

**Citizen Coordinating Council
December 5, 2007
Berkshire Athenaeum**

Meeting Highlights

Participants: Fifty-three individuals attended the meeting. See attached list of attendees.

Introduction: Suzanne Orenstein, Facilitator, opened the meeting with a round of introductions and review of the agenda. Suzanne also explained that the purpose of the CCC is to provide a forum for community and government groups who are committed to discussing and building understanding about the technical details of Housatonic River cleanup. She continued to explain that the purpose of this meeting is for GE to present the findings of the Silver Lake Sediment Capping Pilot Study and for EPA to provide information regarding the Rest of River decision making process that will go forward over the next six to twelve months.

Presentation on Silver Lake Sediment Capping Pilot Study

Stuart Messur of Arcadis (formerly BBL Inc.), consultant to GE, provided the evening's presentation on the *Silver Lake Sediment Capping Pilot Study*. The presentation included information on implementation, results, and conclusions from the Pilot Study.

Mr. Messur provided an introduction for the presentation. He noted that the Consent Decree for the EPA-GE PCB remediation sets out specific requirements for the remedy for the Silver Lake PCB contamination. It requires remediation of soil in lake banks, removal of some contaminated sediment, capping the bottom of the lake, and restoration of the lake area. The complete presentation is posted on the EPA web site at:
<http://www.epa.gov/region01/ge/publiceventsandmeetings.html>

The Sediment Capping Pilot Study involved placing capping material in a one acre area of the lake, which was subdivided into three study areas to evaluate the use of an isolation layer with and without two different types of geotextiles.

The Pilot Study had the following objectives:

- o Assess the potential for physical mixing of sediments and cap materials resulting from cap placement
- o Evaluate constructability issues
- o Evaluate effectiveness of employing geotextile in the cap configuration.
- o Assess potential water quality impacts during cap placement
- o Evaluate physical response of soft sediments to cap and armor stone placement

Site preparation activities included

- o Construction of equipment staging areas
- o Installation of silt curtains at outfall
- o Assembly of slurry operation to place the material in the lake
- o Installation of monitoring equipment
- o Installation of barge guide cables
- o Isolation layer material preparation and pre-characterization
- o Isolation layer material preparation to achieve the performance standard of 0.5% total organic carbon content.

- Dry-mixed materials were pre-mixed to total organic carbon content of 1%.
- Materials were mixed on shore with lake water and pumped to the spreader barge.

Mr. Messur then described the monitoring results, which included:

- Probes of cap thickness at settlement plates suggested general success in placement of approximate one-inch lifts of capping material
- Probes of cap thickness at core collection locations produced images that provided insight about the presence or absence of mixing between contaminated sediment and capping material
- Bathymetric surveys showed no indications of significant movement of underlying contaminated materials immediately after and six months after construction.
- Post-construction sub-bottom profiling used acoustic surveys to identify unique layers of materials, including surface consistency and cross section view. These surveys suggest no apparent difference in performance of the cap related to the presence or absence of geotextile.
- Geophysical consolidation monitoring results suggest gradual settlement consistent across increasing depths
- Cap coring and sample collection to detect PCBs and total organic carbon (TOC) content were performed immediately after, and 6 months after construction found the following:
 - Immediately after construction, 8 of 13 cores contained no detectable PCBs in isolation layer materials and 49 of 59 total samples contained no detectable PCBs
 - Six months after Construction, 43 of 55 total samples contained no detectable PCBs and 9 of 13 cores have no detectable PCBs below the surface increment.
 - For the cap coring results for total organic carbon, the depth weighted core average TOC achieved the required performance standard.
- Water Quality Monitoring Program
 - Weekly collection occurred at all three locations for PCBs and total suspended solids (TSS)
 - Pre-and during construction daily assessment of continuous turbidity reading at all three locations
 - Turbidity results showed turbidity appears to approach pre-construction levels within 10 days of completion of placement activities
 - Surface water PCB and TSS results showed no indication of increased PCBs in surface water with elevated turbidity or TSS

The conclusions of the pilot study were summarized as follows:

- Assessed the potential for physical mixing of sediments and isolation layer materials as a result of cap placement
 - Minimal mixing observed at sediment/cap interface only
 - Appears to be limited to the first 1- to 2-inches of isolation layer material
 - Where detected, PCB concentrations were 1 to 2 orders of magnitude below that of underlying contaminated sediment
- Evaluated effectiveness of employing geotextile in cap configuration
 - No significant differences noted between geofabric and non-geofabric areas based on physical and analytical performance data
 - Constructability issues related to geofabric placement and management may overwhelm geofabric usefulness
- Evaluated constructability issues related to placement of isolation materials in thin lifts
 - Generally successful from barge with fabricated spreader box
 - Apparent need to consider alternative near-shore placement methods

