



Maryland

Department of the Environment

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

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

February 26, 2019

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

RE: MONITORING WELL INSTALLATION AND PILOT TEST APPROVAL
Case No. 2018-0459-HA
Colonial Pipeline - Belair Pumping Station
2942 Charles Street, Fallston
Harford County, Maryland

Dear Mr. Carpenter:

The Maryland Department of the Environment's (the Department) Oil Control Program (OCP) recently completed a review of the case file for the above-referenced property, including the *Quarterly Monitoring Report August 2018 – October 2018* and the *Groundwater Corrective Action Plan (CAP)*, both dated December 4, 2018. This case was opened following the March 7, 2018 release of fuel from a corrosion perforation discovered in the booster loop. Since the March 7, 2018 release, Colonial has replaced the compromised section of pipe; exposed all underground piping for full visual inspection and recoating; excavated petroleum impacted and piping contact soils for off-site disposal; recovered petroleum impacted contact water in the shallow piping trenches; conducted initial and supplemental subsurface investigations that resulted in the installation of six groundwater monitoring wells; conducted monthly gauging and quarterly sampling of the monitoring well network; and conducted quarterly sampling of all immediately adjacent private drinking water supply wells. Monthly gauging has not revealed the presence of light non-aqueous phase liquids (LNAPL) in the monitoring well network. Quarterly sampling revealed stable to non-detect results for volatile organic compounds (VOCs) in all wells except monitoring well MW-5, which exhibited increasing levels of benzene, ethylbenzene, toluene, and total petroleum hydrocarbons - diesel and gasoline range organics (TPH-DRO and TPH-GRO).

Based on the results of the second supplemental subsurface investigation conducted in July 2018 in the area of MW-5 and the increasing dissolved phase levels in that same well, Colonial proposed the following:

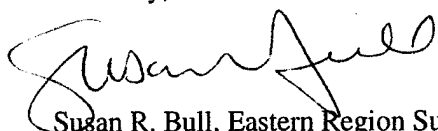
- Convert MW-5 to a recovery well;
- Install a series of eight 4-inch diameter recovery wells in the area of MW-5. Recovery wells will be installed to a depth no deeper than 15 feet below the ground surface (bgs) to ensure the intercept of first water and vadose zone exposure for the extraction of vapors;
- Install two additional monitoring wells at the site hydraulically down-gradient of MW-4 and MW-5; and
- Conduct a remedial action pilot test. This test will consist of bi-weekly targeted single-point enhanced fluid recovery (EFR) events. All events will be conducted with a vacuum truck with a stinger assemble in one well at a time. The first four events will be conducted in recovery wells RW-1, RW-2, RW-3, RW-4, and RW-6; then recovery wells RW-5, RW-7, RW-8, and RW-9 will be added to the test. The pilot test will continue until the second quarter sampling event in April 2019; at which time they will be discontinued to evaluate effectiveness.

The OCP hereby approves the proposed monitoring/recovery well installation and pilot test contingent upon the following modifications:

- 1) Based on the proposal to convert MW-5 to a recovery well and the loss of a monitoring point in this area, the OCP will require the installation of an additional monitoring only point in the area of MW-5 (see enclosed map). The final location can be field modified based upon utility clearance and site safety.
- 2) Based on the modified topography at this location, the OCP will require the installation of a monitoring well outside the security fence hydraulically down-gradient of MW-8 (see enclosed map). The final location can be field modified based upon utility clearance and site safety.
- 3) Complete monitoring and recovery well installation under the direct supervision of a Maryland-licensed well driller. Contact the OCP at least five (5) working days prior to conducting any field activities at this site.
- 4) If measurable liquid phase hydrocarbons (LPH) are detected, report its presence to the Department within 2 hours of discovery by calling the Department's Baltimore Headquarters at 410-537-3442 during standard business hours, or the Emergency Response Division hotline at 1-866-633-4686. Reports should not be made via voicemail messages to case managers.
- 5) All petroleum-impacted waste material generated during assessment activities must be properly stored and disposed. Waste disposal documentation must be provided to the OCP.
- 6) **Within 45 days of completion of pilot testing activities**, submit an *Evaluation Report* detailing the results of the pilot testing activities. The report must include: quantified totals of recovered water, vapors, and LNAPL (if applicable); radius of influence calculations; tabulated sampling and monitoring parameters generated during in-field testing; and discussions of results to determine if a more permanent system would be remedially effective for the further reduction of contamination in this area.

All information, data, reports or plans generated for this site must be submitted for our review by the dates specified and/or agreed upon with the Department. If you have any questions, please contact the case manager, Mrs. Lindley Campbell, at 410-537-3387 (email: lindley.campbell1@maryland.gov) or me at 410-537-3499 (email: susan.bull@maryland.gov).

