



# Maryland

## Department of the Environment

Larry Hogan, Governor  
Boyd K. Rutherford, Lt. Governor

Horacio Tablada, Secretary  
Suzanne E. Dorsey, Deputy Secretary

June 7, 2022

Mr. Chris Brocato  
Charlie's Service Station  
11024 Liberty Road  
Randallstown MD 21133

**RE: REQUIRED ADDITIONAL ACTIVITIES**  
**Case No. 1995-1777-BA**  
**Charlie's Service Station**  
**11024 Liberty Road, Randallstown**  
**Baltimore County, Maryland**  
**Facility I.D. No. 15095**

Dear Mr. Brocato:

The Maryland Department of the Environment's (MDE) Oil Control Program (OCP) completed a review of the registration file for the underground storage tanks (USTs) at the above-referenced high-risk groundwater use area property. In 1996, a compartmentalized 15,000-gallon gasohol UST system was installed. There are three monitoring wells on the station property used for monitoring in compliance with the State's high risk groundwater use area (HRGUA) regulations and with the directives under open OCP case number 95-1777BA. The facility also has a transient non-community drinking water supply well.

A monitoring well and supply well sampling event was conducted April 19, 2022. Samples collected from monitoring wells MW-1 and MW-2 were either non-detect (ND) or below HRGUA notification limits. Monitoring well MW-3R was installed on April 8, 2022, as a replacement to the former MW-3, and is located adjacent to the former well. The initial sample collected from MW-3R detected benzene at a concentration of 42,800 parts per billion (ppb), toluene was detected at concentration of 146,800 ppb, ethylbenzene was detected at a concentration of 126,800 ppb, and total xylenes were detected at a concentration of 380,000 ppb. Sample results from the recently installed replacement on-site water supply well reported the detection of methyl tertiary butyl ether (MTBE) at a concentration of 1,070 ppb. All other water supply well sample results were either ND or below applicable groundwater standards.

The results were provided to OCP verbally and via email correspondence on May 2, 2022. In response to the findings, OCP required the collection of confirmation samples from both MW-3R and the on-site private supply well.

A confirmation sample was collected from the on-site water supply well on May 4, 2022, which reported a MTBE concentration of 3.81 ppb. A confirmation sample from MW-3R was collected on May 10, 2022. The confirmation sample results for MW-3R reported the following concentrations

exceeding notification standards: benzene at 2,300 ppb, toluene at 7,200 ppb, ethylbenzene at 2,400 ppb, and xylenes at 11,700 ppb. MTBE was reported as ND with a detection limit of less than 500 ppb. The elevated MTBE detection limit was due to the laboratory diluting the sample.

Also on April 19, 2022, samples were collected from the off-site water supply wells serving 4507 Wards Chapel Road and 11012 Liberty Road. A water supply sample was collected on May 9, 2022, at 11023 Liberty Road. All results from both Liberty Road properties were ND. However, the sample results from 4507 Wards Chapel Road reported a MTBE concentration of 5,120 ppb and other fuel oxygenates were also detected. A confirmation sample collected from 4507 Wards Chapel Road on May 10, 2022, reported a MTBE concentration of 970 ppb.

The OCP's Compliance Division conducted an initial review of the UST systems and did not find evidence of an active or ongoing release. Additional corrective measures regarding the UST system will be addressed separately by the OCP Compliance Division.

As a result of the detections of petroleum-related compounds in MW-3R at concentrations exceeding HRGUA notification levels, the Department has sent notification, via certified mail, to all property owners within a ½-mile radius of the site, as required by Section 4-411.2 of the Environment Article, Annotate Code of Maryland. A review of relevant historical data from the site indicates that the current levels of petroleum impacts on site and in the off-site water supply well at 4507 Wards Chapel Road are indicative of a petroleum release or releases that occurred during the time period of the current UST owner/operator (since 1995 or earlier) and are not related to the former Exxon ownership/operation, which ceased in 1981.

Based on the property's location in a high-risk groundwater use area served by a drinking water supply well and the available information reviewed for this case, MDE requires the following:

1. Perform an updated sensitive receptor survey to identify all drinking water supply wells (i.e., domestic, non-community/community water supply, agricultural) within a half-mile radius of the subject property and plot on a U.S. Geological Survey map or scaled street map. Since the site is in an area served by drinking water supply wells, MDE suggests directing your inquiries to the Baltimore County Department of Environmental Protection and Sustainability. Submit the required information to OCP no later than **July 26, 2022**. The submitted survey must include:
  - a. Annotate the 660-ft. (1/8-mile), 1,320-ft. (1/4-mile), and 2,640-ft. (1/2-mile) radii;
  - b. Provide a summary table of well data including, at a minimum: property address, owner name and address, well tag ID, total depth of well, casing depth, screen depth, and current status of well usage;
  - c. Review well completion reports and evaluate whether on-site conditions could potentially impact any off-site drinking water supply wells in the area;
  - d. Submit documentation of which supply wells are historic and have been abandoned;
  - e. For properties served by public water, provide confirmation of this connection in the summary table (this can include confirmation from the Baltimore County Water and Sewer authority of properties that receive a water bill);
  - f. Submit copies of notes documenting field reconnaissance performed to verify presence/absence of wells; and

