land Protection Branch
Phone: 404/656/7802 FAX: 404/651-9425

Reply To:
Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1054, East Tower
Atlanta, Georgia 30334-9000
Office 404/657-8600 Fax 404-657-0807

COPY

July 29, 2014

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Hollie W. Lloyd
Group Vice President
Thomasville National Bank
301 N. Broad Street
Thomasville, Georgia 31792

Re: Second Semi-Annual VRP Progress Report dated February 21, 2014
Former Rose City Cleaners Site, HSI # 10902
301 N. Broad Street
Thomasville, Thomas County, Georgia 31792

Dear Ms. Lloyd:

The Georgia Environmental Protection Division (EPD) received and reviewed your Second Semi-Annual VRP Progress Report dated February 21, 2014 for Former Rose City Cleaners Site. EPD provides the following comments:

1. The recent groundwater data showed a significant increase of concentrations of PCE in monitoring wells MW-2, MW-3, and MW-5 from 1,000 ug/L to 2,600 ug/L, 76 ug/L to 310 ug/L, and 990 ug/L to 5200 ug/L, respectively. The significantly increased concentrations of PCE in groundwater samples from June 2013 to December 2013 could indicate an existing source at the site. EPD concurs with you that further investigation of potential sources at the site, more specifically, inside the building on the site is warranted if the trend of increase of PCE concentrations continues. EPD agrees with your proposal to resample groundwater at MW-3 and MW-5 to confirm the trend of PCE concentrations. EPD also realizes that your proposed Modified Active Gas Sampling (MAGS) could be a promising approach to identify the possible sources and soil contamination underneath the building so long as sufficient piezometers are installed with their Radius of Influence to cover the area beneath the building.

2. The significant increase of the PCE concentrations in MW-2, MW-3, and MW-5 validates EPD's concern that the proposed MNA is not effectively working at the site. In addition to identifying the possible source areas and removing them if identified, another remedial approach should be selected to reduce the PCE concentration significantly and bring the site to compliance with appropriate risk reduction standard within a reasonable time table specified by VRP.

3. Based the November 2013 analytical laboratory report in Appendix B, Table 4: Groundwater Analytical Testing Data Summary Table, and Figure 9: Groundwater Analytical Results, contain transcription errors. Specifically:

    a. The detected concentrations in MW-6 should read as follows:
        i. Tetrachloroethene, 680 ug/L
        ii. Trichloroethene, 150 ug/L
        iii. Cis-1,2-dichloroethene, 33 ug/L
        iv. Cyclohexane, 6.3 ug/L

    b. The detected concentrations in MW-10 should read as follows:
        i. Benzene, 15 ug/L
        ii. Ethylbenzene, 13 ug/L

    c. All VOCs in MW-11 should read as BRL.

    Please revise Table 4 to show the correct concentrations in the next semiannual report. Also, using November 2013 analytical data, submit a corrected Figure 9 in the next semiannual report, along with a similar figure depicting groundwater analytical results from the most recent sampling event. These data-transcription errors also affected the accuracy of several of the groundwater iso-concentration maps, including the Conceptual Site Model (CSM) cross-sections. Please provide iso-contour maps based upon accurate data in the next semiannual report, including revised CSM cross-sections.

4. Given that MW-11 is currently BRL for all VOCs, an additional well is unnecessary at the proposed location of MW-14. To further define the groundwater plume to the southeast, please install MW-14 next to West Washington Street on the library property, on or near an imaginary northwest to southeast centerline through the library building.

5. Installation of a deep well will be required to complete VRP requirements for vertical delineation of groundwater contaminants. The well should be installed in the source area, close to MW-5.

6. The Biochlor groundwater-contaminant fate-and-transport model run, as presented in Appendix G, is insufficient to adequately demonstrate protection of a downgradient point of exposure (POE). Only one page was presented. Accordingly, please provide the following to accompany the next model run:

    a. The Biochlor input data sheet used to generate the model output.

    b. Tables summarizing input for the groundwater and contaminant transport simulations, including hydraulic conductivity, hydraulic gradient, effective porosity, dispersion coefficients, fractional organic carbon, in-plume decay rates, source decay rates, source concentrations, and source dimensions. Reference the sources for each model input.

c. A discussion of how source area and in-plume decay rates were estimated. An excellent discussion of how to calculate in-plume and source decay rates can be found in the EPA Groundwater Issues paper entitled *Calculation and Use of First Order Rate Constants for Monitored Natural Attenuation.*

d. A sensitivity analysis on the Biochlor model and present the results in tabular format along with an explanatory narrative. When using literature values or when uncertainty otherwise exists regarding Biochlor input parameters, a sensitivity analysis should be conducted on the input values. This type of analysis can tell the user how much the model output will vary with variation in certain input parameters. Sensitivity analyses are commonly run on the first order decay coefficients and common retardation factors. A detailed explanation of sensitivity analyses is presented in Appendix A.6 of the *Biochlor User's Manual, Version 1.0*, dated January 2000.

e. Model output graphs for groundwater flow and contaminant transport simulations and calibrations, along with tabulated field data where such data is included in the graphs.

f. Please note that groundwater fate and transport models must be run with the highest detected source area concentrations when attempting to demonstrate that the POE will be protected.

g. A statement summarizing the results of the fate and transport modeling as they relate to the following questions:

    i. What is the maximum distance the plume is likely to extend under an MNA scenario?
    ii. How long will it take for groundwater to meet RRSs?

7. In accordance with the VRP Act, a point-of-demonstration (POD) well will be required, at a location between the source area and the POE. A demonstration that the POD will not be adversely impacted by upgradient groundwater contamination simultaneously demonstrates that the POE will not be adversely impacted.

8. On the groundwater-sampling field logs in future reports, please indicate the units of dissolved oxygen (DO), oxidation–reduction potential (ORP), and total dissolved solids (TDS) being measured.

10. In the case the PCE concentrations continue to increase, vapor intrusion should be re-evaluated to demonstrate that there would be no health impact on the people working inside the building at the site.

Please address above comments in the next Progress Report for the site. If you have any questions regarding this matter, please call Mr. Yue Han at 404-657-8678.

Sincerely,

David Brownlee
Unit Coordinator
Response and Remediation Program

c: John P. Martiniere, Peachtree Environmental

File: HSI# 10902