



MARYLAND DEPARTMENT OF THE ENVIRONMENT

Oil Control Program, Suite 620, 1800 Washington Blvd., Baltimore MD 21230-1719
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Governor

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Anthony G. Brown
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September 5, 2012

Mr. James Ross
Chief Executive Officer
Chester River Hospital Center
100 Brown Street
Chestertown MD 21620

RE: POST-REMEDIAL MONITORING MODIFICATIONS

Case No. 1987-2534-KE
Chester River Hospital Center
100 Brown Street, Chestertown
Kent County, Maryland
Facility I.D. No. 3168

Dear Mr. Ross:

The Oil Control Program recently completed a review of the *Pre-Shutdown Sampling Report – July 2012*, the *Monitoring Well Gauging Data - July 27, 2012*, and the *Select Monitoring Well Sampling Results – August 3, 2012*. On May 8, 2012, the Department approved a trial shut-down of the on-site remediation system. Per the approved *Post Remedial Monitoring Plan*, the entire monitoring well network (a total of 46 available points) was gauged May 31, 2012. Measurable liquid phase hydrocarbons (LPH) were detected in six points ranging from 0.01 to 0.23 foot in thickness and “sheen” was noted within ten additional wells. Pre-shutdown samples were collected June 5 and 6, 2012 from 40 monitoring points. Samples collected revealed the presence of benzene up to 1.1 parts per billion (ppb); naphthalene up to 210 ppb; and total petroleum hydrocarbons – diesel range organics (TPH-DRO) up to 130 parts per million (ppm). A total of nine monitoring points, located between the most down-gradient detection of TPH-DRO (0.14 ppm) and the Chestertown well field, were non-detect for petroleum constituents. On July 12, 2012, the system entered trial shut-down. Although the remedial pumps have been removed from the wells, the pumps and the system remain on-site in the event system restart is required by the Department.

Supplemental gauging events were conducted July 13, July 16, and July 27, 2012. These events confirmed that groundwater flow is southwesterly, toward the Chester River. These events also confirmed that the area water table returned to static, non-pumping conditions by July 16, 2012. During the July 27, 2012 gauging event, groundwater samples were collected from two monitoring wells (MW-20 and MW-34). The only constituent of concern detected was TPH-DRO at 1.9 ppm within MW-20. The Department understands that the next network gauging event is scheduled for the end of August 2012, and the third quarter 2012 sampling event is scheduled for the first week in September 2012.

Based on our review, the Department has the following additional post-remedial monitoring requirements:

- 1) If measurable amounts of LPH are detected within any monitoring point at a thickness greater than 0.01 foot (e.g., "sheen" or "film"), the Department requires the following:
 - a. Notify the Department within two hours;
 - b. Immediately complete corrective action in the form of LPH recovery via absorbent wicks or other appropriate method(s);
 - c. Complete LPH recovery to the maximum extent practicable during the gauging event; and
 - d. Re-gauge the well following recovery.

Absorbent wicks are not to be left in monitoring points. The Department reserves the right to require more aggressive recovery efforts based on either the amount of LPH rebound following corrective action or the initial amount of LPH detected.

- 2) **Beginning October 1, 2012**, the entire network of 46 monitoring points must be gauged monthly for the presence of LPH. Following gauging, samples must be collected monthly from the following wells: MW-15, MW-16, MW-19, MW-20, MW-24, MW-33, MW-34, and MW-35.
- 3) All samples collected must be analyzed for full-suite volatile organic compounds (VOCs), including fuel oxygenates, using EPA Method 8260 and for total petroleum hydrocarbons/diesel and gasoline-range organics (TPH-DRO and TPH-GRO) using EPA Method 8015B.
- 4) Submit **monthly** post-remedial progress reports that include gauging summary tables and the results of the targeted supplemental well samples collected.
- 5) Continue **quarterly (every three months)** sampling of all wells not exhibiting LPH thicknesses greater than 0.01 foot. Samples collected must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 8260 and for TPH-DRO and TPH-GRO using EPA Method 8015B.
- 6) Continue to submit **quarterly** reports detailing the results of the gauging and sampling events. At a minimum, the reports must include:
 - a. Discussion of supplemental sampling events and details on sampling procedures;
 - b. Data summary tables for most recent sampling event and description of analytical results in terms of media sampled;
 - c. Scaled site map denoting all current wells and previously abandoned wells, groundwater surface contour map, dissolved-phase concentration map (including benzene, total BTEX, MTBE, TPH-DRO and TPH-GRO concentrations), and LPH thickness map; and
 - d. Tabulated **time series** groundwater gauging, groundwater analytical results, and LPH recovery data in a format consistent with the *Maryland Environmental Assessment Technology for Leaking Underground Storage Tanks* guidance document.

- 7) Given the location of the subject property and municipal supply wells, a strict reporting schedule is required. Monitoring events must be completed as prescribed and the report must be submitted to the Oil Control Program **no later than 45 days after completion of sample collection.**
- 8) The Department concurs with the recommendation of your consultant that additional monitoring wells, down-gradient from MW-34, are necessary to fill in spatial gaps between MW-34 and MW-23. In addition, the Department understands that Hospital redevelopment activities are planned to commence during fall 2012, which will result in the loss of monitoring points adjacent to the hospital. **No later than September 30, 2012,** submit a *Work Plan* detailing proposed locations for supplemental monitoring well installations between MW-34 and MW-23; identification of wells that will be lost to redevelopment activities; and proposed locations for replacement monitoring wells to permit the continued monitoring of post-shutdown groundwater conditions.
- 9) **No later than September 30, 2012,** submit a clarification to the following statement from the *Pre-Shutdown Sampling Report - July 2012* (Pages 7 and 8), which cites: "Prior to the discovery of the fuel oil release at the CRHC in 1991, the Town of Chestertown operated their well No. 2, which is located at the intersection of Campus Avenue and Philosopher's Terrace..." The Department's records indicate that Town well No. 2 was located in the main well field off of Kent Street.

If you have any questions, please contact me at 410-537-3499 (email: sbull@mde.state.md.us).

Sincerely,



FOR

Susan R. Bull, Eastern Region Section Head
Remediation and State-Lead Division
Oil Control Program

SRB/nln

cc: Mayor Margo G. Bailey (Town of Chestertown)
Mr. Bill Ingersoll (Manager-Town of Chestertown)
Mr. John Beskid (Kent County Health Dept.)
Mr. Andrew Bullen (Earth Data, Inc.)
Mr. John Grace (MDE-Water Supply Program)
Mr. Saeid Kasraei (Administrator MDE-Water Supply Program)
Mr. Andrew B. Miller
Mr. Christopher H. Ralston
Mr. Horacio Tablada