- g. Provide written documentation of your findings and the list of persons contacted.
2. **Immediately** install granular active carbon (GAC) water treatment systems on the onsite supply well and the supply well at 4507 Wards Chapel Road. Submit GAC water treatment systems installation documentation to MDE for both properties **no later than June 15, 2022.** A GAC System Fact Sheet is enclosed.
  3. As previously required in the May 13, 2022, email, **No later than the 15th day of the June, July and August,** collect monthly samples from the on-site supply well, the supply well at 4507 Wards Chapel Road, and from the supply well at 11023 Liberty Road (Wards Chapel Methodist Church). All samples must be obtained prior to the installation of any water treatment devices. Where a GAC water treatment system is present, pre-, mid-, and post-treatment samples must be collected. The samples must be analyzed for full-suite VOCs, including fuel oxygenates and naphthalene, using EPA Method 524.2. **The monthly sampling results must be provided to the property owners and OCP within 14 days of each sampling event.** Additional sampling of the off-site private supply wells will be required at a frequency to be determined at a later date. **Until otherwise notified in writing by OCP, monthly sampling of the specified off-site supply wells must continue.**
  4. **No later than August 31, 2022,** a Potable Well Sampling Report must be submitted to OCP, including all monthly sampling results, summary data tables, and all relevant correspondence provided to the off-site property owners (laboratory results correspondence, etc.).
  5. Conduct quarterly (every three months) sampling of the on-site groundwater monitoring well network until written approval from the OCP is received to suspend or reduce the sampling frequency. Sampling events must be conducted in June, September, December, and March. All samples collected must be analyzed for full-suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 8260 and total petroleum hydrocarbons – diesel and gasoline range organics (TPH-DRO and GRO) using EPA Method 8015.
  6. The quarterly reports must be submitted to the OCP as specified below:
    - a. February 15th – Fourth Quarter (October – December work activities)
    - b. May 15th – First Quarter (January – March work activities)
    - c. August 15th – Second Quarter (April – June work activities)
    - d. November 15th – Third Quarter (July – September work activities)
  7. At a minimum, Quarterly Status Reports must include the following:
    - a. Summary of all field activities conducted during the quarter, planned field activities for the next quarter, and a brief bulleted chronology of site activities since the case was opened. This information must include dates of field activities, report submittals, MDE requirement letters, etc.;
    - b. Summary data tables showing all gauging data (depth to water, corrected groundwater elevations, depth to LPH, and LPH thickness) with respect to time and well gauging data, to include all events, not just for the current reporting period. This data must also be presented graphically (time series trend graphs per well showing corrected groundwater elevations and product thickness with respect to time);
    - c. Groundwater concentration summary data tables for each well with respect to time.

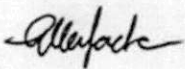
Any detected concentrations must be noted in addition to benzene, toluene, ethylbenzene, xylene, MTBE, naphthalene, and TPH DRO and GRO. Detection limits must be included next to ND notation (i.e., not detected [0.5 ppb]). Graphical representation must also be provided per well with respect to time;

- d. To-scale site maps that denote corrected groundwater elevations at each monitoring well, groundwater contours, groundwater flow direction, groundwater concentrations (benzene, toluene, ethylbenzene, xylenes, naphthalene, MTBE, and detected analytes), and LPH thicknesses. Separate figures may be appropriate to depict the data required; and
  - e. All groundwater sampling forms and laboratory analytical datasheets must be included in the reports.
8. OCP must receive at least 5 days written (email) notification prior to all sampling events.
  9. For any off-site sampling events, the property owners must be provided a copy of the results within 14 days from when the sample was collected.

This letter is not a waiver or limitation of MDE's right to take enforcement or other action in the future based upon contamination at and around the site. The MDE and State of Maryland retain all authority and rights to see all available relief, including equitable relief and damages of any nature, such as compensatory and natural resource damages, for contamination at and around the site.

If you have any questions for the Compliance Division, please contact Ms. Marsha Mason at 410-537-3479 (marsha.mason@maryland.gov). If you have any questions for the Remediation Division, please contact Mr. Matt Mueller at 410-537-3574 (matthew.mueller@maryland.gov) or me at 410-537-3482 (ellen.jackson@maryland.gov).