- Need to coordinate full-scale capping considerations with potential bank-soil removal activities.
- Evaluated physical response of soft sediments to cap and armor stone placement
 - With exception of near-shore areas, settling observed to be fairly uniform in time and space
 - The majority of locations exhibited settlement within 1- to 2-foot range
- Assessed potential for water quality impacts during cap placement
 - No increase in surface water PCB concentrations observed
 - Short-term increased turbidity observed related to isolation layer placement rates
 - Monitoring data indicates that approximately 99.9% of solids placed settled within the lake
- Final Design Issues and Considerations
 - Utility of geofabric
 - Geofabric deployment technique (if included)
 - Potential concerns related to turbidity
 - Isolation layer material source/composition
 - Methods of turbidity containment/treatment
 - Near-shore placement methods

Discussion and Questions and Answers Regarding the Presentation

Q. Can someone please provide a brief introduction to the Silver Lake area and how it fits into the GE facility?

A. Silver Lake is a 26-acre lake in Pittsfield, bordered by East Street, Silver Lake Boulevard, a portion of Fourth Street and Fenn Street. There is an overflow weir off of East Street, which discharges through a 48-inch pipe under East Street to the East Branch of the Housatonic River. There are four ongoing remediation efforts for Silver Lake.

- 1) Remediation of soil on banks to residential, commercial, industrial standards as appropriate for specific parcels
- 2) Removal and disposal of 400 cubic yards of contaminated sediment
- 3) Placement of an underwater cap on the entire lake bottom
- 4) Restoration including Natural Resource Damages enhancements, for example plantings, walking paths, etc.

Q. What were the high levels of PCBs in sediment?

A. As high as 10,000 mg/kg PCBs in some sediment, to 100 to 200 mg/kg PCBs in bank soils.

Q. With regard to the Pilot Study were the banks being removed? Were they being replaced?

A. A portion of the bank was removed and replaced, re-graded and seeded for the pilot study.

Q. How was fabric placement monitored? Did it bunch, etc.?

A. Wind caused some problems with the barge that was placing the fabric and with the fabric itself. The contractor added sand bags and rebar to stabilize placement of the fabric. In addition divers assisted with and surveyed the placement of the fabric. The procedure progressed well after we started using rebar.

Q. A CCC member noticed that during construction of the pilot study cap, Silver Lake became very turbid. The color of lake changed and there was an approximate 30% mud content in the water. The CCC member mentioned that the turbidity remained for an extended period of time in Silver Lake water. The CCC member mentioned that there have been monetary fines for other

companies that have caused high levels of turbidity in the Housatonic River. The CCC member asks what caused the turbidity.

A. As noted in the presentation, the turbidity levels did rise, due to cap material entering the water during placement. Turbidity levels returned to pre-construction levels within 10 days of completion of placement activities.

Q. During post cap placement sediment testing how deep in the underlying sediment did GE sample?

A. About six inches in the non-geotextile cell.

Q. Were the samples that contained non-detectable concentrations of PCBs collected on the bank?

A. Samples were spaced out over a few hundred feet in the lake sediment. Thirteen cores were collected over the 1 acre pilot area. GE believes that the sampling strategy provides representative sampling coverage to evaluate the study objectives.

Q. Were there any samples collected outside of the test area?

A. No. There is a fair amount of existing data for the full the 26 acre lake.

Q. Can GE provide the names and manufacturers of geofabric material?

A. This information should be in the Pilot Study work plan, which can be found in the repository.

Q. Is there a focus on preventing PCBs from rising through the cap? Has there been any study on downward, horizontal, sideways migration?

A. There is a groundwater management plan in place, and because PCBs adhere to soil and sediment, we don't expect downward or sideways migration.

Comment: Several citizen groups are concerned about PCB migration downward into the aquifer on the GE facility. In the early 1980s the City of Pittsfield drilled a municipal well and found PCBs in an aquifer. Based on the presence of PCBs, the City had to abandon the well. The commenter is concerned with the Hill 78 landfill and downward migration of PCBs into the aquifer.

