



Peachtree Environmental
3040 Business Park Drive Suite E
Norcross, Georgia 30071-1425
770-449-6100 / fax 770-449-6119

October 30, 2012

Mr. David Brownlee
Georgia Environmental Protection Division
Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1462, East Tower
Atlanta, Georgia 30334

RE: Response to the May 3, 2012 Voluntary Investigation and Remediation Plan Application
Comment Letter, The Loef Company Property, 590 Old Hull Road, Athens, Clarke
County, Georgia; HSI#10376
Tax Parcels: 221 00C, 221 001, and 162 037

Dear Mr. Brownlee:

Peachtree Environmental (Peachtree) has prepared this letter on behalf of **Hull Real Estate, Inc.** (Hull), in response to the May 3, 2012 Georgia Environmental Protection Division's (EPD) technical comments regarding the Voluntary Investigation and Remediation Plan (VIRP) and Application dated November 7, 2011 for the Former Loef Facility in Athens, Georgia. In addition, Peachtree has prepared and included the 1st Semiannual Progress Report associated with VRP Property.

VIRP Application Checklist

1. The warranty deed was not provided for tax parcel 162 037 located at 305 Athena Drive in Athens, Clarke County, Georgia. Please provide the deed by May 30, 2012, as it is required by Item #1 of the VIRP Application Checklist.

Response: Peachtree is in the process of obtaining the warranty deed for tax parcel 162 037 and will provide under a separate cover. Peachtree anticipates a submittal date of mid-November 2012.

2. Section 12-8-107(a) of the Act requires a VIRP to be prepared and submitted by a professional engineer or geologist who is registered with the State Board of Registration for Professional Engineers and Land Surveyors or the State Board of Registration for Professional Geologists. According to the Georgia Secretary of State website, License Number PG001255 has lapsed and expired on December 31, 2009. Please provide documentation regarding the status of the license by May 30, 2012 and/or provide a letter from a currently registered professional engineer or geologist who will oversee the implementation of the subject VIRP. Otherwise, EPD may terminate the enrollment of the subject application in the Voluntary Remediation Program.

Response: John P. Martiniere, Jr., P.E., the current professional engineer overseeing the subject VIRP, submitted the requested letter to EPD on May 29, 2012.

Investigation and Remediation Plan

3. According to Section 2.1 of the VIRP, The Loef Company, Inc. site was listed on the Hazardous Site Inventory on June 9, 1995 based on a reportable quantities screening method (RQSM) onsite exposure pathway score of 55.56 and groundwater pathway score of 4.88. Please note that the site was rescored in July 1997 based on information provided to EPD in a letter dated March 8, 1995. The groundwater pathway score was amended to 14.63.

Response: Comment noted. Revisions have been incorporated in the attached 1st Semiannual Progress Report.

4. The VIRP proposes a certification of compliance based on the use of plume concentration analytical data, aquifer slug testing, and BIOCHLOR modeling to demonstrate that the contaminant plume at MW-2A will not migrate beyond the point of demonstration (POD) well (MW-9A) or past the downgradient property boundary. In accordance with Section 12-8-107(h) of the Act, a uniform environmental covenant (UEC) is required for the subject source property and each property impacted by the plume along the down gradient path to the POD. A model UEC is available at <http://www.gaepd.org/Documents/uec.html>.

Response: Comment noted. The overall extent of UECs will be evaluated if future assessments and modeling indicate that the contaminant plume has migrated off-site.

5. EPD approves the proposed Type 1 groundwater delineation standards provided in the table in Section 4.2.2 of the VIRP. Please note that cis-1,2-dichloroethene (DCE) should be included in Section 4.1.6 as a constituent that was detected at concentrations exceeding the Type 1 standards.

Response: Peachtree has included cis-1,2-DCE as a constituent with concentrations exceeding Type 1 standards in the attached 1st Semiannual Progress Report.