Sincerely,



Ellen Jackson, Northern Region Supervisor  
Remediation Division  
Oil Control Program

Enclosures: Fact Sheet - GAC at Petroleum Contaminated Properties

cc: Mr. Greg Beal, President, Advanced Environmental Concepts, Inc.  
Mr. Travis Johnson, property owner of 4507 Wards Chapel Road  
Ms. Bridget Wetzell, Director, Wards Chapel Preschool (11023 Liberty Road)  
Mr. Kevin Koepenick, Groundwater Management Section, Baltimore County DEPS  
Mr. Robert Peoples, Division Chief, Source Protection and Administration Division  
Mr. Andrew B. Miller, Chief, Remediation Division, Oil Control Program  
Mr. Christopher H. Ralston, Program Manager, Oil Control Program



**Maryland**  
Department of  
the Environment

## FACTS ABOUT: GRANULAR ACTIVATED CARBON (GAC) AT PETROLEUM CONTAMINATED PROPERTIES

---

### What is Granular Activated Carbon

Activated carbon is made from materials such as petroleum coke, bituminous coal, lignite, wood products, coconut shells, or peanut shells. Activation is achieved in a process where steam and high temperatures come in contact with the material producing a carbon substance with many small pores. The activated carbon is crushed to produce a granular or pulverized product. Small pores in the granular activated carbon (GAC) increase the surface area of the material, allowing certain compounds/contaminants attracted to the carbon to be adsorbed onto the carbon. The efficiency of the adsorption process is influenced by the characteristics of the carbon and the contaminant as well as the amount of water pumped through the filter.

Different types of carbon remove different contaminants and no one type of carbon removes all contaminants. Activated carbon filters will not remove microbial contaminants, calcium, magnesium, fluoride, nitrate and many other compounds that are highly soluble in water. However, most carbon compounds, such as those found in gasoline and oil, are removed effectively.

### Recommended GAC System

A Point-of-Entry Treatment (POET) System is a system that treats the water supply because it is connected to the well water supply line as it enters the home or business. This system is recommended for most petroleum contaminated situations. A POET system typically consists of two 2-cubic foot fiberglass reinforced GAC filters, approximately 12-inch diameter by 48-inch high, piped in series with sampling ports installed before the first filter, in-between the two filters, and after the second filter. Once the POET system is installed, a sampling schedule is set up to collect samples pre-, mid-, and post-treatment. The schedule of sampling is based on the concentration of the contamination of interest and the amount of water used in the home or business. The sampling frequency will be adjusted as the system's historical efficiency is developed.

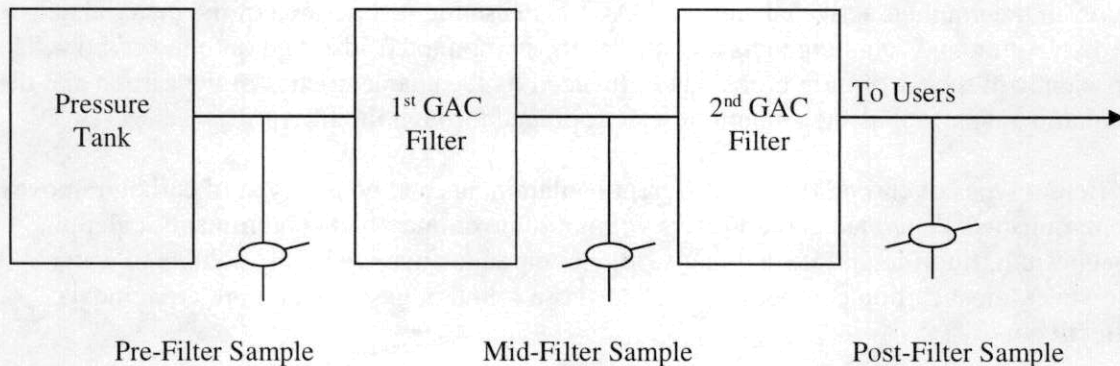
Some drawbacks associated with the use of a GAC unit include pressure decline, staining of water fixtures, and change in taste. These items can normally be addressed through the proper choice of carbon material and system service. The Department recommends changing/servicing the filters at least once every 18 months to avoid potential bacteria buildup and to ensure proper water pressure be maintained in the home. We further recommend the use of virgin coconut shell carbon as the filter media.



### **Criteria for GAC System Installation**

The Maryland Department of the Environment's Oil Control Program (OCP) may require the installation of a GAC system when sampling results from a potable water supply well report the detection of petroleum related contaminants at concentrations exceeding federal or State maximum contaminant levels (MCLs) or other applicable State standards (i.e. State Action Level or applicable risk-based standards). In most instances, the requirement to install a GAC system is made when both initial sample and confirmation sample results indicate the exceedance of regulatory standards. In instances where sampling results are below regulatory standards, the installation of a GAC system is typically not required by the OCP, but well owners may elect to have one installed.

### **Schematic Diagram of a Typical Point of Entry GAC System**



### **Criteria for GAC System Removal**

Removal of a GAC system is typically permitted by the OCP when pre-filtration sampling results indicate non-detection of all federal and State regulated compounds analyzed for a period of a least one year (12 months), based on a minimum of 3 sampling events using EPA Method 524.2. GAC system removal may be considered by the OCP if sustained low-level detections of federal and State regulated compounds are documented at concentrations below applicable groundwater standards for a period of at least two years (24 months), based on a minimum of 5 sampling events using EPA Method 524.2.

If you have questions about GAC filtration systems, call the Oil Control Program at 410-537-3443.

### **Disclaimer:**

The intent of this fact sheet is to provide information to the reader. To fully understand the subject, the reader should research additional sources of information. MDE makes no claims to the accuracy of this information and accepts no liability regarding the use or interpretation of this document.