

**U.S. Army Corps of Engineers – New England District
Cold Regions Research and Engineering Laboratory (CRREL)
Restoration Advisory Board**

Minutes of Meeting #11

**Wednesday, September 23, 2015
Richmond Middle School (RMS) Library**

Attending: Darrell Moore, USACE-NAE, Co-Chair
Kristine McDermott, Citizen Volunteer
Katherine Connolly, Town of Hanover
Ken Richards, NHDES
Scott Calkin, Amec Foster Wheeler
Rod Rustad, Amec Foster Wheeler
Glen Gordon, Amec Foster Wheeler
David Van Wie, Amec Foster Wheeler

Observing: Terry Harwood, ERDC
Laurie Haines, US Army Environmental Command
Robin Mongeon, NHDES
Keith Hodenot, USACE
Jeff Pickett, Amec Foster Wheeler
Bryan Ambrust, ERDC-CRREL
Andrea Clark, Army Public Health
Larry Cain, USACE-NAE
Dan Groher, USACE-NAE
Gary Pasternak, ERDC
Larry Danyluk, ERDC (retired)

Agenda:

1. Welcome and introductions
2. Adopt minutes of Meeting #10
3. Event 11 Results – Indoor Air & Sub-Slab
4. Richmond Middle School Sampling Update
5. Remedial Investigation and Feasibility Study Report Update
6. Soil Vapor Extraction Pilot Test Results (Glen Gordon)
7. Upcoming Work
8. Next meeting: Agenda, Date and Location
9. Comments & Questions from the public
10. Adjourn

Discussions:

1. Chair, Mr. Darrell Moore called the meeting to order once a quorum was established.

2. Mr. Moore asked for comments on April 8, 2015 RAB minutes.
No comments were offered, and the RAB members voted unanimously to accept the last meeting minutes unanimously.

3. Event 11 Results – Indoor Air and Sub-Slab sampling in CRREL buildings

Scott Calkin of Amec Foster Wheeler presented a summary of the Indoor Air Sampling Event 11 in CRREL buildings conducted in March 2015. Both indoor air and sub-slab samples were collected and compared to risk-based action levels. While low levels of TCE were detected in some areas, no concentrations were in excess of the risk-based levels. A copy of the slides presented is attached.

Event 12 was conducted in August 2015, and the results are just coming back from the lab now, but have not been validated.

4. Richmond Middle School Sampling

Sampling Event 9 at the Richmond Middle School included 15 indoor air samples, 11 sub-slab vapor samples and 4 ambient (outdoor) air samples. TCE was not detected in any of the indoor air samples or ambient air samples. Low level concentrations were detected in 4 of 11 sub-slab samples, but all were below the interim action levels.

Kristine McDevitt asked if there would be a decrease in the number of sampling events, since the results have indicated no levels of concern. Darrell Moore responded that he had met with the school board recently and agreed to continue sample 4 times per year, twice a year with summa canisters and twice a year with bottle-vacs. Mr. Moore said he would like to drop to two events per year soon, but for now the status quo of 4 times per year is in effect.

5. Remedial Investigation Report Update

Mr. Calkin reported that Sections 1 through 3 of the report have been written and comments have been received from the Corps. Sections 4 through 6 are in draft form. The report has been delayed in order to present the results of the Hapsite continuous monitoring, which is not a usual part of a CERCLA investigation. Mr. Moore noted that the biennial sampling data (Events 1-11) alone would not show the same result as what we have learned from the Hapsite monitoring, but the Hapsite data is not validated in the same way that laboratory analysis is validated. Our use of the Hapsite data needs to be coordinated among the agencies to be sure it is used properly. Laurie Haines noted that the biennial sub-slab data would still drive CERCLA Remedial Action, but it might be more limited than the picture we get from the Hapsite information. It is important to consider future pathways, other than from sub-slab vapor. Ken Richards of NH DES said his agency has no problem with the delay, as he wants the data to be fully reflective of the Conceptual Site Model.

6. Soil Vapor Extraction (SVE) Pilot Update

Glen Gordon, PE of Amec Foster Wheeler presented an overview of the SVE pilot studies from 2014 through 2015. He discussed the vertical profiles of the Vapor Extraction Wells (VEWs), and which zone proved to be the most permeable. He described the change in soil vapor treatment to remove TCE with the GEO C3 technology for condensation, rather than just

activated carbon. This will reduce waste and unit costs. Activated carbon is still used for final “polish” of the air before discharge.

The system was started in July (normal operation after testing) and has produced 130 gallons of TCE with 90% of the flow and recovery from the deep zone at the 3 month mark. Because there has been little reduction in the concentrations, the pilot study has been extended another 3 months until end of December 2015. Hopefully, a rebound test can be conducted in January, if a reduction in concentrations is observed.

Dan Groher mentioned other successful aspects of the testing, such as better understanding the appropriate well spacing and depth, well types and treatment methods. The team has been using the information gathered to improve the Conceptual Site Model.

5. Upcoming Work

- More soil gas sampling in October.
- Water well sampling at 3 wells in Norwich, VT on September 30. Right of Entry has been secured. USACE and NHDES have reached out to Vermont agencies
- Richmond Middle School sampling over Christmas break.
- CRREL Indoor Air Event 13 Sampling in Jan/Feb 2016

6. Other Topics

Mr. Moore gave a brief overview of the CRREL employee briefing or “town meeting” earlier in the afternoon.

RAB Membership - Mr. Moore also noted that the RAB members have been involved for 2 years. We have had a few members resign, so we need to consider new candidates. Members should reach out to neighbors, the town officials, and Norwich residents to see if we can find interested candidates.

Dartmouth – As Tim McNamara has missed a couple meetings, Mr. Moore agreed to offer to present an update to him and other Dartmouth administrators who might be interested in hearing the status of the program.

6. Next Meeting Date: December 2, 2015 at 4pm, tentative pending confirmation from the SAU

Next agenda/action Items:

- Further update on SVE pilot
- Report on Norwich sampling..
- Work plan for sampling in the Connecticut River
- More on RI and Feasibility Study

Meeting adjourned.