

M E M O

Date: March 16, 2004
To: Nancy Peters, Hopkinton Board of Health
From: Jesse Schwalbaum, Earth Tech
CC: Dick Jubinville, Earth Tech

Subject: Harvey Landfill Analytical Results from January Sampling

As you requested, I have reviewed the results of the most recent round of water quality sampling and analyses conducted on the monitoring wells in the vicinity of the former Harvey Landfill in Hopkinton. The water samples were obtained on January 22, 2004 by staff from Brown & Caldwell.

In general, the water quality results are similar to the results of previous sampling rounds. There were, however, some differences, most notable, the presence of cadmium at well MW-4B at a level that exceeds the Massachusetts Maximum Contaminant Level (MMCL). The MMCL for cadmium is 0.005 mg/l and the level at well MW-4B was 0.084, more than 15 times the MMCL. Cadmium was not detected previously at this well and is not found at anywhere near this level in any other well. The presence of cadmium at this location is of some concern due to the presence of private bedrock wells on the other side of the Massachusetts Turnpike. Cadmium was not one of the parameters tested for during the December 2003 sampling of private wells in the area.

The source of the cadmium is not immediately clear. Cadmium has not previously been identified as a contaminant of concern at the site. Even though well MW-4B is not directly downgradient of the landfill, there has reportedly been some refuse disposed in this area in the past. The source of cadmium may be associated with the Massachusetts Turnpike. Cadmium has been identified as a potential contaminant in road salt and road runoff. In either case, it is unclear why cadmium levels would be so high in this round and undetectable previously.

Nitrate levels continue to be quite high at well GW-3. The MMCL for nitrate is 10 mg/l. In October of last year nitrate levels at this well were at 10 mg/l, this time the concentration of nitrate was almost 9 mg/l. It should also be noted that ammonia levels at wells MW-7B and MW-7S are well above 10 mg/l. Although there is no MMCL for this parameter, the ammonia will almost certainly convert to nitrate downgradient of the well.

As noted by Brown & Caldwell, benzene and 1,4-dichlorobenzene were detected at levels that exceed one half of the MMCLs.

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