From:	Rob Smith
To:	Sager, John E - DNR; Coenen, Douglas W - DNR; Carey, Angela J - DNR; Saari, Christopher A - DNR
Cc:	PaulLS@koppers.com
Subject:	RE: Kopper"s Superior Drip Pad
Date:	Monday, November 11, 2019 10:41:12 AM
Attachments:	image007.png

John: Sorry about the delay getting back to you. This response has to get filtered through both involved companies.

Before addressing your specific questions, a recap of general background information may be helpful for your review. There is a long regulatory history to the entire property, including the drip pad that was the subject of the Koppers Inc. Drip Pad Closure Demonstration Report (the Report). A few key background points are listed below.

- The site-wide RCRA Corrective Action Program has been ongoing at the site for decades. Site investigations beginning with an original 1988 RCRA Facility Assessment (RFA), risk assessments, corrective measures studies, and final corrective action implementation (soil cover and a Beazer East, Inc. (Beazer) submittal of a continuing obligation package to the WDNR for soil and groundwater) are all concluded.

- Soils and groundwater have been investigated under WDNR oversight within the RCRA Corrective Action Program at the subject facility by Beazer, a former site owner and operator. The on-property site-wide remedy has been approved by WDNR and implemented by Beazer at the site.

- When Koppers entered into the purchase agreement for the then operating Superior wood treating facility and property with Beazer in December 1988, Beazer retained responsibility for certain pre-closing environmental liabilities at the Superior location. Koppers retained liability for ongoing operational issues and certain post-closing environmental liabilities; therefore, the operating facility closure and operating drip pad closure activities were addressed by Koppers.

- The subject of the Koppers Closure Demonstration Report (the Report), the concrete drip pad, was however, identified in the site-wide RCRA Corrective Action Program as one of the solid waste management units at the site, SWMU 7 (a portion of Area F). , Conditions beneath this concrete drip pad were not studied contemporaneous with the other solid waste management units because Koppers was operating the drip pad at the time.

- After Koppers ceased wood treating operations at the site in 2006, the remainder of the facility structures and the drip pad surface were cleaned / closed to the WDNR satisfaction. Since active operations ceased at the site, the conditions beneath the drip pad could then be assessed in a manner consistent with the other SWMUs identified at the site.

- As noted in the Closure Demonstration Plan (CDP), Koppers submitted the CDP to satisfy its obligations for closure of the RCRA Subpart W drip pad. By implementing the CDP, the presence and concentration, or absence, of former wood treating operations-related constituents beneath the drip pad were to be assessed to satisfy the remaining concern expressed by the WDNR to Koppers. This approach would also support evaluation as to whether the drip pad (SWMU 7) has been adequately assessed and if conditions at SWMU 7 are protective of human health and the environment, consistent with the approach used for

the other SWMUs identified and studied as part of the site-wide RCRA Corrective Action Program**.**

- It was the comparison of information for soil beneath the drip pad to the already implemented soil corrective action that was of interest to the WDNR and the subject of Koppers study and Report.

- Koppers comparison of the soil constituent concentrations beneath the drip pad to the overall RCRA Corrective Action Program corrective action approach was the reason for considering the 0 to 1 foot depth because the overall site-wide corrective action includes institutional controls (continuing obligations package submitted by Beazer to WDNR) for deeper soil and groundwater (including monitored natural attenuation).

- For data comparison purposes, Koppers utilized the Beazer *Revised Addendum to the Post-Remediation Human Health Risk Assessment* (AMEC, October 2009) (HHRA). As indicated in the HHRA, the risk-based corrective action drivers identified for the 0- to 1-foot soil depth were benzo(a)pyrene-toxic equivalents (BAP-TE), pentachlorophenol, 2,3,7,8-tetrachlorodibenzo-p-dioxin-toxic equivalency (TCDD-TEQ), and non-carcinogenic PAHs. The 0- to 1-foot depth subsoil assessment was developed to be consistent with Beazer's HHRA approach because institutional controls are used to control potential access to soil deeper than 1 foot. Risk-based corrective actions were not developed for soil deeper than 1 foot.

- The soil constituent average concentrations below the drip pad at the 0 to 1 foot depth fell below the values that the RCRA Corrective Action Program risk assessments and final corrective action approach determined would require remediation (soil cover). Consequently, the Report demonstrated that the drip pad is no longer required as a cover or cap for the soil beneath the drip pad, and the drip pad can be closed.

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The following are in response to your specific e-mail questions, with your question listed first in italics and our response following.

WDNR Question 1

1. *Soil samples collected from the soil borings referenced in the report are noted to be collected from 0-1 foot in Table 2. The text references the samples were collected from beneath the concrete and gravel substrate. Please clarify the sample depths in reference to the depth scale noted on the boring logs. The boring logs reference 0 as the top of the concrete.*

Koppers Response to WDNR Question 1

As stated in Section 2.2 of the Report:

> At each of the 10 concrete core locations, Geoprobe®-driven sampling equipment was used to collect soil samples at the **0- to 1-foot interval below the drip pad and any gravel/construction base fill. <Bolding added for emphasis>**

As shown on the boring logs, the "0" depth is the top of the concrete drip pad. On the boring logs, the "Fill" line should have been extended to the left, all samples were collected beneath the fill. (Also note that the notation of "Ground Surface" above the 0 foot line on the boring logs was erroneously not removed from our boring log template).

