UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA GEORGIA 30303-8960

MAR 25 2011

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Clyde Woodward, President
Environmental Management Services, Inc.
Cavenham Forest Industries, Inc.
Post Office Box 15369
Hattiesburg, Mississippi 39404-5369

SUBJECT: Turkey Creek Sediment and Pore Water Sampling Report Addendum
Cavenham Forest Industries, Inc. (CFI)
Gulfport, Mississippi
EPA ID. No. MSD 057 226 961

Dear Mr. Woodward:

The Environmental Protection Agency (EPA) has reviewed the Turkey Creek Sediment and Pore Water Sampling Report Addendum dated December 3, 2010, submitted by Cavenham Forest Industries, Inc. (CFI), Gulfport, Mississippi. The Addendum Report presented an ecological risk assessment and has determined that the risk to Turkey Creek is limited to creek bottom sediments and limited to the benthic community (mussels, worms, etc.) in areas where polycyclic aromatic hydrocarbons (PAHs) have accumulated adjacent to CFI. The area of risk is along a 300 feet reach of Turkey Creek. EPA agrees to the level of risk to the ecology assessed by CFI and hereby approves the report (enclosure). CFI is taking measures to reduce the bioavailability PAHs to the benthic community along the impacted reach of Turkey Creek.

Based on the investigation of Turkey Creek, whole body fish data and the concerns of the community, EPA is requesting additional evaluation of all consumable aquatic tissue to humans and assesses risk to human health from site specific constituents. CFI needs to submit a work plan for assessing risk to human health from the consumption of aquatic tissue (fish and mussels, etc.) from Turkey Creek adjacent to the facility. The work plan needs to include a human health risk assessment for exposure to surface water and sediment from all constituents present in Turkey Creek adjacent to CFI.

In addition, based on Figure 4 of the Turkey Creek Sediment and Pore Water Sampling Report Addendum, EPA has identified a sediment bar just beyond the mouth of Turkey Creek that is the depositional site for sediment and likely location for any contamination that may have been historically released from CFI. The sediment bar is beyond the sampling location TC-SED-10. CFI needs to submit a work plan for investigating the sediment bar. The work plan should include sampling the surficial sediments of the sediment bar and at different intervals to depth.

EPA requests that a work plan and schedule for the Human Health Risk Assessment Work Plan and the Sediment Bar Work Plan be submitted within ninety (90) calendar days pursuant to Condition II.E.1.a of the HSWA Permit dated July 26, 1996.

For questions regarding this letter, please contact James H. Smith, Corrective Action Specialist, Corrective Action Section, 404-562-8502 or by electronic mail at smith.jamesh@epa.gov.

Sincerely,

D. Karen Knight, CHMM
Chief, Corrective Action Section
Restoration and Underground Storage Tank Branch
RCRA Division

cc: Carla Brown, MDEQ

February 15, 2011

4WD-SSB

MEMORANDUM

SUBJECT: Review of the "Turkey Creek Sediment and Pore Water Sampling Report" for the Cavenham Forest Industries Site, Gulfport, Mississippi

FROM: Brett Thomas, Ph.D., Life Scientist
Technical Services Section
Superfund Division, Superfund Support Branch

TO: James Smith, Remedial Project Manager, RCRA Division

THRU: Glenn Adams, Chief, Technical Services Section

Per your request, I have performed a cursory review of the "Turkey Creek Sediment and Pore Water Sampling Report Addendum" risk assessment document for the Cavenham Forest Industries site in Gulfport, Mississippi. Due to time constraints I was not able to thoroughly check all of the calculations or assumptions used in the assessment. Those that were checked were acceptable. Assuming that the calculations and assumptions are correct and acceptable as presented in the report, and assuming the total extent of the creosote contamination in the surficial sediments in Turkey Creek is as presented in Figure 8, the report's conclusions of little appreciable risk estimated to birds and mammals from the creosote contamination in the creek appear to be supportable. The extent of the contamination is not large compared to the likely feeding areas of bird and mammal receptors, and the exposure estimates in the report indicate a relatively low level of exposure to the creosote-related contamination. The report also estimates a likely low impact to fish. Given the creosote concentrations in the sediments, it is anticipated that there could be some adverse effects on the fish that are in close association with the bottom sediments in the area of concern, but impacts to populations are not likely due again to the relatively small spatial extent of the contamination. Therefore I am in tentative agreement with the report's conclusions of low risk to bird, mammal and fish populations in and near Turkey Creek as a whole.

Adverse effects to aquatic invertebrates in the area of contamination are likely, given the sediment PAH concentrations reported. Considering the size of the area impacted by the contamination, it is not anticipated that the overall creek system's invertebrate population would be significantly impacted by the creosote. Adverse effects beyond (downstream) of the contaminated sediments could be occurring if the creosote is "seeping out" of the sediments, but whether this was occurring or not was not indicated by the report (although I believe the water samples taken were not appreciably contaminated). Because these are apparently public waters, and high concentrations of creosote/PAHs - to the point of NAPL in some areas – remain in the surficial sediments, it is anticipated that the contamination would likely be considered unacceptable by at least some of the trustees responsible for the stewardship of this creek. This is partly due to the anticipation that the adverse effects to the invertebrate "population" in the contaminated section of the creek would continue for the indefinite future.

The report stated that some of the creosote-contaminated sediments were sheening, indicating NAPL and potentially a "freshness" to the material. It was not clear how long the material may have been in place. The description of the likely route of transport in the report indicates that the surface sediment contamination likely occurred long ago via

surface creosote runoff pathways, whereas the only "continuing" or recent source would have been the DNAPL running along the marine clay under the creek, and the report states that this material should not reach the surficial sediments (and likely did not in the past?). The described characteristics of the creosote deposits in the surface sediments and the remaining surficial PAH concentrations indicate that either the source has not been stopped or has only recently been stopped, or if the source has been stopped for a long time that the contamination is not naturally remediating or is doing so very slowly. Cavenham has proposed using Monitored Natural Recovery (MNR) as a remedial strategy. Whether the source has been stopped or not and if so, how long ago it has been stopped, will play a large role in the consideration of whether or not MNR could be considered a feasible strategy for remediating the creosote/PAH contamination in the sediments.

To summarize: The anticipated risks posed by the creosote in the sediments to mammals, birds and probably fish as well in Turkey Creek are likely to be fairly low, given what is presented in the report. The risks to the aquatic invertebrate populations in the whole of Turkey Creek are also likely fairly low. This is due to the apparently localized nature of the remaining contamination. The risks to the invertebrates in this impacted section of the creek, however, are likely high. Some localized risks to some fish may also be present, although the report would indicate not. An important question concerns how long these potential impacts may continue. An extended period of impact to this section of the creek, as well as any potential for the NAPL or other contamination in the sediments to disperse and increase the area of contamination, would likely not be acceptable to the trustees nor to EPA.

Thank you for the opportunity to review this report. If you have questions or would like to discuss these comments, please contact me at (404) 562-8751 or at Thomas.Brett@epa.gov.

Brett Thomas

Note: Because I was unable to go through all of the assumptions and calculations in the report before writing these conclusions, acceptance of the methods and assumptions used in this report should not necessarily be interpreted as an acceptance of these methods or assumptions for future risk assessment efforts. Additionally, these conclusions are based only upon the information contained in this report. Should further or clarifying information become available, these conclusions could change.