

Hazardous Waste Section
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CONFERENCE CALL MARCH 22, 2016

Former Heatcraft Remediation Site
602 Sunnyvale Drive
Wilmington, North Carolina
EPA Id Number: NCD 057 451 270

PARTICIPANTS

Paul Heim, Daikin Applied
Bud McCarty, Hazardous Waste Section
Mary Siedlecki, Hazardous Waste Section
Sandra Mort, Hazardous Waste Section
Ray Roblin, CORR Environmental

AGENDA ITEMS

- **Project Status Update based on Groundwater Monitoring Reports**

Provided by Ray

- **Indoor Air**

- In 2011, the U.S. EPA's Integrated Risk Information System (IRIS) issued an update to the toxicological evaluation for TCE.
- The current DWM Preliminary Soil Remediation Goals (PSRG) and vapor intrusion screening levels reflect the revised TCE toxicity values for oral and inhalation exposures to TCE.
- In addition to the screening levels, DWM also established inhalation exposure "action levels" for TCE to protect sensitive populations. Sensitive populations include women of child-bearing age (15-50 years old).
- The action level is 8.8 ug/m³. This value was exceeded in three out of seven indoor air samples.
- When it is identified that people in TCE-sensitive populations may be exposed to concentrations greater than the action levels, DWM is required to take immediate steps to eliminate the exposure or reduce the exposure concentration to less than the action level.
- DWM called the warehouse owner/manager (Steve Thompson). Talked to Steve regarding the gender makeup of his staff in the warehouse. Only one woman works onsite. Twenty-six year old female works in the office area, but does have reason to walk into the interior of the warehouse on occasion.
- Although the doors were closed during the 24-hour sampling period, the doors are closed often when temperatures are less than 70 degrees Fahrenheit. So the fact that the doors were closed did not skew the analytical results.

- Need to schedule confirmatory sampling as soon as possible. Sampling should be repeated on the interior during normal working circumstances (8 hour period). I feel doors should remain closed for those eight hours, but I defer to Sandy Mort.

- **Plume Delineation**

- Shallow Groundwater System (OSW-10 Well Suite)
 - The shallow groundwater contaminant plume has not been defined in the southerly direction (OSW-10 well suite). The Section recommends that the OSW-10 well suite be sampled as part of the next routine groundwater sampling event (i.e., March 2016).
 - It is plausible that the next groundwater sampling event might necessitate installation of additional groundwater monitoring wells in that general direction.
 - It may be plausible that a deep aquifer groundwater monitoring well might be required as well. The Section wants Daikin to be aware of this possibility
- Pee Dee Aquifer System
 - The leading edge of the contaminant plume in is not defined. Although attempts have been made to implement off-site property access agreements in order to delineate the contaminant plume in the deep aquifer, those attempts have not met with success. Discuss methods (wells, model simulations) to delineate the lateral extent of the groundwater contaminant plume in the deep aquifer system.
 - If Daikin does perform model simulations, the Section will still require a monitoring wells to verify model results.
 - Why doesn't Daikin select other offsite monitoring well locations and pursue access agreements with those parties.
 - Need a work plan. Need a time frame.

- **Contaminant Trends**

- Shallow Groundwater System
 - Agree with everything reported. No comments.
- Pee Dee Aquifer System
 - The report indicates that "the overall mass and distribution of significant chlorinated solvent constituents in the bedrock aquifer are likely in a steady state condition" (page 14). This is a difficult statement to support in the absence of statistical analysis. We suggest that statistical analyses be performed and including those analyses be included in the upcoming groundwater monitoring report to support conclusions.
- Statistical Analysis of Groundwater Monitoring Data
 - Because statistical analyses will be performed on data characterizing the deep aquifer system, it is reasonable to require that those same analyses be performed on data characterizing the shallow aquifer system.

- **Remedial Strategy**

- Continuing Secondary Source of Contamination

- Although the source of contamination on site property is not considered an active or an ongoing release to the environment, the presence of adversely impacted soils can act as a continuing secondary source of contamination to the groundwater.
 - It is important to understand that it is that the 2L Standards will not be achieved in the foreseeable future. This is especially important because the estimated costs are based on the assumption that remediation will cease in 2020-2022 (~6 years for recovery well network) and in 2023-2024 (~8 years for the air sparge system).
 - Daikin may wish to consider accelerating groundwater remediation strategies. A Corrective Measures Report / Feasibility Study that evaluates and weighs possible remedial strategies may be warranted.

