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February 25, 2020

VIA E-MAIL and FEDERAL EXPRESS

Christopher Ralston
Program Manager, Oil Control Program
Andrew B. Miller, Chief
Remediation Division
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

Re: Chester River Hospital Center
MDE Case No., 1987-2534-KE

Dear Chris and Drew:

Attached is a letter from H&B Solutions, LLC requesting approval of a pilot study to determine whether it is now appropriate to permanently close the pump and treat system along with a request to initiate the post-remedial monitoring protocol. The hospital informed the Mayor that we would be submitting this plan. The Mayor raised no objection to the submittal but, if MDE approves the plan, the Mayor would like us to brief the entire Council before implementation begins. There are some new council members who will want to be briefed on the history of the remediation for context.

As you know, the remediation effort has been ongoing since June 15, 1990 – nearly 30 years ago. The remediation system itself was installed in May of 1991. Various upgrades and supplementary activities have been undertaken in the intervening years and a significant amount of product has been recovered. All of this has cost the University of Maryland hospital system millions of dollars.

As detailed in the attached request, we believe that the pump and treat system has now extracted as much product as can be recovered and that any remaining residual presents no threat to human health or the environment. However, we are not requesting that the entire site be immediately closed but, instead, that we suspend the use of the pump and treat system and initiate the post-remedial monitoring protocol and time period. If we experience any rebound, the equipment will still be in place and can be restarted as necessary.

Looking at the risk factors normally considered by MDE, this request appears to meet those criteria. Liquid product appears to have been removed to the maximum extent possible. We have documented that there is no risk to the Town's well fields and we have separately signed an agreement with the Town to cover the replacement of wells if made necessary by this discharge. The contamination itself has been contained to the vicinity of the hospital and are not reaching any of the trigger wells at the periphery. There is no risk of human exposure nor a risk of discharge to the Chester River. No underground utilities are being impacted and no other sensitive receptors will be exposed.

Dane Bauer and Melissa Hall inform me that it would be advantageous to start the monitoring while the water table is still elevated so if you could review the request expeditiously, we would appreciate it. We are, of course, available to answer any questions.

Very truly yours,

A handwritten signature in blue ink that reads "Michael C. Powell". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael C. Powell

Enclosures

cc: Kenneth D. Kozell (via email)
Mayor Chris Cerino (via email)
Michael Forlini (via email)
Dane Bauer (via email)
Melissa Hall (via email)



H&B Solutions, LLC
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February 13, 2020

Maryland Department of the Environment
Oil Control Program
1800 Washington Blvd., Suite 620
Baltimore, MD 21230-1708

Attn: Mr. Chris Ralston, Administrator

Re: Groundwater Remediation
Case No. 1987-2534-KE
Chester River Hospital Center
100 Brown Street, Chestertown
Kent County, Maryland
Pilot Post-Remedial Monitoring Request
Project No. 14004.00

Dear Chris:

In follow up to our discussions held on January 13, 2020, the Hospital continues to conduct briefings with the Town and continues to include the Town on all quarterly monitoring reports that are submitted to the Maryland Department of the Environment (MDE). As discussed in the 2019 quarterly monitoring reports, the Site experienced record rainfalls in 2018 and 2019 resulting in record high groundwater elevations. As the water table continued to rise, the groundwater came into contact with residual petroleum hydrocarbons sorbed in the soil's "vadose zone" that were not treated during the slightly deeper Ivey-sol injections. As a result, liquid phase hydrocarbons were detected in two of the six recovery wells. Since August 2019, the groundwater elevation has continued to subside. Since October 2019, no liquid phase hydrocarbons were detected in monitoring, sentinel, or recovery wells during monthly gauging events. Laboratory results from the October 2019 and January 2020 quarterly sampling event shows dissolved phase hydrocarbons present at the site are comparable to those concentrations prior to the Site experiencing record high groundwater elevations.

More specifically, in recent quarterly monitoring reports submitted to the Maryland Department of the Environment (MDE) there are only two (2) monitoring wells (MW-14 and MW-43) that continue to measure above one (1.0) part per million (ppm) Total Petroleum Hydrocarbons - Diesel Range Organics (TPH-DRO). However, both of these wells are below two (2.0) ppm TPH-DRO. The findings document that the dissolved and liquid phase hydrocarbon plumes have been contained within the Hospital property. They have also determined that no significant levels of dissolved or liquid phase hydrocarbons have been detected in downgradient monitoring wells.

Pursuant to Paragraph 41 of the MDE Consent Order, the Hospital can report that no more surfactant is present in any of the wells and that substantial compliance with the 1.0 ppm TPH-DRO requirement has been achieved, with only two (2) wells measuring above 1.0 ppm and both of those wells are below 2.0 ppm. Further, all the monitoring wells have met the TPH-DRO concentration of less than 1.0 ppm criteria during at least one monitoring event.

As noted in Paragraph 41, "the Hospital may submit to the Department a request to turn off the pump and treat system and begin post-remedial monitoring."