6. Section 3.6.6 designates MW-9A as the POD well for the subject VIRP site. However, based on Figure 8 and water levels from August 2011, it appears that groundwater may be flowing in a slightly more easterly direction than shown on the figure. This indicates that

MW-9A may not be the only POD well necessary for the site. Therefore, EPD recommends the designation of another POD well at a location east of MW-4A after the horizontal extent of the plume has been defined. Please reevaluate the groundwater flow direction, specifically between wells MW-4A and MW-6. Additionally, there is not enough water level information to the southwest of MW-2A to infer potentiometric surface contours. Please remove the inferred lines until the contours have been more accurately defined.

Response: Comment noted. As lines are “inferred” and placed based on best professional judgment, Peachtree has elected to leave the potentiometric lines on Figures 7A and 7B in the attached 1st Semiannual Progress Report. As discussed in the 1st Semiannual Progress Report, the resulting groundwater flow direction to the southeast is consistent with historic observations; however, perched/standing water observed during the February and September 2012 in the vicinity of down gradient monitoring wells MW-7A, MW-8A, and MW-9A appears to have created a “mounded” groundwater table. Groundwater flow direction will be continually evaluated following installation of additional delineation wells as identified by EPD, Hull Representatives and Peachtree in a meeting on September 10, 2012 and will be detailed in the April 2013 Semi-Annual Progress Report. Locations of the additional monitoring wells are depicted on Figure 11 in the 1st Semiannual Progress report.

7. EPD accepts the locations proposed in Figure 12 for site horizontal delineation purposes, although these locations may not be best suited to aid in characterizing the extent of the plume or provide realistic model inputs such as plume width and contaminant flow direction. Please note some of the wells presented in Figure 12 may not be needed after receipt of sampling results from the wells recommended in Comment 14. Additionally, future vertical delineation should be completed immediately downgradient of MW-2A to assess if volatile organic compounds have impacted bedrock.

Response: Comment noted. Per the September 10, 2012 meeting with EPD, Peachtree and EPD have come to agreement on delineation well locations, as noted above. The proposed delineation well locations are illustrated on Figure 11 in the attached 1st Semiannual Progress Report.

8. Section 3.4 states that slug tests were performed in June 2010 to evaluate site-specific hydrogeologic characteristics. The June 2010 slug tests were provided in the October 2010 Groundwater CAP Addendum. After reviewing the slug tests, EPD does not accept the methods used to determine the hydraulic conductivity based on the following observations:

- a. The anisotropic ratio (K_z/K_r) should be conservatively set at 0.1 rather than 1 as indicated in the data sheets for wells MW-2A, MW-4A, and MW-9A. A value of 1 infers the vertical and horizontal hydraulic conductivities are equivalent. Typically K_r is greater than K_z , resulting in an anisotropic ratio value of 0.1.

Response: Comment noted. Peachtree will utilize the anisotropic ratio of 0.1 in future slug tests.

- b. The initial static water level for MW-9A is incorrect, provided that the static water column information from monitoring well purging and sampling information for well MW-9 is the same well used for the slug test.

Response: Comment noted. Peachtree will ensure that the correct static water column information is utilized in future slug tests.

- c. The estimate provided for saturated aquifer thickness for the slug tests is too small for the site. Section 5.3 of the October 2010 Groundwater CAP Addendum states that the aquifer thickness is estimated to be 50 feet. Based on the information provided in the August 1997 Revised CSR, the former production well is 320 feet deep with a 6-inch casing to 84 feet. Provided the deepest water level below the top of casing is approximately 23 feet, a more accurate estimate for saturated thickness would be approximately 60 feet. If the aquifer thickness estimate is imprecise, then a sensitivity analysis for a given range of values should be evaluated. Installation of a deep monitoring well in the future can validate the estimate used for the model.

