



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1 – NEW ENGLAND
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BOSTON, MASSACHUSETTS 02109-3912

Via Electronic Mail

December 15, 2020

Mr. Peter Britz, Environmental Planner
City of Portsmouth Planning Department
1 Junkins Avenue
Portsmouth, NH 03801

RE: Coakley Landfill Superfund Site
November 20, 2020, *Response to Comments - Draft Deep Bedrock Investigation Pumping Test Work Plan* and *Revised Deep Bedrock Investigation Pumping Test Work Plan*

Dear Mr. Britz:

The United States Environmental Protection Agency (EPA) is in receipt of the November 20, 2020, *Revised Deep Bedrock Investigation Pumping Test Work Plan* (the "Revised Work Plan") submitted along with the *Response to Comments - Draft Deep Bedrock Investigation Pumping Test Work Plan* (Response to Comments), by CES, Inc. on behalf of the Coakley Landfill Group (CLG). Both were submitted in response to EPA's November 6, 2020, comments on the October 21, 2020, *Draft Deep Bedrock Investigation Pumping Test Work Plan*.

The Revised Work Plan and Response to Comments are subject to the terms and conditions specified in the Consent Decree that was lodged in District Court on January 14, 1999 (the "Consent Decree"). Pursuant to paragraph 37(b) of the Consent Decree, EPA, after consultation with the New Hampshire Department of Environmental Services (NHDES), approves the Revised Work Plan subject to the following conditions:

1. It is EPA's understanding and condition that the background groundwater level monitoring will be conducted prior to the start of the variable rate and constant rate pumping tests. This is based on the schedule for measuring background groundwater levels as specified in Section 2.1, which states that "for a minimum of two weeks prior to commencing the pumping tests, background groundwater levels will be monitored to assess ambient groundwater levels that may affect the interpretation of data prior to and following the variable rate and constant rate pumping tests," and on discussions between EPA, NHDES and CLG relating to the *Deep Bedrock Investigation – Estimated Completion Schedule* submitted by CLG on November 6, 2020.

2. Regarding the installation of the Jaswell-type seal in MW-6, Section 2.2 specifies that following seal installation, water levels will be monitored above and below the seal for stabilization prior to initiating the variable rate test, and that this will be completed prior to the background water level monitoring described in Section 2.1. Although not explicitly specified in Section 2.2, EPA understands and conditions this to mean that the seal would need to be installed at least two weeks prior to the variable rate test to allow for stabilization and for background water level monitoring as described in Section 2.1.
3. EPA repeats its concern that the installation of a temporary Jaswell-type seal may not create a complete seal to a rough borehole wall and may allow leakage between the upper and lower zones. Although CLG identifies the borehole wall in MW-6 as being rough, and that being the reason for using a Jaswell seal rather than a pneumatic packer, EPA notes that a pneumatic packer was previously used in MW-6 for packer-interval sampling. It is EPA's understanding that Jaswell seals are not intended to be water-tight and are normally used in conjunction with grouting to create an adequate seal.
4. Although not specified in the Revised Work Plan, based on discussions between EPA, NHDES and CLG relating to the November 6, 2020, *Deep Bedrock Investigation – Estimated Completion Schedule*, and on the Response to Comments, EPA understands and conditions that CLG will provide the results of the variable rate test along with a recommended pumping rate for the constant rate test, immediately following the completion of the variable rate test and compilation of the data. Upon submission, EPA and NHDES will review the data and recommended pumping rate and will provide any comments and concurrence in a time frame that will allow for the commencement of the constant rate test as soon as concurrence is received and groundwater levels in MW-6 and surrounding wells have stabilized.
5. Given that both the variable rate and constant rate tests are scheduled to be performed during winter weather conditions which may impact the handling of investigation derived waste, including the storage, treatment and discharge of treated effluent to the landfill via spray irrigation, contingencies for the long-term storage of the water extracted during the pumping tests should be developed.
6. The new text added to Section 2.2 in response to EPA's comment on the depth placement of the packer/Jaswell seal states that the rubber Jaswell seal to be employed is 12 inches in height, and that the depth interval for the seal is listed as 56-60 feet below ground surface (bgs), appearing to require a 48-inch seal. CLG shall clarify the size and placement of the temporary seal prior to the start of the pumping test. Also, the third paragraph in section 2.2 still contains reference to setting the "packer near 35 feet below grade" rather than the recommended depth of 56-60 bgs.
7. EPA's Comment #7 suggested that transducers be deployed in a number of monitoring wells (GZ- 105, FPC-8B, FPC-3B, FPC-2B, MW-2, MW-5S, MW-5D and MW-11) during the drilling and development of MW-25 to record any influence from the drilling and development activities. EPA understands from CLG's response that the size (1-inch diameter) of monitoring well MW-2 will not allow for the deployment of a transducer. No rationale is provided, however, for not deploying a transducer in well FPC-2B. EPA also

understands that there are wells in the vicinity of MW-11 that will be monitored but does not agree with monitoring FPC-4B as an alternative given its remote location relative to MW-25 and MW-6. EPA still recommends and conditions deploying a transducer in MW-11, or even MW-6, instead of FPC-4B to measure groundwater flow and the potential for contaminant transfer that may occur during the pumping test. Finally, EPA suggested monitoring FPC-8B, a bedrock well, versus the overburden couplet FPC-8A that is suggested in CLG's response.

8. Comment #8: EPA does not concur with CLG's assertion that the values for well yield calculated from individual well data would not be representative of well yields for the aquifer at each individual well location, and that therefore, the individual yields for each well were not included on Table 1. EPA understands that well yields estimated from the pumping rates and observed drawdown are not absolute, but review of that data can be used to develop an understanding of the relative transmissivity of the formation at each location.
9. Comment #16: EPA notes that Section 2.3 specifies that the conclusion of the constant rate pumping test will be "determined through concurrence with the USEPA and NHDES." However, CLG did not modify Section 2.3 to specify the procedures that will be used for collecting the water level data to establish that steady state conditions have been reached and to determine the conclusion of the constant-rate pumping test.

If you have any questions regarding this letter, you can contact me at (617) 918-1882 or Hull.Richard@epa.gov.

Sincerely,

**RICHARD
HULL**

Digitally signed by
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Richard W. Hull, Remedial Project Manager
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