

Coakley Landfill Update

US Environmental Protection Agency (EPA)
NH Department of Environmental Services (NHDES)

March 3, 2017

1. Status of water supply and surface water sampling programs

NHDES has completed sampling of private wells and surface waters around the Coakley Landfill (Landfill). A total of seventy nine (79) private wells and five (5) surface water locations along Berrys Brook have been sampled and reported with the exception of one pending private well sample.

Data sets that have been received and reported to property owners are summarized on the attached Figure 1. Surface water test results are summarized on Figure 2.

In January 2017, the responsible party group called Coakley Landfill Group (CLG) sampled nineteen private drinking water wells previously tested along Breakfast Hill Road and within the Falls Way, Ridgecrest Drive, Stone Meadow Way, Red Oak Drive and Berry Farm Lane neighborhoods. All the wells were tested for arsenic, manganese, 1,4-dioxane, PFCs, and field parameters. No result exceeded NHDES ambient groundwater quality criteria. The laboratory results for PFAS were reported as non-detect (ND) in 18 of the 19 wells sampled. One sample had a detection of PFOA at a concentration of 17.8 parts per trillion (ppt). Sample results are summarized on Figure 3. This private well sampling/testing will be repeated by the CLG in August 2017, February 2018, and August 2018.

To date, no residential wells sampled in the vicinity of the site have been found to exceed EPA's Lifetime Health Advisory and NHDES' Ambient Groundwater Quality Standard of 70 parts-per-trillion (ppt). In fact, there have been no detections above 40 ppt, as shown by the yellow circles in Figure 1. The detection of 1,4-dioxane along with PFCs in two private wells north of the landfill provide evidence of localized Landfill impacts in this area. 1,4-dioxane was not detected in the remaining 77 private wells sampled.

The installation, technical evaluation of, and sampling of four new wells (two well couplets: overburden and bedrock) within the northern area of the site Groundwater Management Zone (GMZ) will provide groundwater data at the Landfill compliance boundary. This is the area of primary concern given the understanding that the bulk of impacted groundwater from the site moves in a northerly direction along the Berrys Brook drainage feature. The CLG indicated to EPA that they planned to install the groundwater monitoring wells in February 2017. However, a more thorough review of the well installation work plan than originally anticipated was required by NHDES and EPA project managers and hydrogeologists, and that review was just completed on 2/28. Review of the work plan determined that: 1) the location of one of the wells should be modified; and 2) that further geological information and geophysical field-work is necessary in order to refine the location, depth, and placement of screening intervals within the monitoring wells to be installed. EPA and NHDES are currently planning to meet with the CLG to discuss the comments and steps moving forward and determine the timeframe for the installation of the wells.

2. Surface Water Quality

The February 16th update provided EPA-developed screening levels (SLs) for recreational receptors that could be exposed to perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS) and perfluorobutane sulfonate (PFBS) in surface water and sediment associated with the Site. No surface water results collected to date by NHDES exceed SLs outside the Ground Water Management Zone established for the Site. It is important to note that an exceedance of a SL does not necessarily mean that there is an unacceptable risk at the Site. It does indicate that further sampling and evaluation are required. Given these results and in order to ensure maximum protection, EPA will require further sampling of surface water and sediments. The Coakley Landfill Group has submitted to the agencies a work plan that includes the collection of surface water and sediment samples, which is currently under review by the agencies.

EPA has indicated that it would need additional information about fish consumption at Berrys Brook in order to determine if it is necessary to develop Site-specific screening levels for protection of human health from consumption of fish and shellfish. Recent information obtained from the NH Fish and Game Department (NHF&G), indicates that a put-and-take fishery is supported by the semi-annual stocking of domestic brown trout at Brackett Road in Berrys Brook equaling an annual total of 4,000-5,000 brown trout. Due to the limited habitat and obstructed upstream corridor, the NHF&G believes the trout not taken by fishing activity likely migrate out to the ocean as opposed to upstream freshwater habitats. NHF&G has indicated that they are not aware of fishing taking place upstream of Sagamore Road. This information has been provided to the EPA. Using this information, and additional Site data to be collected, NHDES will work with EPA to determine whether Site-specific fish consumption screening levels need to be developed.

Separate and apart from any Site-specific screening levels, EPA has indicated that it does not have current plans to develop national recommended water quality criteria for the protection of aquatic life and human health in surface water for PFOA or PFOS pursuant to Section 304(a) of the Clean Water Act (CWA). NHDES has not yet determined whether it will seek to develop and adopt state surface water quality standards for PFOA or PFOS pursuant to its authority under state law. NHDES does not currently have the in-house expertise to develop such a standard. Doing so would require procurement of the services of an outside contractor, and would be a time-intensive process. Once developed, adopting the standard would be accomplished through rulemaking, and as such would involve significant opportunities for public input. Taken together, the development of a standard and the associated rulemaking process would require more than one year to complete.

With regard to the Site, NHDES will continue to support EPA in directing the work of the CLG, and to monitor the levels of PFCs in surface water at and downgradient of the Site to determine if additional corrective actions are required to protect human health and the environment.