Response: Comment noted. However, it should be noted that because of the limited radius of investigation of a slug test, the contributing interval typically used in standard analyses, such as Bower and Rice or Hvorslev, tends to be the length of the well screen, especially for partially penetrating wells. Peachtree will conduct a sensitivity analysis in the future slug testing activities to evaluate this effect.

- d. The effective porosity of the gravel pack and the total porosity of the aquifer are the same. Please provide justification for the use of these values.

Response: Comment noted. Peachtree incorrectly transcribed the effective porosity and will ensure the correct values are utilized in future slug tests.

- e. A casing radius of 10.8 inches (0.9 feet) was used for the slug tests. EPD noted that the slug tests were performed on 2-inch diameter wells.

Response: Comment noted. Peachtree incorrectly transcribed the casing radius and will ensure the correct values are utilized in future slug tests.

- f. A well bore radius of 6.72 inches (0.56 feet) was used in the calculation of the slug tests values. The well logs indicate a 7.25-inch diameter hollow stem auger was used to drill the well.

Response: Comment noted. Peachtree incorrectly transcribed well bore radius and will ensure the correct value of 7.25-inch is utilized in future slug tests.

- g. Some of the observation data for the slug test for well MW-2A are missing from the CAP Addendum.

Response: Comment noted. Peachtree plans to conduct future slug tests at MW-2A and will ensure all observation data is provided in future submittals.

In order to determine appropriate hydraulic conductivity for the site, slug tests should be rerun using site-specific values. Please run additional slug tests and provide justification for all input parameters.

Response: Comments noted. Additional slug testing will be conducted following installation of on-site horizontal delineation wells and detailed in the April 2013 Semiannual Progress Report with comments above noted.

9. The hydraulic gradient at the site was determined to be 0.0145 ft./ft. This value was calculated using values between monitoring wells MW-2A and MW-8A. Although this value is acceptable for use at this site, future horizontal gradients should be calculated perpendicular to potentiometric surface lines in the direction or directions of groundwater flow, if multiple groundwater flow directions exists.

Response: Comment noted. Peachtree will ensure that the wells chosen for calculation of hydraulic gradient will be the most suitable. It should be noted that horizontal gradients for water table and potentiometric maps are always calculated using measurements between wells, since the measurement of a water level in a well is a fixed, repeatable data point. If localized mounding of groundwater from onsite soil piles is observed to affect the site flow direction, the relevant horizontal gradients will be calculated. An Excel® spreadsheet method available from the University of Kansas (www.geo.ku.edu/hydro/KUHydro.html) will be used that can calculate hydraulic gradient from data sets involving numerous wells (2003, J.F. Devlin).

10. Section 4.1.2 of the VIRP indicates that MW-1 was sampled during the 2011 investigation activities, but documentation was not provided on the sampling field logs or the data tables. Please explain this discrepancy, as the figures show the well status as 'destroyed'.

Response: Comment noted. This statement was inserted in error and has been removed from the attached 1st Semiannual Progress Report.

11. Section 4.1.3 of the report states that groundwater sampling was conducted in accordance with the procedures outlined in the SESD Operating Procedures for groundwater sampling (SESDPROC-301-R1). Please note that this document was revised in October 2011 (SESDPROC-301-R2). Please use the most current version of this guidance document for future sampling activities.

Response: Comment noted. Peachtree has conducted the February and September 2012 groundwater sampling in accordance with SESDPROC-301-R2, as stated in the attached 1st Semiannual Progress Report.

12. The SESDROC-301-R2 discourages the use of bailers for sampling groundwater. Please note that it is acceptable procedure to collect a sample directly from the Teflon tubing of the submersible pump.

Response: Comment noted.

13. Please add depth of submersible pump information to the monitoring well purging and sampling information sheets. This information is used to determine if sampling was conducted in accordance with standard operating procedures.

Response: Comment noted. The depth of the submersible pump has been included in Appendix A (Field Water Quality Sampling Forms) of the attached 1st Semiannual Progress Report.

