

December 14, 2004

Ms. Elsie Patton  
Planning and Standards Division  
Bureau of Waste Management  
Connecticut Department of Environmental Protection  
79 Elm Street  
Hartford, CT 061069-5127

RE: Request for Modification to Sampling Plan and Addendum  
to April 16, 2004 "Supplemental Scope of Study, Former  
Hew Haven Water Company Property,  
Middle School Site, Hamden, Connecticut"

Consent Order No, SRD-128  
Dear Ms. Patton:

On October 6, 2004, the Connecticut Department of Environmental Protection (CTDEP) issued an approval letter (attached) in response to an August 5, 2004 letter (attached) prepared by Leggette, Brashears & Graham, Inc. (LBG) on behalf of the South Central Connecticut Regional Water Authority (RWA). The letter requested modifications to the April 16, 2004 "Supplemental Scope of Study, Former Hew Haven Water Company Property, Middle School Site Hamden, Connecticut" which was issued pursuant to Consent Order No, SRD-128. The August 5, 2004 LBG letter indicated that dependant on the results of our 2004 field investigations, a sampling plan would be proposed for dioxins and furans in samples detected with polychlorinated biphenyls (PCBs). The following outlines this proposed sampling plan. Also included is the approximate location of proposed additional offsite monitor well locations associated with the ground-water volatile organic compound (VOC) investigation, and identification of offsite locations for sub-slab vapor testing.

### **PCB Dioxin Analyses for Samples Containing PCBs**

Table 1 summarizes the results of all soil/fill samples analyzed for PCBs. Sample locations are identified on Plate 1. Thus far during the supplemental 2004 field investigation, 413 samples have been analyzed for PCBs from 74 soil borings. During this supplemental investigation, PCBs were detected in 50 of these 413 samples, with PCBs detected in 28 of 74 soil borings. Including the initial 2002 investigation results, PCBs were detected in 63 of 523 samples analyzed, with detections at 37 of 110 sample locations. The distribution of the

PCB detections shows their presence to be throughout the site in both shallow and deeper materials. In addition, PCBs were detected in all fill materials, except those located near the former Newhall Street Public School (Newhall Community Center). As shown on table 1, concentrations of PCBs detected ranged from 0.02 mg/kg to 30.2 mg/kg. The vast majority (90 percent) of the detections were below 1 mg/kg, with 78 percent of the detections below 0.33 mg/kg. The distribution of the PCBs identified throughout the site does not indicate the presence of isolated spill areas with the exception of the area immediately surrounding (LBG-TB-111), which would typically be identified as high concentration areas surrounded by a decreasing chemical gradient.

Considering the widespread distribution of the PCB detections, and in accordance with the CTDEP's December 1, 2004 letter, LBG proposes a sampling protocol for dioxins and furans similar to the protocol approved by the CTDEP for volatile organic compound (VOC) analyses. The proposed sampling protocol includes the analyses for dioxins and furans for a subset of samples detected with PCBs. LBG requests that only samples detected with PCB concentrations greater than 1 mg/kg be subjected to dioxin and furan analyses. However if more than one sample is detected above 1 mg/kg in a single boring, then the sample with the highest concentration in the soil boring would be analyzed for dioxins and furans. This sampling protocol for dioxin and furan analyses would also be implemented during our continuing field investigations to characterize the presence of PCB at the Middle School Site.

### **Proposed Offsite Monitor Wells**

Pursuant to the Supplemental Scope of Study, halogenated VOC ground-water impacts emanating from the onsite VOC source area are to be characterized on and off of the Middle School Site. To aid in the characterization of these impacts, eleven (11) additional onsite and two offsite monitors wells were installed during field work completed in the summer/fall of 2004.

As detailed in the April 2004 Supplemental Scope of Study, regional ground-water flow at the Middle School site is generally to the west/southwest. Ground-water flow at the site has been substantiated through the collection and analyses of approximately two years of water-level and water-quality data. Plate 2 shows the potentiometric surface for the Middle School Site area on October 1, 2004. This map includes water levels from the expanded onsite monitoring network, monitor wells located on the western abutting property owned by SNET and a monitor well installed by the Olin Corporation located on Morse Street. Note that a detailed assessment of hydrogeology will also be provided in the Remedial Investigation/Feasibility Study to be submitted by March 31, 2005.

As shown on Plate 2, ground-water exits the southwestern portion of the Middle School Site. Water-quality results from the expanded monitoring well network show that a narrow band of halogenated VOCs exits the Middle School Site along this southeastern corner. This is evident by the fact that halogenated VOCs were only detected in this area in the MW-4 cluster. A halogenated VOC (vinyl chloride at a concentration of 93 ug/l) was detected in the newly installed shallow monitor (MW-24A) located further downgradient of the MW-4 cluster on the western abutting SNET property. Note that no VOCs were in detected in the offsite monitor well installed by the Olin Corporation or the deeper screened MW-24B offsite monitor well. No monitor wells have been installed downgradient of MW-24 cluster.

To further characterize the offsite halogenated VOC ground-water impacts, LBG proposes the installation of two additional shallow water-table wells further downgradient of MW-24 cluster. As shown on Plate 2, the two proposed wells are located on Dudley Street and St. Mary Street. The monitor wells would be drilled and installed pursuant to the approved 2004 Supplemental Scope of Study. Dependant on water-quality results from the newly proposed monitor wells, it may be necessary to install additional monitor wells to further characterize offsite ground-water VOC impacts. The location of any additional wells would be dependant on ground-water flow identified by the proposed expanded monitor network.

### **Residential Vapor Control**

As discussed above, vinyl chloride was detected at a concentration of 93 ug/l in the newly installed shallow monitor well (LBG-MW-24A) on the SNET property. Depth to ground water in LBG-MW-24A is approximately 27 feet below grade; therefore, the vinyl chloride concentration in ground water is above the proposed residential volatilization criteria (RSV) of 1.6 ug/l. Four residential parcels (319-21, 330, 331 and 335 Morse Street) are located approximately downgradient of this detection. To determine if soil-vapor concentrations beneath the residential parcels exceed RVC, RWA is currently in communications with the property owners requesting they allow the collection of a soil-vapor sample from beneath the residence. The soil-vapor sample would be collected by LBG following protocols outlined in Appendix I. Thus far, we have received permission to complete soil-vapor sampling at 331 and 335 Morse Street; we are still waiting to here from the remaining residences.

Your immediate response would be greatly appreciated. If you have any questions or comments, please do not hesitate to contact me.

Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.

Michael Manolakas, LEP  
Associate

Reviewed by:

Jeffrey B. Lennox, CPG, LEP  
Principal

Enclosures

cc: T. Chaplik  
G. Sharp  
T. RisCassi  
S. Pociu

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law.”

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South Central Connecticut Regional Water Authority  
Thomas V. Chaplik  
Vice President

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Leggette, Brashears & Graham, Inc.  
Jeffrey B. Lennox  
Principal

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