The Hospital is; therefore, requesting that MDE authorize a "Pilot Post-Remedial Monitoring Period" where the pump and treat system can be turned off consistent with the attached work plan. The timing for this is important as we would like to take advantage of the wet season conditions when initiating the Pilot Post-Remedial Monitoring. This is critical for determining if any rebound of TPH-DRO. We believe the only way to completely measure the cleanup success is to suspend the equipment operation and continue with the attached proposed monitoring protocol. Although during the upcoming wet season and rise to water table elevations, it is possible there could be some slight preliminary rebound, we anticipate that levels would normalize again as the water table subsides.

Consistent with Paragraphs 42 and 43, the required monitoring and reporting will continue for a period of twenty-four (24) months. The pump and treat system will be shut off but left in place in the event that it becomes necessary to reactivate the pump and treat system based on the monitoring results.

If after a twenty-four (24) month period no rebound occurs which results in reactivation of the pump and treat system, "the Hospital may request final case closure using the seven (7) risk factors as described in the Department's Maryland's Environmental Assessment Technology (MEAT) for Leaking Underground Storage Tank guidance document" in accordance with Paragraph 44 of the Consent Order. This will also ensure that this qualitative risk assessment considers the risks to all existing Town of Chestertown municipal supply wells. As part of any future case closure request, the Hospital would further demonstrate that "an asymptotic trend in dissolved-phase contamination has been established", in accordance with the more detailed requirements of Paragraph 44.

Consistent with discussions held on January 13, 2020 with MDE to explore next steps, it is proposed that this Pilot Post-Remedial Monitoring would be defined as the first step in the twenty-four (24) month monitoring and reporting per Paragraphs 42 and 43 of the Consent Order. MDE approves commencement of the twenty-four (24) month time period with a condition that the first four to six (4-6) months the Hospital performs additional testing outlined in the attached Work Plan. MDE will advise following this period if the additional testing is still required or that testing required per Condition 42 and 43 would be deemed adequate.

Upon MDE's authorization to proceed with this Work Plan, the necessary action items associated with system shutdown will be undertaken as soon as possible in order to take advantage of the 2020 wet season.

Sincerely,

Sincerely,

H&B Solutions, LLC



Melissa S. Hall
Managing Member



Dane S. Bauer
Member

Enclosure

Cc: Mr. Kenneth Kozel, Shore Regional Health (w/ enclosure)
Ms. Patti Willis, Shore Regional Health (w/ enclosure)

Mr. Michael Powell, Esq. (w/ enclosure)
Ms. Margaret Witherup, Esq. (w/ enclosure)

**PILOT POST-REMEDIAL MONITORING REQUEST
WORK PLAN
FEBRUARY 13, 2020**

A. PUMP AND TREAT SYSTEM SUSPENSION:

The Pump & Treat (P&T) System will be suspended during the pilot post-remedial monitoring period. All equipment will remain onsite and will be exercised as needed to ensure the system remains in working order.

B. MONITORING AND REPORTING DURING PILOT PHASE:

Upon commencement of the pilot pump and treat system shutdown, the Hospital will initiate the following monthly monitoring activities:

1. Gauging of all monitoring, recovery, and sentinel wells.
2. Collect samples for Total Petroleum Hydrocarbons - Diesel Range Organics (TPH-DRO) analysis using EPA Method 8015B from the following targeted wells: MW-15, MW-16, MW-19, MW-20, MW-24, MW-33, MW-34, MW-35, MW-48, MW-49, MW-50, and MW-56.
3. Submit monthly progress reports that include gauging summary tables and the results of the targeted well samples no later than forty-five (45) days after completion of sample collection.

C. TWENTY-FOUR (24) MONTH MONITORING AND REPORTING:

The Hospital will continue the quarterly monitoring in accordance with the Consent Order and the Department's "Site Status Letter" dated December 20, 2016 with the exception of sampling recovery wells. This includes:

1. Monthly gauging of all monitoring, recovery, and sentinel wells.
2. Quarterly sampling of all monitoring and sentinel wells for the presence of TPH-DRO using EPA Method 8015B.
3. Quarterly sampling of all monitoring and sentinel wells for the presence of Volatile Organic Compounds (VOCs), including oxygenates, using EPA Method 8260.
4. Submit quarterly monitoring reports.
5. Upon approval by the Department, the monthly testing and progress reports associated with the Pilot Phase will be discontinued.

D. EVENTS THAT WILL TRIGGER REACTIVATION OF THE P&T SYSTEM

Events that will trigger the reactivation of the P&T system include the following:

1. Measurable thickness (>0.01') of liquid phase hydrocarbons (LPH) in any wells located south of Brown Street; or
2. Greater than 0.05' of LPH in any wells located north of Brown Street for three (3) consecutive gauging events. The presence of any measurable thickness (>0.01') of LPH in the monitoring wells north of Brown Street will require a follow-up gauging event within seven to ten (7-10) calendar days; or
3. If directed by the Department.

PILOT POST-REMEDIAL MONITORING REQUEST
WORK PLAN
FEBRUARY 13, 2020

E. ACTIONS REQUIRED UPON THE DISCOVERY OF LPH

Actions required upon the discovery of measurable amounts of LPH (>0.01') include the following:

1. Notification to the Department within two (2) hours;
2. Immediately complete corrective action in the form of LPH recovery via absorbent wicks or other appropriate method(s);
3. Complete LPH recovery to the maximum extent practicable during the gauging event: and
4. Re-gauge the well following recovery.