Comment: One commenter was concerned that state of the art technology was not used during the design and implementation of the Pilot Study. The commenter described existing advanced technologies (e.g. carbon impregnated fabrics) that are available to reduce the mobility of PCBs. The commenter would like to know why GE did not use a carbon-impregnated fabric during the construction of the cap.

A. GE did use a fabric with a specialized custom created carbon layer in one of the subareas of the pilot study area. The performance standard for the remedy requires a twelve-inch layer of isolation material with a minimum of 0.5% of organic carbon, and most manufactured carbon-impregnated geotextiles, including the one used, are only one inch thick.

Q. Can someone point out inflow and outflows to the lake, where inflows originate and who regulates them?

A. One outfall is a 48-inch concrete culvert under East St. which flows into the River. It is a municipal storm drain, regulated by the city. There are two or three catch basins on Silver Lake Blvd., which are also municipal outfalls. Another outfall is owned by Pittsfield Economic Development Authority (PEDA). It starts on GE property on the east side of Silver Lake Blvd. It is monitored by PEDA, which has a NPDES permit. There are probably two or more additional

municipal outfalls, including one adjacent to Fourth Street, but none on the south or west side of the lake. .

Comment: With regard to outfalls there are some common sense issues that should be addressed. There are storm outfalls that drain to the river, which release small amounts of PCBs into the river. The commenter believes that any additional drainage work should consider new and more modern storm drains, which EPA is promoting in its stormwater management programs. The commenter believes the newer storm drains would help to reduce PCBs entering clean sections of the river.

A. PEDDA is planning to upgrade the collection systems under its jurisdiction. The design for the upgraded system goes beyond the EPA stormwater management recommendations, and will probably involve a retention basin of some kind.

Q. Are there springs feeding Silver Lake?

A. There is groundwater that is classified as low flow seepage into Silver Lake.

Q. Do we have data on the flow out of Silver Lake?

A. Yes, since 1998 GE has completed monthly water column measurements. The average velocity at the Silver Lake outfall is 1 to 3 cubic feet per second. GE also has a rating curve developed from velocity data collected during the last 18-months.

Q. How wide is the geotextile?

A. The fabric is approximately 20 feet wide and is placed with a one foot overlap.

Q. How do you combine rolls at a full-scale operation?

A. This would be an important consideration for full-scale placement.

Q. Will a modeling program be developed to examine mixing?

A. GE will use capping guidance developed by the Army Corps of Engineers.

Comment: The Silver Lake remedy does not make sense. There is no barrier to accessing the contaminated sediment, and it is next to the GE plant and near Hill 78. Why was the remedy to cap Silver Lake sediments rather than remove them?

A. In the Consent Decree there are 28 separate response actions. For each of these actions there was a need to figure out the right solution. EPA reviewed available technologies and guidance and determined it was appropriate to cap the Silver Lake sediment. EPA believes that capping is the appropriate and cost effective method to reduce both long term and short-term risks.

Q. Will there ever be an opportunity for a Pilot Study to determine if PCBs can be destroyed in situ?

A. EPA does not envision this type of Pilot Study happening for the Housatonic River site because there are no in situ technologies available that have been demonstrated to be capable of reducing PCB concentrations to the risk based goals and implementable for a full scale remedy for the type and concentration of PCBs found at this site.

Andy Silber, GE Project Manager, provided an update on the schedule for the Silver Lake Capping Project:

- GE submitted the Pilot Study report to EPA in September 2007.
- GE has already received EPA comments on it.

- GE will complete a conceptual design for the cap. This document will be completed in the spring 2008 for EPA and State review, and a presentation can be made to the CCC.
- GE may potentially start components of the project in late 2008. Cap construction will definitely be ongoing in 2009.

Q. During construction of the cap, will there be consideration of restoring wildlife in the lake bed, and is there a possibility of wildlife stirring up the cap?

A. There are fish in lake and one possibility may be to kill all the fish in lake and then re-stock. The benthic invertebrates will usually repopulate quickly on their own.

Comment: For benthic vertebrates to repopulate and survive they will need more than just sand.

A. There is organic carbon in the cap material and there is a habitat layer of gravel placed on top of the armor stone along the shoreline.

Q. Is there any plant life in the lake?

A. Silver Lake is too deep for the most part to support plants. However, there are provisions for plants as part of the Natural Resource Damage projects.

Q. Was it ever envisioned that the cap would be a short term solution until newer remediation technologies became available?

A. EPA does not recall if that was discussed during the Consent Decree discussions regarding Silver Lake.

Q. Since Tim Conway of EPA is responding to some questions, could we have an explanation of his role on the site for those members of the public who are present and new to these discussions?

