



May 27, 2014

Ms. Jenny Herman  
Maryland Department of the Environment Oil Control Program  
1800 Washington Boulevard  
Baltimore, Maryland 21230-1719

Re: **Post Building Demolition Subsurface Investigation  
Gasoline Fueling Station – Royal Farms Store No. 64  
7950 Pulaski Highway, Rosedale, Maryland 21237  
OCP Case No. 10-0339-BA  
Facility ID 3975  
AEC Project No. 05-056RF064**

Dear Ms. Herman:

Advantage Environmental Consultants, LLC (AEC) is presenting the results of the subsurface investigation performed below the basement concrete slab at 1205 Chesaco Avenue associated with Maryland Department of the Environment (MDE) Oil Control Program (OCP) Case No. 10-0339-BA. The goal of the investigation was to determine if grossly petroleum contaminated soil exists below the building foundation in the vicinity of the dewatering sump pit where liquid phase hydrocarbon (LPH) has historically been encountered.

Following completion of demolition activities, AEC performed three test pits using an excavator on April 11 and April 14, 2014. The excavator penetrated the basement's concrete floor slab in three locations including near the building's former dewatering sump pit, the south-east corner near the active recovery wells and the north-central portion of the structure. Locations of the three test pits are displayed in a Test Pitting Location Map included as Attachment A of this report. The test pits were advanced to approximately twelve feet below ground surface (bgs). An AEC Field Geologist logged the geologic conditions of the test pits and field screened soil samples for volatile organic compounds (VOCs) using a photoionization detector (PID). Each test pit was observed to have been advanced beyond the water table. Boring logs from the test pitting activities are included as Attachment B.

Upon reaching the terminal depth, each test-pit was left open until groundwater began to accumulate at the bottom. Petroleum sheen was not observed on the accumulated groundwater in any of the test pits. In addition an oil sorbent pad was submerged in the accumulated groundwater of each test pit. No petroleum odor was observed on the sorbent pads, nor was any petroleum found to have been absorbed by the pads.

Soil samples were collected using U.S. Environmental Protection Agency (EPA) Method 5035 via Terracore sampling. The soil samples were submitted for analysis for VOCs, including fuel oxygenates, via EPA Method 8260 and total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) via EPA Method 8015B. The samples were collected from soil which elicited the greatest PID response in each respective test pit.

Results from PID screening showed that the highest VOC concentrations were generally located just above the water table. Specifically, the highest PID response was located above the water

table in test pit TP-1 which is located nearest to the source area. Maximum PID response per test pit ranged from 371 parts per million (ppm) in test pit TP-3 to 1,991 ppm in test pit TP-1. The material which elicited the highest PID response in test pit TP-1 occurred in a vein of black material approximately two to four inches thick and located approximately 10.5 feet below the ground surface (bgs). This vein of black material was not observed in test pits TP-2 or TP-3. All analyzed constituents were reported at levels below Residential Clean-up Standards (i.e., Generic Numeric Cleanup Standards for Groundwater and Soil – Interim Final Guidance Update No. 2.1, dated June 2008) with the exception of TPH GRO in the sample from TP-1 at 10.5 feet bgs which was reported at a concentration of 283 milligrams per kilogram (mg/kg) compared to the Residential Clean-up Standard of 230 mg/kg. The analytical results show concentrations of TPH GRO decrease significantly with greater distance from the source area. Reported concentrations of TPH GRO were well below the Residential Clean-up Standard in test pits TP-2 (below detection limits) and TP-3 (64.6 mg/kg). Laboratory analytical results and chain of custody documentation are presented in Attachment C.

All excavated soils were stockpiled on 6-mil plastic and covered with 6-mil plastic to await removal. On April 11, 2014 a composite sample was taken for characterization of the stockpile (TP-2 comp). On April 16, soil was loaded out in three truckloads and manifested for disposal at Soil Safe, Inc. of Brandywine, Maryland. 65.27 tons of material were disposed of. Copies of the Soil Safe manifests are included as Attachment D.

The results of this investigation show that impacted soil exists below the former residence located at 1205 Chesaco Avenue. PID screening results show that the greatest soil impact is generally located at depths greater than eight feet below the ground surface. A vein of grossly impacted material which was observed in test pit TP-1, and was not observed in test pits TP-2 or TP-3. Results from laboratory analysis reported all fuel constituents were reported at concentrations below Non-Residential Clean-up Standards. No LPH or petroleum sheen was observed on the groundwater observed in the three test pits. AEC currently operates a Dual-Phase Extraction Remediation System at the Site. Based on the results of this investigation, AEC will increase the recovery effort from the recovery well identified as MW-4R which is located approximately 15 feet from test pit TP-1 toward the source area. It is our opinion that the capture zone of the Dual-Phase Extraction Remediation System is adequate to address the residual impact beneath the former structure and no additional excavation of material in this area is necessary.

If you should have any questions regarding these documents, or if we can be of further assistance, please contact the undersigned at (301) 776-0500.

Sincerely,

**ADVANTAGE ENVIRONMENTAL CONSULTANTS, LLC**



Jeffrey S. Stein, P.G.  
Principal

Attachments

Cc: T Ruszin, Royal Farms

**ATTACHMENT A**

**ATTACHMENT B**

**ATTACHMENT C**

**ATTACHMENT D**