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Subject:	DEP Review of Koppers September 20. 2013, Version 1 Remedial Design Work Plan
Date:	Tuesday, October 29, 2013 8:35:52 PM

Scott/Rusty-

Thank you for the opportunity to review the Remedial Design Work Plan for the Koppers portion of the Cabot Carbon/Koppers Superfund site. DEP offers the following comments and observations.

Section 1

- Page 1- The work plan appears to assume that sediments in Hogtown and Springstead Creeks will be addressed solely by Cabot Corporation. As noted in previous DEP correspondence, additional sediment sampling is necessary to determine the contamination remaining in the Creeks following the interim removal action by Cabot. We anticipate that the data will be compared to the EPA dioxin sediment guidance criteria of 2.5 ppt and the DEP Sediment Quality Assessment Criteria Guidelines (threshold and probable effects concentrations) for site related constituents to determine if and where additional removal of site related contamination may be required. Until additional sampling is conducted, it appears that attribution is premature.
- Page 2- Please clarify if the solidified material created during the previous soil-solidification pilot test will be incorporated inside the containment area, such as the on-property soil consolidation area discussed in Section 2.6.1.. Results of pilot test and performance sampling should be considered in determining its final location.
- Page 2- Remedial design should consider how the presence of the onsite 1.3 acre mulch pile could affect groundwater quality by creating anaerobic or reducing conditions within the vadose zone and groundwater beneath the pile. Such conditions are not conducive to the natural attenuation of many site related contaminants and could also result in the release of some elements from soils into groundwater (arsenic, iron and manganese) at unacceptable concentrations.
- Section 1.3.6, *Leaching from Soil to Groundwater*- It is not clear from the discussion about leachable soils here and in Section 2.6.1, what criteria will be used to determine what soils will require relocation to the containment cell to mitigate leaching and ensure that groundwater contamination will meet cleanup target levels at the point of compliance or institutional control boundary. We recommend that SPLP analysis be used to support the evaluation of potential vadose zone source soils outside of the containment area.
- Section 1.6- Our review of the discussion of the overall remedial design process and the proposed schedule in Appendix A, suggests that the slurry wall may be installed more than year before the low permeability cap (final covers and other engineered components). How will water levels inside containment area be controlled in the interim?

Section 2

- Section 2.1.3, *Storm water Management Plan*- Interim storm water controls have been implemented as required under the consent order between Beazer and DEP and in accordance with the DEP Permit. Compliance monitoring is ongoing in accordance with the permit. Final storm water controls will be designed and implemented as part of the overall Superfund site remediation process and in accordance with applicable regulations. As noted in the design work plan, BMPs may need to be updated to address specific construction activities anticipated during the remedial action and ensure that discharge outside of the D001 discharge point does not occur. DEP design review will include participation by DEP NE District staff to identify the appropriate permitting mechanism and design requirements for both long term storm water

management on the property well as to identify storm water controls necessary during construction of the remedial action.

- Section 2.2, *Offsite Soil Replacement*- Design specifications should include protocol for sampling and analysis of clean backfill to confirm replacement soil meets SCTLs. This includes demonstration that the selected backfill source meets all SCTLs as well as site specific SCTLs for leachability and unrestricted use. We recommend that results of the recent offsite soil sampling be provided in updated data maps in the preliminary design report including recommended sample locations to complete delineation where necessary to support final design and implementation. Proposed cut lines should be based on sample points demonstrating compliance with SCTLs.
- Section 2.3.1.3, *Off-property sediment removal*- In addition to the above comment regarding the application of sediment criteria to address ecological risk per the Amended ROD, sediment remediation should address the potential public health risk from direct contact. This may be addressed by removal of sediments that exceed recreation- based cleanup target levels for carcinogenic PAHs and dioxin along with institutional controls in the form of annual letters to residents of properties adjoining the creek and warning signs, until natural attenuation processes reduce sediment concentrations to SCTLs for unrestricted use.
- Section 2.4, *ISGS*- We understand that the characterization report and updated pilot test plan will be provided in November 2013. We request that the discussion of findings include identification of areas where additional DNAPL delineation may be necessary to ensure comprehensive source treatment in the Process area and the basis for the determination. All performance monitoring wells should be clearly identified on pilot design maps and include baseline sampling results. We recommend that the specific ISGS performance monitoring scope be included with the pilot design. As noted in previous DEP comments, performance and compliance monitoring should include lower Hawthorn monitoring wells immediately down gradient of the injection area, and installed prior to implementation of the pilot.
- Section 2.5*, Insitu Solidification/Stabilization (ISSS)*- The Amended ROD did not include ISGS as a contingency for treatment in the North Lagoon or Drip Track areas below ISSS depth limitations, as proposed in the design work plan. Adequate DNAPL characterization/delineation would seem important to ensure an informed evaluation of the implications of any observed depth limitation in delivery of formula mix. Please discuss why a pilot is not proposed for the Drip Track Area. We recommend that the pre-design investigation and treatability test work plan specify performance criteria/goals (permeability, strength and leachability criteria) to direct development of formula mixes and interpretation of performance data. Please also specify the scope and schedule for post mixing field tests to support performance evaluation in the pilot design.
- Section 2.6- It is not clear in the discussion of "Other Engineered Components" - chemical oxidation or ISGS in the Hawthorn, hydraulic containment in the surficial and Floridan aquifers, and natural attenuation monitoring (NAM)- that one or more of these remedial components will be used to address groundwater contamination both <u>onsite</u> (to prevent offsite migration above remedial goals) as well as <u>offsite</u> (particularly to the east) where contamination has migrated beyond the former Koppers facility property (to enhance offsite remediation such that offsite contamination meets groundwater cleanup target levels). Design of these components should clearly specify triggers/criteria which will precipitate active treatment as well as specify the performance monitoring scope and schedule. Performance monitoring should address both active remediation as well as support evaluation of the NAM remedy. Performance monitoring wells both onsite and offsite should be identified including offsite temporary points of compliance monitoring wells, as outlined in the Amended ROD and pursuant to Chapter 62-780, FAC.

We look forward to design and implementation of remedial action. Please let me know if you have any questions regarding these comments.

Kelsey

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