

# Georgia Department of Natural Resources

## Environmental Protection Division

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Judson H. Turner, Director

Land Protection Branch

Phone: 404/657-8600 FAX: 404/657-0807

June 9, 2015

Edspen, LLC  
c/o Mr. Louis Silverstein  
2568 Central Avenue  
Augusta, Georgia 30904

**COPY**

VIA EMAIL AND FIRST CLASS MAIL

Re: Comments on Voluntary Remediation Program Semiannual Report 2 – March 2015  
Silverstein's Cleaners, HSI Site Number 10875  
Martinez, Georgia; Columbia County

Dear Mr. Silverstein:

The Georgia Environmental Protection Division (EPD) has completed its review of the above-referenced document, which was submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act). Our comments are provided below.

1. The use of enhanced reductive dechlorination with zero-valent iron (ZVI) via soil blending to remediate source material on site is conceptually acceptable to EPD, subject to the following conditions:
  - a. Two previously identified source areas, one on the southwestern side of the former dry-cleaning building east of SB-23, and one inside the building east of SB-8, are not included in the proposed cleanup area designated on Figure 5. Please provide a plan for remediating source material within those areas. Also, please extend the proposed cleanup area to the south, to include the area in and around MW-9.
  - b. Please submit a detailed remedial-design plan prior to implementation. Details such as the volume of ZVI compound, type of ZVI compound, volume of carbon source, and disposition of excess excavated soil should be included.
  - c. Please submit a detailed performance monitoring plan to verify the effectiveness of the soil remediation. The number of confirmation samples, sample locations and depths, and the laboratory analytical method(s) should be specified.
  - d. Any wells that are destroyed during the remedial process may need to be replaced.
2. Please conduct groundwater sampling and associated laboratory testing on a semiannual basis, preferably with one event occurring shortly before the proposed soil blending. All wells on site should be sampled. Additionally, groundwater elevation data should also be collected on at least a semiannual basis. Each semiannual report should include the most recent groundwater-analytical results and a potentiometric-surface map based upon the most recent groundwater-elevation data. EPD will consider reducing the number of wells to be sampled semiannually based upon the groundwater analytical data.
3. Please include 1,4-dioxane as a groundwater laboratory analyte during the next groundwater monitoring event. Often, 1,4-dioxane is associated with 1,1,1-TCA as a stabilizing agent. The laboratory-detection limit should be 5 micrograms per liter or lower.
4. Regarding the site-specific determination of 2.23 percent for fractional organic carbon ( $f_{oc}$ ) in soil, a more conservative value of 1.8 percent (0.018) as the site-specific  $f_{oc}$  would be acceptable to EPD. EPD calculated this value by taking the geometric mean of the organic-carbon concentrations listed in Section

- 3.2 of the report, excluding the 4.20% concentration in SB-4 (2-4), which is a potential outlier that could skew the calculated mean.
5. The Type 1 and 3 soil RRSs presented on Table 1 are correct and acceptable to EPD.
  6. The Type 2 groundwater RRSs presented on Table 1 are correct except for chloroform, which should be 0.00254 milligrams per liter (mg/L).
  7. The Type 4 groundwater RRSs presented on Table 1 are correct except for the following substances: chloroform, which should be 0.0034 mg/L; 1,2-dichloropropane, which should be 0.0074 mg/L; ethyl benzene, which should be 0.029 mg/L; PCE, which should be 0.0952 mg/L; and TCE, which should be 0.0052 mg/L.
  8. The Type 2 and Type 4 soil RRSs presented on Table 1 are unacceptable to EPD. The following table lists Type 2 and 4 soil RRSs acceptable for use at the site.

**Type 2 and 4 Soil RRSs for use at Silverstein's Cleaners, HSI 10875**  
(values are in mg/kg)

Regulated Substance	Type 2	Type 4 Surface (<2 feet BGS)	Type 4 Subsurface (>2 feet BGS)
Acetone	1.944	11.096	11.096
Chloroform	0.063	0.063	0.063
Cumene	2.658	13.484	13.484
1,1-DCE	0.090	0.458	0.458
Cis-1,2-DCE	0.065	0.191	0.191
Trans-1,2-DCE	0.293	1.908	1.908
1,2-dichloropropane	0.007	0.010	0.010
Ethyl benzene	5.830	3.830	5.830
PCE	0.038	0.188	0.188
1,1,1-TCA	2.868	14.341	14.341
TCE	0.007	0.007	0.007
Toluene	4.364	22.868	22.868
Xylenes	70.588	70.588	70.588

Please note that for soil-leaching calculations, EPD uses the USEPA partitioning equation (Equation 10 from the *Soil Screening Guidance: Technical Background Document* [USEPA 1996]), which assumes that upgradient groundwater is uncontaminated. Due to the high contaminant concentrations in groundwater at the southern (upgradient) site boundary, a dilution attenuation factor (DAF) of 1 was used with the partitioning equation. A site specific  $f_{oc}$  value of 0.018, as discussed above in Comment 4, was used to calculate the soil-water-partitioning coefficient ( $K_d$ ). The responsible party has the option to propose alternate Type 2 and 4 soil RRSs generated by a peer-reviewed, USEPA-approved vadose-zone model,

provided that the model does not require special licensing for the EPD to run it while conducting our review.

9. In future reports, please submit a site plat that depicts the locations of all groundwater-monitoring wells on site. The fence diagram in Figure 3 references wells MW-8, MW-9, MW-10, MW-11, and MW-12, but the locations of those wells are not indicated on any figures in the report.
10. EPD will allow low-flow/low-volume purging, now referred to as micro-purging, on a trial basis on site. During future groundwater sampling events, please follow the guidelines provided in Section 3.2.2 and Section 4.5.1 of the USEPA Region 4 groundwater sampling operating procedures (OPs), "Procedure SESDPROC-301-R3, Groundwater Sampling," effective March 6, 2013. Please note that the pump intake should be positioned at or near the middle of the screened interval, that drawdown should preferably be kept to less than 0.1 meter, and that the flow rate should be in the general range of 0.1 to 0.5 liter per minute. The OPs can be accessed on the Internet at <http://www.epa.gov/region4/sesd/fbqstp>.

Edspen, LLC must address these comments 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 Edspen, LLC. However, failure of EPD to respond to a submittal within any timeframe does not relieve Edspen, LLC from complying with the provisions, purposes, standards, and policies of the Act.

If you have any questions, please contact Allan Nix of the Response and Remediation Program at (404) 657-8600.

Sincerely,



David Brownlee  
Unit Coordinator  
Response and Remediation Program

c: Denny Dobbs, Peachtree Environmental (via email)