Fate and Transport Model

14. Site groundwater has not been adequately investigated and historical temporary well data indicates that the source area in groundwater may not have been completely identified or that there may be multiple source areas. In order to better characterize the plume, groundwater flow direction, and overall site conditions for modeling purposes, EPD recommends placing additional wells in the following areas:

- a. The former shredder area and location of MW-2A in Figure 1 of the September 29, 2000 Report of Additional Groundwater Monitoring;
- b. The location of TW-2 shown on Figure 5 of the July 2006 Groundwater Assessment Report, where contamination was detected in the May 4, 2006 sampling event. This point is upgradient of the source area and may indicate another source;
- c. Approximately 120 feet west of the former location of TW-2;
- d. The former location of TW-4 where contamination was detected in the May 4, 2006 sampling event (Figure 5 of the July 2006 Groundwater Assessment Report); and
- e. Approximately 120 feet northwest of MW-4A along the property line.

Response: Comments noted. As previously stated, Peachtree and EPD have come to agreement on delineation well locations. The proposed delineation well locations are illustrated on Figure 11 in the attached 1st Semiannual Progress Report.

15. EPD has reviewed the BioChlor model submitted on behalf of Hull Real Estate, LLC by Peachtree Environmental, Inc. and has the following comments;

- a. The hydraulic conductivity value used for the model does not match the hydraulic conductivity value discussed in Section 4.3.1 of the VIRP. Although a more conservative value may be used for modeling purposes, a reference must be given for the selection of that parameter. In future submittals of the model please provide a reference for the selection of the hydraulic conductivity value and any other parameter used for the model runs.

Response: Comment noted. In future submittals, Peachtree will provide a reference for the selection of the hydraulic conductivity and any other parameters utilized in the model.

- b. A discussion of how dispersion values were determined was not provided in the text. BioChlor states that simple estimation techniques can be used based on the length of the plume; however, currently there is not enough information provided in the VIRP to estimate a plume length. This value must be estimated once the plume has been completely delineated horizontally on and off property.

Response: Comment noted. Peachtree recognizes that the model BioChlor is sensitive to longitudinal dispersion values due to its design based on the Domenico model, and will utilize data collected following the installation of additional monitoring wells to estimate appropriate values. Peachtree will provide a discussion regarding the dispersion value determination in future submittals.

- c. The partition coefficient values used in the model are incorrect. Please use the current values from the EPA Region 3 screening level tables, accessible at the EPA website:

http://www.epa.gov/reg3hscd/risk/human/rb-concentration_table/Generic_Tables/index.htm.

Response: Comment noted. In future submittals, Peachtree will utilize the current values from the EPA Region 3 screening level tables.

- d. EPD was unable to determine how the first order decay coefficients were determined. Please provide justification for their use. Additionally, half-life values are not the same as the yield. The yield value is used as a conversion factor for the degradation of the parent compound. These values are unacceptable for use as half-lives in the model.

Response: Comment noted. Peachtree will be using a combination of acceptable literature-referenced values plus the built-in rate constant decision support within BioChlor to reassess the first order decay coefficients and half-life values in the model.

- e. A source thickness in the saturated zone of 25 feet was used in the model. BioChlor states that this value is usually determined by evaluating groundwater data from wells near the source area screened at different depths. If this information is not available, then the depth of the aquifer can be used as a conservative estimate. Additional bedrock wells are needed before this parameter can be determined. In the absence of site-specific information, a conservative value of 60 feet as suggested in Comment 7.c can be used for modeling purposes.

Response: Comment noted. As previously discussed, Peachtree will be conducting a sensitivity analysis of saturated in conjunction with future slug testing analyses. All vertical-delineation values of contaminant distribution will be evaluated to utilize the best estimate of source thickness. However, we believe that a value of 60 feet would be overly conservative and not representative of actual site conditions.