A. Tim Conway is the EPA lead attorney for the site and was the EPA lead attorney during the Consent Decree negotiations.

Presentation on Rest of River Corrective Measures Study Process

Susan Svirsky, EPA Project Manager, for the Rest of River gave the evening's presentation on *GE/Housatonic River Site, Rest of River, Corrective Measures Study Process*. She covered the following topics. (Additional information about each topic can be found in EPA's Corrective Measures Study Process Fact Sheet available on EPA's website at

<http://www.epa.gov/region01/ge/thesite/restofriver-reports.html#General> or by request.)

- Evaluation of Cleanup Alternatives
- Description of the Rest of River (ROR)
- Site Background
- Rest of River Consent Decree Process
- Description of a Corrective Measures Study
- Process for Conducting the CMS
- Use of the Predictive Model in the CMS
- In-Place Sediment Alternatives
- In-place Floodplain Alternatives
- Management of Material Alternatives
- Technologies Being Evaluated
- Evaluation Criteria EPA will use
- Interim Media Protection Goals (IMPGs)
- Process Following GE Submittal of CMS

- Schedule for CMS Process
- Opportunities for Public Involvement

Discussion and Questions and Answers Regarding the Presentation on the CMS

Q. Can EPA provide information to the public through the fact sheet regarding the Housatonic River Initiative (HRI) and their role on the project?

A. HRI is the recipient of an EPA Technical Assistance Grant (TAG), which provides EPA funding to environmental and public interest groups to support them to obtain technical consultation and assistance in reviewing and understanding the technical details of the remediation. There is a link to the HRI website on the on the EPA website.

Q. There was a method approximately 20 years ago for excavation of sediment. This method used vacuum system. Is this being considered?

A. Yes, this is a form of hydraulic dredging, which is being considered.

Q. What is the proposed use of land along the river that GE has recently purchased?

A. GE has no current plans for the land. GE plans to leave it in its current use.

Q. What if an individual does not feel that the clean-up is adequate, or kids get sick in Pittsfield? Could an individual sue GE or EPA or could Massachusetts sue EPA and GE?

A. EPA believes the settlement is fair and the court has approved it. Citizen and environmental groups can organize and file litigation to the extent allowed by the laws of the state and the US.

Comment: An audience member would like to encourage environmental groups to consider or start another lawsuit.

Q. Has atmospheric volatility of PCBs before, during, or after remediation been studied?

A. Yes. There have been extensive studies specific to 1.5-Mile project before, during, and after remediation. There have also been studies done for the Rest of River where PCBs have not been remediated. For the 1.5-Mile study, all atmospheric PCB concentration results for over four years were below health based standards.

Q. Aren't there PCBs in Threemile Pond?

A. Yes, PCBs were detected in Threemile Pond in the fish and waterfowl. Atmospheric deposition of PCBs in the watershed is the source of those loadings.

Comment: A CCC member suggested that the Pittsfield City Councilor for Ward 4 be congratulated for his role in announcing the meeting in the Berkshire Eagle and encouraging citizens to attend.

Next Steps

Future meetings for the CCC will occur in March, 2008. These meetings will be lengthy due to the complexity of the Corrective Measures Study results that will be presented. The meetings will be held in CT and MA on March 26 and 27.

The meeting adjourned at 8:00 PM.

**EPA-GE Housatonic Project Citizens Coordinating Council
Attendance 12-5-07**

Name	Organization	Email Address	Attended
Members			
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Additional Attendees

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Lisa Provencher	Pittsfield		X
Valerie Anderson	Pittsfield		X
Paul & Mary Gloger	River Abutters		X
Ryan Sabourin	River Abutter		X
Bill & Chris Coan	Pittsfield		X
Gretchen DeBertolo	Pittsfield		X
Kater Gribbel	Pittsfield		X
Kevin Sherman	City Councilor At Large		X
Sarah Newell	Pittsfield		X
Lee Goldstein			X
Gene Chague	Lenox		X
Carl Kronberg	Lanesboro		X
Kathy Kessler	BEAT, Stockbridge		X
Bryan Emmett	Berkshire Nat. Res. Counc.		X
Make Argue	Weston Solutions		X
Andy Gordon	HRI		X
Al & Sue Seppa	Pittsfield		X
John & Ann Galt	Pittsfield		X
Dave & Kathy Fleming	Pittsfield		X