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Memorandum

Date: 9-22-17
To: Angus Jennings, Town of Hampden
From: Matt Reynolds
Subject: E-mail of 9-11-17 Regarding Questions from Bill Lippincott

On September 11 you forwarded several questions that Bill Lippincott had asked regarding data from the Pine Tree Landfill site. Responses to these questions are provided below in italic print.

A. In response to my email of 8/14/17, Matt notes that arsenic concentrations in monitoring wells MW-916 [MW-196 in his email; I think he is referring to MW-916] and MW-917 have generally decreased in comparison to concentrations measured in 2014 and 2015. That's good.

Even so, in his latest report, p. 5 "off-site monitoring well MW-917 groundwater exceeded the arsenic MCL/MEG during the 2016 and April 2017 sampling events" and "off-site monitoring well MW- 916 the MCL and MEG for arsenic was equaled in April 2017."

As residential wells DW103 and DW04-109 are in the proximity of these two monitoring wells in this sector affected by the landfill's impact, (see map) and also on p. 5 "off-site residential well DW-103, groundwater equals the MCL and/or MEG for arsenic and exceeds these criteria for sodium"

1. Does groundwater contamination in this area of the landfill threaten water quality in residential wells in the same area?

The area to the east of the landfill monitored by monitoring wells 916 and 917 has historically been impacted by the landfill. Residential well DW-103 and surrogate well DW-04-109 further to the east have also shown historical evidence of impact from the landfill, particularly from methane.

Recent data from the monitoring wells 916 and 917, and from DW-103 and DW04-109, generally show improvement. However, only DW04-109 currently meets the corrective action criteria.

2. Are the steps that Casella is currently taking sufficient to prevent further arsenic contamination, and other contamination from the landfill of these residential wells?

The corrective actions that are currently being conducted by Casella have resulted in significant reduction of methane in all wells to the east of the landfill. There has also been a general trend of decreasing arsenic concentrations, however arsenic remains at or above the drinking water standard in wells 916, 917 and DW-103. Additional time is required to assess the adequacy of corrective actions to reduce arsenic concentrations below the drinking water standards, but the recent trend is positive.

B. Matt wrote that he and Steve plan to contact Casella to review incidents of liner failures identified in 2016 and assess their response.

3. What has been Casella's response and what actions are they planning on taking to address the liner failures?

After identifying leachate seeps in several areas of the landfill in 2016, Casella investigated the source and concluded that it was a result of leachate addition to 2 of the recirculation trenches (LRT-1 and LRT-4.) Rather than investigate the specific conditions in these trenches that lead to the seepage, which would have required breaching the cover system, excavating the trenches, then repairing the cover system, Casella has stopped using these trenches for leachate circulation and has repaired the cover in the 3 seep locations. This response is adequate to prevent future impact from these trenches. However, there is a potential for similar conditions to occur in the two remaining trenches (LRT-2 and LRT-3), which are being used for leachate recirculation.

According to the findings of Casella and the Maine DEP, the 2016 seepage events occurred within the cover system drainage layer and there was no evidence that leachate had been released to the environment except in the three relatively small seep areas. Impacted soil from in these areas was collected for disposal and is likely to have had a minimal impact on water quality.