- f. Source data concentrations for DCE should include the combination of 1,1-DCE, cis-1,2-DCE, and trans-1,2-DCE since they are all daughter products of trichloroethene. Please correct this for future model runs.

Response: Comment noted. Peachtree will include the combination of 1,1-DCE, cis-1,2-DCE, and trans-1,2-DCE when inputting source data concentrations for DCE in future model runs.

Based on the observations listed above, the model presented in the VIRP application is unacceptable for use at this time. Please collect additional data, provided justification for their use, and resubmit the model in a future report.

Response: Comments noted. Additional data will be collected for utilization in the BioChlor model following installation of on-site horizontal delineation wells and detailed in the April 2013 Semiannual Progress Report.

General

16. Section 2.2 of the VIRP states that soil removal activities were conducted where soils were impacted above Type 3 RRS. These areas are not depicted in the cross-sections presented on Figures 6A and 6B. Please provide site stratigraphic features on the cross-sections included the fill areas from previous excavation activities. Additionally, please revise Figure 7 to demarcate the portions previously excavated within each impacted source area and indicate those areas that have been covered with concrete to prevent impacts to storm water runoff.

Response: Comment noted. Peachtree has revised Figures 6A and 6B to depict where soils were removed above Type 3 RRS and included in the attached 1st Semiannual Progress Report. Figure 7 has been updated to depict the former excavated areas and newly concreted driveways/areas and is included as Figure 4 in the attached 1st Semiannual Progress Report.

17. There are inconsistencies with some of the monitoring wells depicted in VIRP figures. In Figure 1 of the September 2000 Report, MW-2A was located in the shredder area. In subsequent reports, MW-2A has been shown its current location. Additionally, it was noted on table 2 of the VIRP that MW-2A was over drilled and replaced on March 18, 2011. Also, wells MW-7A and MW-9A are reversed when compared to Figure 5 in the October 2010 Groundwater CAP Addendum and historical reports. If the well location from Figure 2A of the VIRP is correct, using the 2010 water level data from Table 1 of the VIRP would result in a significant change in groundwater flow direction between MW-4A and MW-9A. Please

provide an explanation for the discrepancies from previous report. Also, please note that if a well is replaced, an alternate name is typically given to the replacement well to differentiate it from the previous well.

Response: Comment noted. As discussed with EPD during the September 10, 2012 meeting, the September 2000 report depicts a proposed location for MW-2A rather than the as-built location. MW-2A's current location, as depicted, is correct. MW-7A and MW-9A are in correct locations and were mislabeled in Figure 5 of the October 2010 Groundwater CAP Addendum.

18. In future reports please use the legends to define all features of figures. For instance, please define the yellow and orange diagonal lines shown on Figures 10 and 11.

Response: Comment noted.

19. Please provide a figure that identifies the tax parcel ID numbers rather than acreage for all qualifying and impacted properties and any properties where the proposed offsite wells are installed.

Response: Comment noted. A figure identifying the tax parcel ID numbers for the qualifying property is included as Figure 2 in the attached 1st Semiannual Progress Report.

20. Please do not tabulate constituents that are not regulated substances listed in Appendix 1 of the Rules for Hazardous Site Response in future reports.

Response: Comment noted. References to Methyl-tert-butyl-ether and 2-Hexanone have been removed from relevant tables in the attached 1st Semiannual Progress Report.

Peachtree hopes the responses to your May 3, 2012 comments are both responsive and useful. Please feel free to contact either of the undersigned if you have any questions or require additional information.

Sincerely,
Peachtree Environmental


John P. Martiniere, Jr., P.E.
Project Director
770.449.6100 Ext:222


Jason P. Chappell
Project Manager
770.449.6100 Ext:224

cc w/ attachment: Antonia Beavers, EPD
Bob Blumberg, Hull
John Spinrad, Esq.
Albert Sanchez, Esq.
Shelly Friedman, Esq.
File 2318