Maryland
Department of
the Environment

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

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

November 22, 2019

Mr. Stanley Carpenter
Colonial Pipeline Company
1089 Kings Highway
West Deptford, NJ 08086

RE: WORK PLAN APPROVAL
Case No. 2018-0459-HA
Colonial Pipeline Bel Air Pumping Station
2942 Charles Street, Forest Hill
Harford County, Maryland

Dear Mr. Carpenter:

The Maryland Department of the Environment's (MDE) Oil Control Program (OCP) completed a review of the case file for the above-referenced property, including the *Remedial Investigation / Remedial Action Work Plan,* dated October 14, 2019, and the *Remedial Investigation / Remedial Work Plan - Response Letter,* dated November 19, 2019. This case was opened following the March 7, 2018 release of fuel from a corrosion perforation discovered in the booster loop. The groundwater at this site has been monitored since 2018 by successive mobilizations and well installations. The current monitoring well network consists of eleven monitoring wells and five recovery wells. The October 14, 2019 *Work Plan* has been proposed to refine site knowledge by expansion of the existing monitoring well network; further delineation of the dissolved phase groundwater concentrations up and down gradient of MW-6; and the excavation of additional source material associated with previously identified historic soil contamination that appears to be contributing to dissolved phase concentrations in the area of MW-5. The *Response Letter* was provided to clarify specific aspects of the *Work Plan.*

The existing on-site drinking water well is completed to a depth of approximately 203 feet below the ground surface (bgs) and is an open borehole from approximately 36 to 203 feet bgs. Based on the age of the well, it has been determined that the method of well completion presents a potential migratory pathway to the subsurface. The *Work Plan* proposes to convert the on-site drinking water supply well to a monitoring well by sealing the well from the bottom to 60 feet bgs. The 6-inch diameter borehole will be retrofitted with pre-packed well screen from 60 to 50 feet bgs to capture the primary fracture zone identified during borehole geophysical logging. Upon completion of these modifications, an updated well completion report will be provided to the Harford County Health Department (HCHD).

The installation of three additional down-gradient monitoring wells has been proposed to further delineate the dissolved phase plume and monitor down-gradient groundwater conditions. MW-12 and MW-13 are proposed to evaluate groundwater down-gradient of the electric substation and MW-14 is proposed to delineate groundwater concentrations that may have migrated beyond MW-6. Soil cores will be collected prior to monitoring well installation to confirm lithology and groundwater depth.

Additional excavation has been proposed in the area of RW-2. The *Work Plan* proposes to utilize the recovery wells in and around the excavation as vacuum extraction wells to dewater the excavation and recover vapors. Per clarifications provided in the *Response Letter,* your environmental consultant now proposes to properly abandon recovery wells RW-2, RW-3, and RW-4 prior to conducting site activities. The proposed area will be excavated and backfilled in sections to minimize the amount of open excavation. Your environmental consultant proposes to collect a maximum of twelve soil samples from the excavation sidewalls and a minimum of four soil samples from the bottom of the excavation. Upon completion of the excavation, two replacement wells will be installed. The excavation will not be enhanced with any additional chemicals or carbon at this time.

Based on our review, MDE approves implementation of the *Remedial Investigation/Remedial Action Work Plan* contingent upon the following modifications:

Task 1: Station Well Modification and Conversion to a Monitoring Well

(1) The MDE approves conversion of the existing station well to a mid-level monitoring well per the *Work Plan* in concept. Because this task involves the conversion of an existing supply well, it falls under the purview of the HCHD as the permitting authority. All requirements and approval processes set forth by the HCHD must be met as part of this conversion process.

Task 2: Monitoring Well Installations

(2) During the collection of soil cores prior to monitoring well installation, all soils must be continually logged and field screened with a photo-ionization detector (PID).

   a. Soil samples for laboratory analysis must be collected in each boring at the soil/groundwater interface and from the interval exhibiting the highest PID response. If no PID response is observed or the highest PID response is observed at the soil/groundwater interface, only one sample will need to be collected.
   b. All soil samples submitted for laboratory analysis must be collected and field preserved in accordance with EPA Method 5035.
   c. All soil samples submitted for laboratory analysis 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 TPH-GRO) using EPA Method 8015.

(3) The new wells and replacement recovery wells must be developed using active surging in addition to pumping / purging. All installed wells must be surveyed into the existing monitoring well network and depicted on an updated site map.

(4) **No less than ten days after well development and quarterly thereafter (every three months),** collect groundwater samples from the newly installed wells that do not exhibit liquid phase hydrocarbons (LPH). All samples submitted for laboratory analysis must be analyzed for full-suite VOCs using EPA Method 8260 and TPH-DRO and TPH-GRO using EPA Method 8015.

Task 3: Supplemental Remedial Investigation

(5) During the collection of post-excavation soil samples, soils must be field screened with a PID.

a. All soil samples submitted for laboratory analysis must be collected and field preserved in accordance with EPA Method 5035.
b. All soil samples submitted for laboratory analysis must be analyzed for full-suite VOCs using EPA Method 8260 and TPH-DRO and TPH-GRO using EPA Method 8015B.

(6) **Within 45 days of completing the approved remedial activities**, submit a *Well Installation and Remedial Action Summary Report*. At a minimum, this *Report* must include: well completion reports; detailed data summary tables and scaled site maps showing monitoring/ recovery well locations and actual excavation sampling locations. Also provide a discussion of supplemental sampling events including details on: sampling procedures; analytical laboratory results and chain of custody; conclusions and recommendations; and soil and liquid disposal receipts. Reports must also include: amended groundwater contour maps; site cross-section maps depicting significant site features; corrected groundwater flow, and dissolved concentration maps. analytical laboratory results and chain of custody, conclusions and recommendations, soil and liquid disposal receipts, and detailed description of commercial chemical oxidation additive.

Notify the Oil Control Program at least five 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 one electronic copy. If you have any questions, please contact Ms. Lindley Campbell at 410-537-3387 (*lindley.campbell1@ maryland.gov*) or me at 410-537-3499 (*susan.bull@maryland.gov*).

Sincerely,

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

cc: Mr. David Kudla, Project Manager, TRC Environmental Corporation
Mr. John Resline, Acting Director, Environmental Health, Harford County Health Department
Mr. Andrew B. Miller, Chief, Remediation and State- Lead Division, Oil Control Program
Mr. Christopher H. Ralston, Program Manager, Oil Control Program