April 24, 2020

Mr. Kenneth D. Kozel
President and CEO
Shore Regional Health
219 South Washington Street
Easton, MD 21601

RE: SYSTEM SHUT-DOWN AND POST-REMEDIAL MONITORING APPROVAL
Case No. 1987-2534-KE
Chester River Hospital Center
100 Brown Street, Chestertown
Kent County, Maryland
Facility I.D. No. 3168

Dear Mr. Kozel:

The Maryland Department of the Environment's (MDE) Oil Control Program (OCP) recently completed a review of the case file for the above-referenced property, including the *Pilot Post-Remedial Monitoring Request Work Plan*, dated February 13, 2020 (the *Work Plan*), and the *2020 First Quarter Monitoring Report*, dated February 11, 2020. On May 17, 2016, the University of Maryland Shore Regional Health (the Hospital) and MDE entered into a *Settlement Agreement and Consent Agreement* (*SACO*) that specified work to be performed and the site conditions at which the Hospital may request post-remedial monitoring. Additionally, on June 22, 2016, the Town of Chestertown and the Hospital entered into an Agreement to further protect the Town's water supply.

The monitoring well network consists of a total of 55 wells, which includes 46 monitoring wells, 6 recovery wells, and 3 sentinel wells. Surfactant injections were conducted on select monitoring wells in the network between August 2015 and March 2016. A supplemental subsurface investigation was completed in June 2016 to assess soil conditions in the areas of the original fuel release and the long-term zone of recovery. Since 2016, the monitoring well network has been gauged monthly and sampled quarterly. Measurable liquid phase hydrocarbons (LPH) were not detected in the monitoring well network from April 2014 until April 2019. Additionally, all monitoring wells met the total petroleum hydrocarbon-diesel range organics (TPH-DRO) concentration criteria of less than 1 part per million (ppm) during at least one monitoring event, with many of the wells meeting this criterion consistently since the *SACO* was executed. Based on the site conditions, the Hospital submitted a request to enter post-remediation monitoring on February 11, 2019.

On April 3, 2019, gauging of the recovery wells during routine system operation and maintenance revealed the presence of measurable LPH in recovery well RW-2D at a thickness of 0.02 feet. Due to the detection of the LPH, on May 31, 2019, the Hospital requested that the OCP not complete its review of the request to enter post-remediation monitoring. The LPH were recovered with a bailer and the recovery wells were placed on a bimonthly gauging program. Gauging results between April 3, 2019 and September 18, 2019 identified measurable LPH in RW-2D at thicknesses ranging from 0.02 to 0.47 feet. Gauging results between June 11, 2019 and July 10, 2019 identified measurable LPH in RW-3D at thicknesses ranging from 0.11 to 0.24 feet. Intermittent LPH sheens were documented in all other recovery wells between April 3, 2019 and January 14, 2020. The Hospital's consultant states that the reoccurrence of LPH in April 2019 is a potential result of the record high precipitation in 2018 and resulting higher than typical groundwater elevations. Measurable LPH have not been detected in the monitoring well network since September 2019, TPH-DRO detections remain low (i.e. below 1 to 2 ppm), and surfactant has not been detected in the monitoring well network since January 2018.

The *Work Plan* and associated letter, dated February 25, 2020, propose an initial monitoring period in which the pump-and-treat system will be shut off, but left in place in the event it becomes necessary to reactivate the system based on monitoring results. The *Work Plan* proposes that upon system shut-down, a pilot phase will be initiated in which all monitoring, recovery, and sentinel wells will be gauged on a monthly basis with select wells sampled on a monthly basis. The selected wells include MW-15, MW-16, MW-19, MW-20, MW-24, MW-33, MW-34, MW-35, MW-48, MW-50, and MW-56. Sample analysis will include TPH-DRO using EPA Method 8015. Monthly progress reports, including gauging summary tables and sampling results, will be submitted no later than 45 days after sample collection. Monthly testing and progress reports will continue until modified procedures are approved by MDE. Next, the *Work Plan* proposes a 24-month monitoring period that will include monthly gauging of all monitoring, recovery, and sentinel wells and quarterly sampling of all monitoring and sentinel wells. Sample analysis will include full-suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 8260 and TPH-DRO using EPA Method 8015. Quarterly monitoring reports will be submitted.

The *Work Plan* includes the following events that will trigger reactivation of the remediation system:

- measurable thickness (greater than 0.01 foot) of LPH in any well south of Brown Street;
- greater than 0.05 foot of LPH in any well north of Brown Street for three consecutive gauging events, or
- as directed by MDE.

The *Work Plan* further proposes that any presence of measurable LPH in any well north of Brown Street will result in a follow-up gauging event in 7 to 10 calendar days.

Based on the current commercial and residential land use and the available information reviewed for the case, the MDE hereby approves the proposed actions in the *Work Plan* with the following modifications:

1) Prior to implementation of the remediation system shut-down process, the Hospital must brief the Mayor and Town Council of Chestertown as requested by Mayor Cerino.