3. Coakley Landfill Group planned activities

The following tasks are currently on-going or planned:

- a. On February 10, 2017 the CLG submitted the sampling results of the monitoring wells in the southern area of the GMZ (FPC-3 well cluster noted on Figure 1). The results indicate that this well cluster delineates a compliance boundary in the southern portion of the GMZ. This well cluster will be incorporated into the regular sampling program. The agencies are reviewing the results of these wells and those of residential wells further south, to determine next steps.
- b. A revised sampling and analysis plan for spring 2017 sampling of site monitoring wells, surface waters, leachate seep, and sediments was submitted to the agencies on February 17, 2017.
- c. A revised quality assurance project plan that will support the spring 2017 sampling activities is pending submission.
- d. Spring site-wide sampling including groundwater, surface water, sediment and leachate seep sampling is scheduled to begin in April 2017.
- e. A work plan for the installation of two well couplets near the northwest GMZ boundary was submitted on January 31, 2017 and is currently being reviewed by the agencies.
- f. The CLG will prepare a work plan for a background arsenic and manganese study that will begin summer 2017.

4. NHDES/EPA plan moving forward

The agencies are reviewing area private well sampling data, private well and site monitoring well construction details, surface water and groundwater interactions and site and regional hydrogeological information to evaluate the need for further investigative activities related to the off-site migration of site contaminants.

EPA and NHDES plan to continue providing community email updates on a regular as-needed basis.

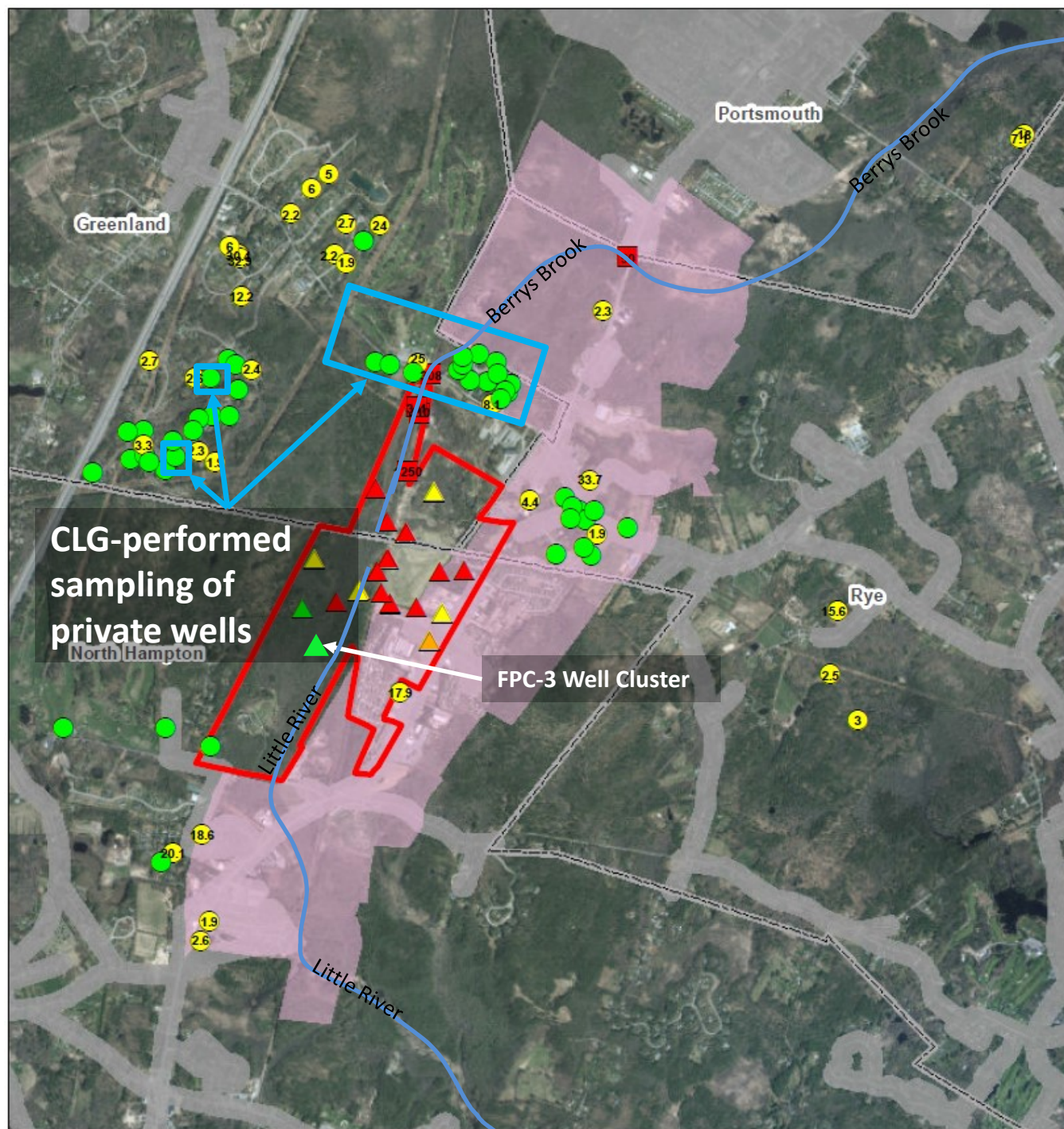
The agencies will review planning documents submitted by the Coakley Landfill Group and provide comments prior to approving work items listed above.