Sincerely,

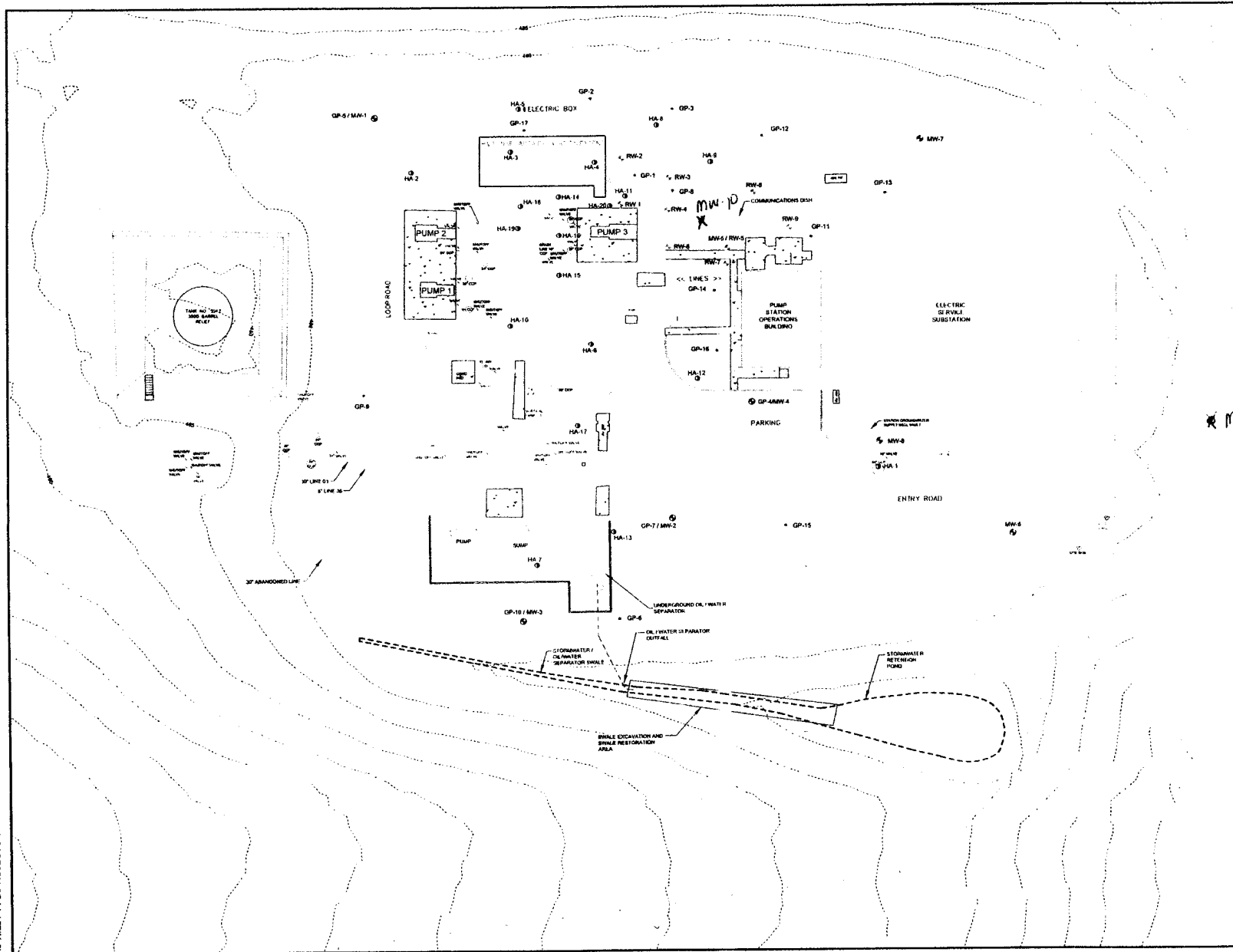


Susan R. Bull, Eastern Region Supervisor
Remediation and State-Lead Division
Oil Control Program

SRB/nln

cc: Mr. Dave Carlson (TRC Environmental Corporation)
Mrs. Julie Makert (Environmental Health Services, 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)
Ms. Kaley Laleker (Director, Land and Materials Administration)

\\PHILLY-FF2\PROJECTS\COLONIAL PIPELINE\BEL AIR STATION & SPRING\FIGURES\CADD\295860 0000 03_RA.DWG



- LEGEND**
- GP-6 GEOPROBE BORING
 - ⊙ MW-5 MONITORING WELL
 - ⊙ HA-9 HAND AUGER BORING
 - ⊙ RW-1 PROPOSED RECOVERY WELL
 - ⊙ MW-8 PROPOSED MONITORING WELL
 - LIGHT POST
 - HYDRANT
 - APPROXIMATE LOOP LOCATION
 - FENCE
 - OVERHEAD ELECTRIC LINE
 - UNDERGROUND GAS LINE
- NOTES:**
1. LOCATION OF YARD DRAIN EXCAVATION, STORMWATER SWALE, STORMWATER RETENTION POND, HAND AUGER SOIL BORINGS, AND POST EXCAVATION FOR SAMPLES ARE APPROXIMATE.
 2. VALVE AND SHUTOFF VALVE LOCATIONS ARE SURVEYED GENERAL POINTS OF REFERENCE FOR PUMP STATION CONTROL POINTS AND PROCESS CONTROL FEATURES.
 3. AN ACCESS WELL IS AN OBSERVATION POINT TO SHALLOW SUBSURFACE VALVES AND CONTROL POINTS.
 4. THE EXISTING MONITORING WELL MW-5 WILL BE CONVERTED INTO RECOVERY WELL RW-5.
 5. THE PUMPING LOOP EXCAVATION AREA ADJACENT TO THE HA-3 EXCAVATION LIMITS IS SHOWN ON FIGURE 5 OF THE DR (ITR 2016).

MW 9 (outside parameter fence & clearance from pipeline)

SCALE 1"=10'

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PROJECT	COLONIAL PIPELINE COMPANY BEL AIR PUMP STATION FALLSTON, HANFORD COUNTY, MARYLAND		
TITLE	PROPOSED RECOVERY WELL AND MONITORING WELL LOCATIONS		
DESIGNED BY	A. CARLSON	DATE	2/2008 000014
CHECKED BY	D. CARLSON		
APPROVED BY	D. CARLSON	FIGURE 4	
DATE	NOVEMBER 2018		

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CTRC