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**Subject:** DEP Recommendations for Sediment sampling at Cabot Carbon/Koppers site, Gainesville  
**Date:** Thursday, July 23, 2015 12:05:52 PM

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Rusty-

This is to follow up on our discussion with Cabot during the 6/9/2015 Five Year Review meeting regarding additional sampling in Springstead/Hogtown Creeks to determine current level of site related contaminants downstream of the Cabot Carbon/Koppers site, the adequacy of the previous interim sediment removal, and the need for warning signs at public access points along the creeks. In the meeting, Cabot requested recommendations from DEP to support their development of a sediment sampling scope of work.

Review of previous data collected by Alachua County EPD and Cabot prior to the 2010 interim removal indicates that total PAHs were present in the creek sediments at levels above the TEC and to a lesser degree the PEC for protection of benthic organisms. BAP-TEQ concentrations were confirmed in sediments above the soil cleanup target level (SCTL) for unrestricted use. Dioxin was also observed in sediments at concentrations above the both the EPA sediment quality guideline of 2.5 ppt and the SCTL of 7 ppt. Sampling locations were biased based on observed staining or odors in creek sediments and showed a range of concentrations. Resulting removal locations were based on staining, elevated levels of PAHs, and accessibility for removal. Removal included soils and sediment inside the limits of the creek banks both above and below the water surface.

Several post removal sediment sampling locations in the excavation areas confirmed that total PAHs or BAP-TEQ levels remain above the PEC or alternative health based criteria, respectively. Additional sampling in those areas and outside of those areas has not been conducted to demonstrate that

- 1) remaining areas of the creeks meet the total PAH PEC and interim SCTLs for dioxin and BAP-TEQ such that no further excavation is necessary, and monitored natural reduction (MNR) is appropriate to accomplish final sediment remediation; or that
- 2) remaining areas of the creeks meet the TEC and the unrestricted use SCTLs for those same constituents, such that sediment remediation is complete, such that no further MNR is required and warning signs are no longer necessary to protect public health.

To that end, DEP recommends the following sediment sampling:

- Collection of sediment samples 0-6" and 6"-2' bls. Sampling at both depth intervals will support both ecological risk and potential direct contact evaluations and consider the potential for reworking of the sediments resulting in deeper sediments becoming the new sediment surface.
- Collection of samples every 500' feet along Springstead and Hogtown creeks as well as the ditch leading to the creeks downstream of Cabot where sediment (versus exposed Hawthorn clay) is present, to better demonstrate the distribution of contaminant levels in

the creeks. We recommend that samples be collected even if staining or odors are not observed. Given the variability in contaminant concentrations in previous samples that were all collected in areas of high staining and across depth intervals, a more thorough sampling regime is warranted.

- Cabot has proposed to collect composite samples for analysis of PAHs at each location over approximately a 5' X 5' area. Composite samples are acceptable for comparison with the TEC. As DEP allows the comparison of an average concentration of a contaminant within a given exposure unit or ecological area to the TEC sediment quality guideline, composite samples at each location as proposed and within each of the 2 specific depth intervals identified above would not compromise that comparison.
- A grab sample should also be collected at each 500' location and each depth interval for comparison with the PEC, as this sediment quality guidance criteria represents a "not to exceed" value without further ecological risk assessment and substantiation of an alternative criteria.
- We recommend that sampling be conducted during base flow conditions. This will allow clear identification and characterization of the soils in bars within the creek likely located above the surface water interface. As noted previously by DEP and in EPA guidance, direct contact with sediments (defined as being below the water) generally does not warrant comparison of concentrations to soils criteria as contaminants are likely washed off. However, direct contact with contaminated soils (defined as residing above the surface water) could be of concern.

Thank you for your consideration of these recommendations. They have been developed consistent with previous site related comments and based on our understanding of the anticipated sediment remedy for the site, as outlined in DEP's Amended ROD concurrence letter.

Please let me know if you would like to discuss further.

Kelsey

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