For further information, please contact:

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FIGURE 1
COAKLEY AREA
PFC INVESTIGATION
March 2017



GMZ (Approximate)

PFOA + PFOS (PPT)

Supply Well	Monitoring Well	Surface Water	Other Sample	
				≥70
				40 - <70
				<40
				ND
				Analytical Result Pending

Postcards Mailed

Water Distribution

Political Boundary

1 inch equals 2,600 feet



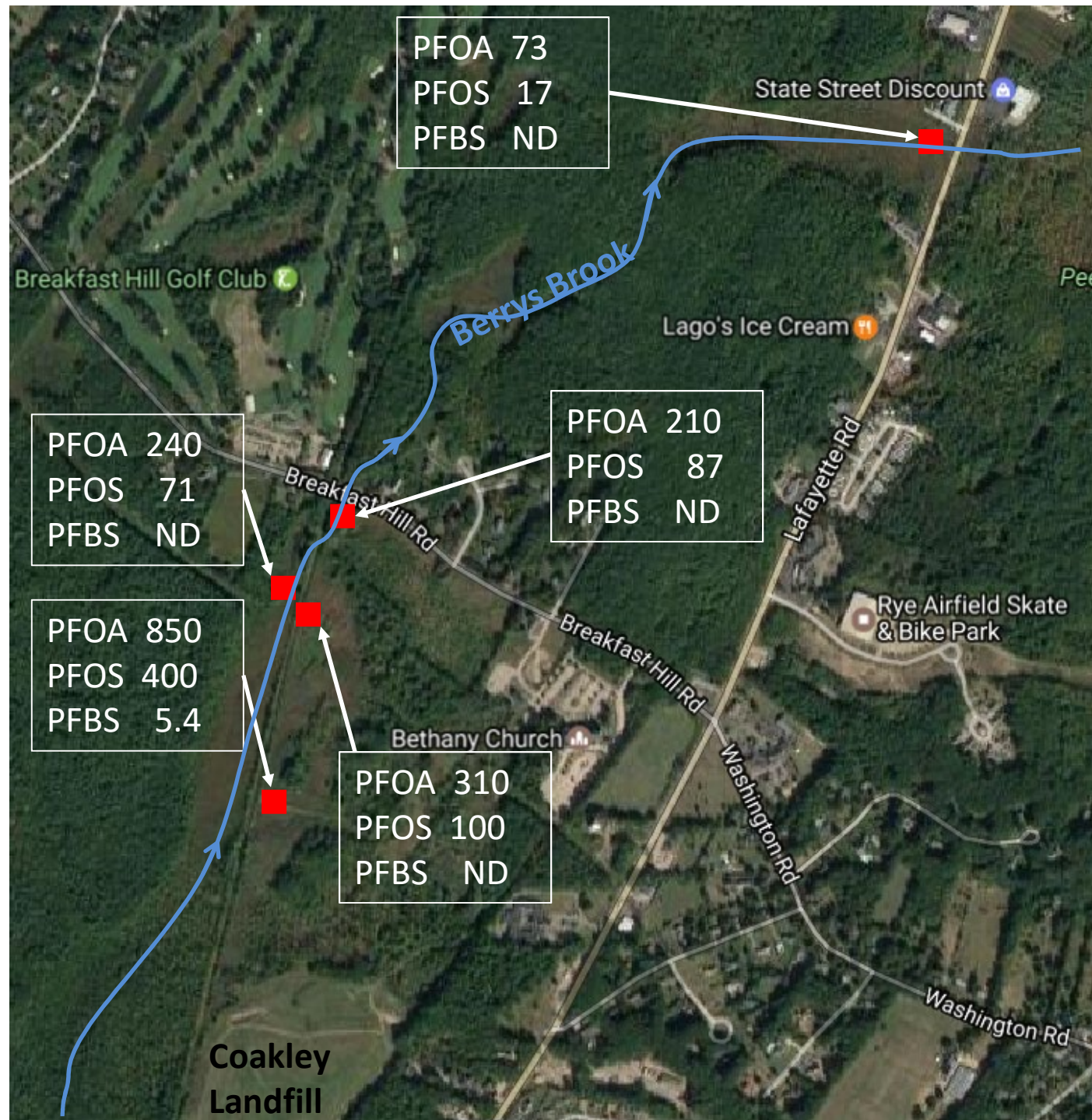


FIGURE 2
SUMMARY OF NHDES
SURFACE WATER
SAMPLE RESULTS

Figure 3

CLG-Performed Private Well Sampling Summary

(PFC units in ppt; 1,4-dioxane units in ppb)