WDNR Question 2

2. *Please provide a overall site map with the location of the drip pad depicted. Please indicate*

the presence of soil borings and monitoring wells near the drip pad that can show analytical results and boring log information from outside of the drip pad for comparison to samples collected immediately beneath the drip pad.

Koppers Response to WDNR Question 2

Soil and groundwater studies have been conducted for decades at the site and around the drip pad area. The main interest of this study was to assess how the drip pad subsoil data integrate with the data collected at the site used to define the final agreed corrective action for soil at the facility.

There are many reports (investigations, risk assessments, cleanup plans) presenting data from around the drip pad and the entire site. These documents should be available in the WDNR files. If your colleagues who have been involved overseeing the corrective action process cannot access the necessary documents, we can provide select documents submitted by Beazer to WDNR regarding past studies, risk assessments and corrective actions, and additional documents submitted by Koppers to WDNR on the facility closure with information that may address your question, if needed.

WDNR Question 3

3. *It appears the 0-1 foot samples were collected from soil used as fill when the concrete drip pad was installed. It appears soil samples were not collected from a depth where soil remains in place from the original drip pad area. The DNR considers the depth of potential risk of direct contact with contaminated soil is 0-4 feet below grade. It also appears, according to the soil boring logs that observed staining and odor increased with depth. Any additional information regarding the removal of contaminated soil during the concrete drip pad installation is helpful.*

Koppers Response to WDNR Question 3

The final site-wide RCRA corrective action for on-property soil was targeted on the 0 to 1- foot depth based on the risk assessment and the implementation of institutional controls to address exposures to deeper soils. As the drip pad is a SWMU, the drip pad closure demonstration for the soil underlying the drip pad was developed consistent with the approach for the site-wide corrective action.

As indicated in the drip pad closure plan and closure demonstration report, construction and expansion of the drip pad was completed in the 1980s and early 1990s. Unfortunately, due to this historic timeframe, there is limited information available on the drip pad construction. Some soil excavation work appears to have been conducted at both times of drip pad construction, however, the full extent of the soil excavation is not known. Therefore, it is likely not totally accurate to assume that the top 1 foot beneath the subbase/fill layer is soil placed at the time of drip pad construction/expansion as Comment #3 seems to indicate. Available, historic information regarding the drip pad extension and soil removal was presented to WDNR in the Closure Demonstration Work Plan.

Additionally, as stated in the WDNR reviewed 2016 Drip pad Closure Demonstration Work Plan it should be noted that:

> When the U.S. Environmental Protection Agency (U.S. EPA) developed and promulgated their 40 CFR 265, Subpart W drip pad regulations (analogous Wisconsin NR 665 Subchapter W), they recognized that upon transitioning to a specifically designed and operated regulated RCRA unit, some past contamination could be present beneath the, then, newly regulated drip pads. In the preamble to the December 6, 1990 Final Rule (Federal Register Vol. 55, No. 235, Thursday December 6, 1990, page 50453) the U.S. EPA specifically

discussed that past releases may have caused contamination beneath drip pads and that potential cleanup mechanisms under RCRA could be used to address this contamination. The drip pad at the subject facility was identified as a SWMU (a portion of Area F) (June 1988 RCRA Facility Assessment) as a part of the beginning facility assessment under the RCRA corrective action program.

Give a call or e-mail if you have any questions or comments regarding this response.

Best regards.

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From: Sager, John E - DNR <John.Sager@wisconsin.gov>
Sent: Thursday, October 3, 2019 3:20 PM
To: rsmith@kuresources.com; Coenen, Douglas W - DNR <Douglas.Coenen@wisconsin.gov>; Carey, Angela J - DNR <Angela.Carey@wisconsin.gov>; Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>
Subject: Kopper's Superior Drip Pad

Hi Rob,

I have reviewed KU Resources January 10, 2019 RCRA Subpart W Drip Pad Closure Demonstration Report and I am asking for some clarification and additional details in order to determine if the drip pad is a barrier or cap that needs to be maintained for protection against direct contact with contamination or for protection of groundwater quality:

1. Soil samples collected from the soil borings referenced in the report are noted to be collected from 0-1 foot in Table 2. The text references the samples were collected from beneath the concrete and gravel substrate. Please clarify the sample depths in reference to the depth scale noted on the boring logs. The boring logs reference 0 as the top of the concrete.

2. Please provide a overall site map with the location of the drip pad depicted. Please indicate the presence of soil borings and monitoring wells near the drip pad that can show analytical

results and boring log information from outside of the drip pad for comparison to samples collected immediately beneath the drip pad.

3. It appears the 0-1 foot samples were collected from soil used as fill when the concrete drip pad was installed. It appears soil samples were not collected from a depth where soil remains in place from the original drip pad area. The DNR considers the depth of potential risk of direct contact with contaminated soil is 0-4 feet below grade. It also appears, according to the soil boring logs that observed staining and odor increased with depth. Any additional information regarding the removal of contaminated soil during the concrete drip pad installation is helpful.

This information should assist us in making a determination on the need to keep the concrete drip pad in place as a barrier. I am on vacation from October 4th through October 15th. If you would like to discuss the contents of this email before my return from vacation please contact Chris Saari at (715) 685-2920.

Thank you.

John Sager
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