2) Requirements for the remediation system shut-down process:

   a. All wells in the network must be gauged prior to system shutdown;

   b. All recovery wells must be redeveloped using surging and pumping methods to remove any residual LPH in the well screens and annular pack prior to beginning post-remedial monitoring;

   c. All recovery pumps must be removed from the wells, cleaned, and stored for potential re-use;

   d. All remediation piping must be purged and drained;

   e. All wells must be gauged daily until the water table returns to static pre-pumping levels; and

   f. The remediation system must remain on site in the event conditions exist that would trigger reactivation of the system or MDE requires the system be restarted.

3) **For the first 6 months following shutdown,** MDE concurs with monthly gauging of all wells within the entire network of 55 monitoring points, including 46 monitoring, 6 recovery, and 3 sentinel wells, for the presence of LPH. Following gauging, samples must be collected monthly from the following wells, in addition to targeted wells proposed in the *Work Plan*: MW-9, MW-10R, MW-11, MW-13, MW-14, MW-37, MW-51, and MW-54. Submit abbreviated monthly reports to include an updated groundwater gauging map and tabulated gauging and well sampling results. The monthly reports must be submitted within **20 days of sample collection**.

4) If a new occurrence or uncharacteristic increase in the amount of LPH is observed relative to historic site data, or if measurable amounts of LPH are detected in any monitoring point at a thickness greater than 0.01 foot (e.g. "sheen" or "film"), complete the following:

   a. Report the findings to MDE within 2 hours of discovery by calling 410-537-3442 during standard business hours, or 1-866-633-4686 outside of normal business hours.

   b. MDE concurs with the proposed follow-up actions as stated in the *Work Plan*.

   c. Absorbent wicks are not to be left in monitoring points. MDE 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.

d. In accordance with Paragraph 43 of the *SACO*, which states that if during the post-remedial monitoring period, MDE instructs the Hospital to restart the pump- and-treat system, the Hospital will do so within 10 days. If the pump-and-treat system is required to be restarted, the Hospital will follow the same procedures to request permission to turn off the pump-and-treat system and will enter into a new post-remedial monitoring period, as described in paragraphs 41 and 42 of the *SACO*.

5) **Maintain the current quarterly monitoring schedule.** This schedule must include continued monthly gauging and quarterly sampling of **all monitoring, recovery, and sentinel wells** in the network. All data collected must be submitted in quarterly reports detailing the results of the gauging and sampling events. The reports must continue to follow currently approved reporting format with the following exception. LPH thicknesses must be reported in a tabulated format from April 2019 to the present.

6) All quarterly samples collected must be analyzed for full-suite VOCs, including fuel oxygenates and naphthalene, using EPA Method 8260 and TPH-DRO using EPA Method 8015B.

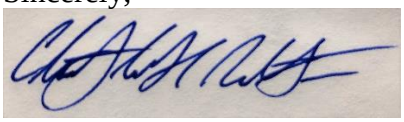
7) MDE will consider modifications to the proposed monitoring parameters upon completion of six full months of monitoring, which would include four monthly monitoring events and two quarterly monitoring events. A request to modify the proposed monitoring parameters must include, at a minimum, a full written explanation of the conditions observed during the initial monitoring phase, tabulated groundwater and LPH gauging data, tabulated groundwater monitoring data, groundwater flow calculations, corrected groundwater elevation and dissolved phase concentration maps and Mann-Kendall dissolved phase concentration analyses of the dissolved phase constituents including, benzene, toluene, ethylbenzene, xylene, methyl tertiary-butyl ether (MTBE), and TPH-DRO. Upon receipt, the OCP will review and respond in writing to the request. Until written approval is received, monitoring must continue as approved.

8) The post-remedial monitoring conditions of this site will continue to be monitored in accordance with the conditions of the *SACO*.

This *System Shut-Down and Post-Remedial Monitoring Approva*l letter is not a waiver or limitation on MDE's right to take enforcement or other action in the future based upon contamination at and around the site. MDE and the State of Maryland retain all authority and rights to seek all available relief, including equitable relief and damages of any nature, such as compensatory for contamination at and around the site.

Notify the Oil Control Program at least five (5) working days prior to conducting any work at this site so we have an opportunity to observe field activities. When submitting documentation, provide three hard copies and an electronic copy on a labeled compact disc (CD). If you have any questions, please contact Ms. Lindley Campbell at 410-537-3387 (*lindley.campbell1@maryland.gov*) or Ms. Susan Bull at 410-537-3499 (*susan.bull@maryland.gov*).

Sincerely,



Christopher H. Ralston, Program Manager
Oil Control Program

Enclosure: CRHC Approved Monitoring Locations Map

cc: Mayor Chris Cerino, Town of Chestertown
Mr. Bill Ingersoll, Manager, Town of Chestertown
Ms. Melissa S. Hall, H&B Solutions, LLC
Mr. Dane S. Bauer, H&B Solutions, LLC
Michael Powell, Esq., Gordon Feinblatt, LLC
Mr. John Beskid, Director, Environmental Health Programs, Kent County Health Dept.
Ms. Julie Kuspa, Esq., Office of the Attorney General
Mr. John Grace, Source Protection and Appropriation Division, Water Supply Program
Mr. Saeid Kasraei, Program Manager, Water Supply Program
Ms. Lindley Campbell, Case Manager, Remediation Division, Oil Control Program
Ms. Susan Bull, Supervisor, Remediation Division, Oil Control Program
Mr. Andrew B. Miller, Chief, Remediation Division, Oil Control Program