- Shallow Groundwater System Discharge to Unnamed Tributary

- Vinyl chloride is measured at concentrations exceeding the 15A NCAC 2B Surface Water Standard (2B Standard) of 2.4 micrograms per liter (ug/L) in surface water. Measured concentrations of vinyl chloride exceed the 2B Standard at three of the four sample locations (CR-1 (31.1 ug/L); CR-2 (17.8 ug/L); CR-3 (11.8 ug/L); and CR-4 (< 1.0 ug/L).
 - Concentrations of vinyl chloride in surface water are sufficiently high to warrant additional remedial actions of the groundwater contaminant plume prior to discharge. The Section would like to discuss possible remedial options.

- Pee Dee Aquifer System

- Unlike the surficial aquifer system, the deep groundwater aquifer system does not appear to be subject to active remediation. The one extraction well installed in the deep aquifer system, EW-6, is not positioned to have a substantive remedial impact on contaminant mass. If contaminant trends are shown to be increasing as a function of time, the Section will require that active remediation be implemented in the deep aquifer system.

- **1,4-Dioxane**

- 1,4-Dioxane should be included in the analyte list for the OSW-10 well suite.
 - 1,4-Dioxane should be added to the analyte list for all future monitoring wells installed to define and delineate the extent of groundwater contamination.
 - If 1,4-dioxane is not measured at a concentration exceeding the method detection limit in surface water in March 2016, this constituent may be omitted from future surface water sampling events.

- **Cost Estimate**

- A cost estimate in the amount of \$726,000.

- Need a break down of the costs (i.e., task, unit cost, number of hours).
- **Status of Revised Alternate Mechanism**
 - The alternate mechanism is originally executed on August 14, 2012. The parties executing the alternate mechanism includes the Hazardous Waste Section (Elizabeth Cannon) and AAF McQuay (Paul Heim).
 - The Section decided to revise the alternate mechanism to reflect changes in groundwater sampling protocols.
 - Since the Section was revising the alternate mechanism, the Section opted to redraft the document include both the operator (Daikin) and the owner (Port City Distribution).
 - Due to the third party agreement with Daikin, Port City Distribution was advised to not sign the document.
 - The Section revised the alternate mechanism again to omit the requirement that Port City Distribution execute the document.
 - Should be able to provide a draft copy of the document for review/comment in April 2016.

Action Items List

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Indoor Air:

- Conduct confirmatory indoor air quality sampling the week of March 28 from the approximate similar locations per the January 2016 testing tasks.
- Determine scope of services to provide adequate outdoor ambient air flow to within the occupied areas of the factory building. This will include both enclosed office and employee break areas and general employee and worker areas within the building.
- Follow on tasks will include tasks associated with assessment of the sub slab soil gas and vapor concentrations beneath the plant floor. This can include a survey of possible subfloor features such as water/sanitary sewer piping, sub slab structural features such as piers, footings and sills.
- Based on the results of the sub slab assessment, conduct as warranted vapor intrusion mitigation tasks.
- Conduct confirmatory sampling as required.

Pee Dee Aquifer (Bedrock):

- Contact Cameron Property Company to inquire about possible access to their southern property area for the installation of a bedrock monitoring well. Possibly meet with Mr. Cameron during the indoor air quality testing the week of March 28, 2016.
- Determine other potential bedrock well locations absent approval by Cameron Company for access downgradient of existing well OSW-4 (Bradford Spa, 710 Sunnyvale Drive).
- Continue semiannual testing for 1,4 dioxane from known impacted wells.
- Determine feasibility of additional or improved corrective actions in the Pee Dee aquifer.

Shallow Aquifer/North Creek Issues:

- Continue monitoring program as currently approved; confirm COC concentrations at newly installed well nest OSW-10 (including 1,4 dioxane).
- Continue to pursue the access agreement with New Hanover County for right of entry and access to the former Flossie Bryan estate property east of Cameron Company property.
- Continue operations of the pulse air sparging system and the shallow groundwater recovery network. In reference to the air sparging system, seek approval to conduct short term testing of shallow groundwater in this specific area with extraction well EW-5 shut down. Provide NCDEQ a proposal to conduct this assessment of the sparge system effectiveness during the period between semiannual groundwater testing.

- Conduct a feasibility analysis of the corrective action systems in reference to effectiveness, additional source(s) of latent COC's and options to enhance the current corrective measures (if any). This can include the use of alternatives or amendments to typical pump and treat systems.
- Continue monitoring surface water quality in reference to shallow groundwater discharge of the vinyl chloride constituent to Fork Branch (aka the north creek).

Post Closure Care Cost Estimate:

- Per the NCDEQ March 22, 2016 letter to Daikin Applied, the Calendar Year 2016 Post Closure Cost Estimate will be revised to provide the specificity outlined in the Comment letter.

Revised Alternative Mechanism:

- Per the telephone conference discussion, the NCDEQ will be providing Daikin Applied with an updated document for review and comment. Once the comment period is completed, the revised Mechanism will be provided for final approval and appropriate signature(s).