Coakley Landfill Update
US Environmental Protection Agency (EPA)
NH Department of Environmental Services (NHDES)
July 27, 2017

1. Status of Private Water Supply Sampling

The Coakley Landfill Group (CLG) has been directed to sample nineteen private wells on a biannual basis north and northwest of the Coakley Landfill (site). In a June 29, 2017 letter (enclosed) to the CLG, EPA requested that five additional private drinking water wells be added to the sampling program starting with the sampling event scheduled for September 2017. Following issuance of the June 29th letter, the agencies learned that PFAS were detected above AGQS in a number of monitoring wells within the Rye Landfill GMZ . Consequently, the agencies have since indicated that the CLG would not be responsible for monitoring the two private wells located in Rye downgradient of the Rye Landfill.

2. Status of Spring/Fall Site Monitoring

The CLG conducted the Spring site-wide sampling event in late April. The event included groundwater samples from monitoring wells, leachate seep samples, and co-located sediment/surface water samples. Validated results were submitted to the agencies on June 28th. In summary, groundwater analytical results were consistent with recent past results. The following is a summary of surface water and leachate sampling:

a) Surface water sample results along Berrys Brook are consistent with past results albeit elevated, but closer to the landfill than past PFAS samples. Three locations along the Greenway corridor (L-1, SW-5 & SW-103, see enclosed site plan) between the landfill and Breakfast Hill Road exceed the most conservative site-specific screening levels of 760 ppt for both PFOA & PFOS (assuming a 120 day/year exposure scenario for the incidental ingestion of surface water and/or sediments). None of the sampling results meet the more realistic site-specific screening levels (assuming a 45 day/year exposure scenario) of 2030 ppt for either PFOA or PFOS.

b) The highest concentrations detected for PFOA and PFOS were at SW-5 at 794 ppt and the leachate sample (L-1) at 1,930 ppt, respectively.

c) Surface water sample collected at the crossing of Berrys Brook & Route 1 (sample point furthest downstream of the site) was 82.5 ppt combined PFOA/PFOS, compared to December 2016 sample at same location that was 90 ppt combined PFOA/PFOS.

The next sampling event is scheduled for fall 2017.

3. Signage along Berrys Brook

Due to PFAS concentrations in surface water exceeding the most conservative site-specific screening levels in areas where there is public access and possible contact with surface waters (due to flooding of the Greenway trail), the agencies have requested that the CLG produce, install and maintain signage within the impacted corridor (from the area adjacent to the landfill to Breakfast Hill Road). Four signs will read approximately as follows:

> ***PLEASE TAKE NOTICE***
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> ***Contaminants associated with the Coakley Landfill Superfund Site have been detected in surface waters in this area. Further investigation and evaluation is ongoing. Please avoid contact with the surface water along the trail.***
>
> *For further information please call:*
> *US EPA New England Call Center (888) 372-7341*
> *Peter Britz, City of Portsmouth*
> *(603)610-7215 or email: plbritz@ch.cityofportsmouth.com*

The CLG has agreed to prepare, install and maintain the signs as soon as possible.

4. Fish Consumption Issues

a) Development of site-specific fish consumption screening levels: NHDES has been engaged with EPA since early May on this issue. NH Fish & Game (NHFG) recently responded to a number of relevant questions developed by EPA about the existence of fisheries near the site. NHDES has provided these responses to EPA. Based on this information, EPA is finalizing fish consumption screening levels.

b) Fish tissue sampling: On July 11, 2017, EPA requested that the CLG conduct fish tissue sampling for PFASs within active fishing areas of Berrys Brook downstream of the site; including a base-line fish tissue sample collected directly from the hatchery where the stocked trout are raised. The CLG has requested to review a fish tissue sampling protocol to be provided by EPA prior to committing to perform this task.

5. Status of the Installation of Additional Bedrock Monitoring Wells

The CLG is proceeding with a phased approach for the installation of two new well couplets in the north/northwest GMZ area. Phase I (collecting time-lapsed water level data from six existing monitoring wells in the NW GMZ) and Phase II (a portion of which included collecting borehole geophysical data from a bedrock well located within the 10-lot subdivision east of Berrys Brook near Breakfast Hill Road) were completed in late May and presented in a June 29, 2017 report to the agencies. Agency comments on the report and subsequent completion of Phase II activities (zoned groundwater sampling within the open borehole) are pending. Phase III will involve the installation of the two well couplets (anticipated late fall 2017), with locations and depths refined by the preceding phased work.

6. **Other Site-Related Investigations**

a) Eastern GMZ compliance boundary concerns: Due to a slight discrepancy in groundwater elevations versus established groundwater flow contours east of the landfill (near well FPC-9), the agencies have requested that the CLG conduct a well inventory of historical monitoring and drinking water wells east of Lafayette Road to determine if a sufficient network of wells exist to resolve the hydraulic discrepancy and sample representative intervals for PFAS and site contaminants of concern. The CLG is currently attempting to gain access to certain private properties to determine if wells noted on historic site plans still exist. Concurrent to this effort, the CLG is also researching historic well construction details to assess which wells, if determined to still exist, are suitable for hydraulic and analytical testing.

b) Site-Wide Deep Bedrock Investigation: Previous investigations at the Site have included overburden and shallow bedrock aquifers and focused primarily on volatile organic compounds that biodegrade over time. New contaminants recently identified in Site groundwater (PFAS and 1,4-dioxane) are highly mobile, recalcitrant and have very low cleanup criteria. The NHDES AGQS for PFOA/PFOS is 70 ppt and NHDES anticipates that it will propose rulemaking in the next few months to reduce the 1,4-dioxane AGQS to 320 ppt.

Currently there are limited deep bedrock monitoring wells (defined as greater than 50 ft into competent bedrock) at the Site. There are no site-specific measurements of the fracture network or groundwater quality in deep bedrock. Given the many of homes and businesses in the vicinity of the Site rely on deep bedrock wells for potable water, deep bedrock groundwater is considered a sensitive receptor and bedrock fractures represent a potential contaminant migration pathway.

Because of increased use of the deep bedrock groundwater resource in the area of the Site, the lack of any direct measurements (fracture patterns, groundwater flow conditions, and groundwater quality) from the deep bedrock aquifer at the Site, and the discovery of new contaminants that have fate and transport characteristics that are different from other contaminants; EPA and NHDES have determined that a Remedial Investigation (RI) of the deep bedrock aquifer is needed.

For further information, please contact:

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