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MEMORANDUM

To:

Southborough Board of Selectmen

Southborough Board of Health

Southborough Conservation Commission

Ce:

Dr. Denis D'Amore

From:

Susan J. Crane

Date:

February 21, 2006

Re:

Breakneck Hill, Southborough, Farm Dump

As reported by Dr. Denis D'Amore to the Conservation Commission by letter of February 2, 2006, a leachate sample was collected from the toe of the farm dump on January 5, 2006, immediately next to an overturned vehicle. The following summary was prepared by Dr. D'Amore for inclusion in this memorandum:

The procedure for collecting the sample was to excavate a shallow depression approximately eight inches deep within which the leachate accumulated. As the depression filled with leachate, the liquid was immediately transferred to sampling containers. The sample was analyzed for Priority Pollutant 13 metals, iron, pesticides. volatile organic compounds, PCBs, base/neutral and acid extractable compounds, polyaromatic hydrocarbons, halogenated volatile organic compounds, EPH/VPH compounds, and 2.3.7.8-TCDD (indicators for dioxins and furons). Phoenix

Environmental Laboratory of Manchester, Connecticut analyzed the sample.

With the exception of four metals, no other compound or suite of chemicals was detected in the sample. The four metals and their respective concentrations that were present include; iron (14.3 mg/l), lead (0.007 mg/l), nickel (0.005 mg/l) and zine (0.073 mg/l). These are metals commonly associated with automobiles and other fabricated metal parts. None of the detected levels exceed, or even approach, the GW-1 standard in DEP's implementing hazardous waste site cleanup regulations, known as the Massachusetts Contingency Plan or MCP. The GW-1 standard is the most stringent and applies to drinking water. The detected contaminant levels also satisfy the less stringent GW-3 standard, which applies to surface water.

The sampling results recently taken are fairly consistent with those obtained in 1992, and contaminants are all at very low or trace levels. Considering the apparent age of the dump, if there were any significant releases, they would have likely occurred so many years ago that they would likely be long gone by now (with the possible exception of heavy oils and grease, which are more persistent in soil). Given the tight budget that farmers tend to operate under, the potential for them to have recovered any useable liquids prior to discarding a piece of equipment is high.

All of that being said, the data is inconclusive unless a Phase II Comprehensive Site Assessment (CSA) is performed. The fact that there are heavy metals in the leachate, even though below DEP's reportable concentrations, indicates that releases, to whatever extent, have occurred. The question is whether existing conditions are such that levels of contaminants in soil, sediment or groundwater would require response actions under chapter 21E and the MCP in order to eliminate a risk of harm to the environment or to human health, safety or welfare. The data collected to date suggests that this is not the case.

A full Phase II CSA could conceivably cost on the order of \$40,000, and it is uncertain as to whether a reportable release warranting any response actions would be found at the site.

Dr. D'Amore states in his February 2nd letter report, "Based upon these [recent test] results, it appears that aside from aesthetic and public safety concerns, the dump site poses no threat to the environment." In Dr. D'Amore's opinion, for purposes of both chapter 21E and general tort standards of care, it could reasonably be concluded that the Town has sufficiently assessed the site for hazardous waste and nothing further needs to be done in that regard, with the exception of testing the water in one nearby private drinking water well. He and I discussed two potential options: Option 1, to continue 21E site assessment activities to assess the site more comprehensively; and Option 2, to proceed directly to landfill closure without additional

sampling. Under either scenario, we are recommending that the immediately cross-gradient private well owned by the Carrolls at 48 Breakneck Hill Road be sampled and analyzed.

Option #1:

As I have previously advised you, the statute of limitations to pursue the Davis estate under chapter 21E as a former site owner/operator and one who caused a release of oil and/or hazardous materials will run on the anniversary date of his death this coming July. If it is important to the Town to do everything possible to ascertain whether there has been an MCP reportable release so that, if a cleanup is determined to be necessary, a cost recovery action could be filed against the Davis estate, then Dr. D'Amore and I would recommend that Phase II assessment actions be commenced promptly.

If Phase II activities were to reveal reportable concentrations of contaminants, additional site assessment activities would likely become necessary until the full nature and extent, both vertically and horizontally, of the contamination were identified. Then, depending upon the conclusions of a risk assessment, response actions, most likely in the form of remediation, would have to be initiated until the MCP hazardous waste site closure standard of "no significant risk" of harm to human health, safety, welfare and the environment were met at the site.

According to Dr. D'Amore, if hazardous waste were indeed found at the site and a cleanup were to commence, it is likely that the DEP's Bureau of Waste Site Cleanup would assume jurisdiction of the cleanup and attendant landfill closure and that neither DEP's solid waste group nor the Southborough Board of Health would be directly involved.

If, on the other hand, a comprehensive site assessment determined that there were no reportable releases of contaminants at the site, landfill closure would still be required, as described under Option #2.

Option #2:

As described above, it can be argued that the site has sufficiently been assessed for hazardous waste. Even if the site does not present any hazardous waste issues, it nevertheless presents public safety concerns, as indicated in Dr. D'Amore's February 2nd letter report. From a legal standpoint, the abandoned landfill was never permitted as a solid waste disposal facility and was never properly closed under the direction of either the Southborough Board of Health or DEP. According to inquiries made by Dr. D'Amore without identifying the location of the site, DEP generally defers the management for such dump sites to the local Board of Health. From a

¹ Of course, an intermediate option is also possible; i.e., undertake some additional limited site assessment activities, such as sampling the soil under the car in the wetland at the bottom of the landfill toe and ascertaining the degree of contamination in the soil or sediment.

regulatory point of view, additional research would need to be conducted to ascertain how the dump site can be closed.

Dr. D'Amore explained the following:

Because the recent testing indicates that unacceptable levels of contaminated leachate from the landfill are unlikely, it now appears to be possible that the landfill could be closed by capping it, while leaving most or all of the debris in place. There are soil brokers who are looking for locations to bring clean fill generated from nearby construction sites. Oftentimes because of liability issues, the owner of the soil requires that the soil be brought to a managed site (i.e., landfill or other designated fill area). Depending upon the volume of soil required to cap the dump site and the ease of obtaining the necessary permits from state (if they are required) and local authorities, the farm dump could be capped with this material, all of which would be chemically characterized before it would be accepted by the Town. Depending upon how much site preparation work would be required by the soil broker (i.e., slope stabilization along the toe, removal of some of the debris, etc.), the Town could receive a "tipping fee" for the soil.

Two points should be noted with respect to potential claims against the Davis estate:

First, the Town does not have any cause of action to assert a claim against the Davis estate for the costs of closing the landfill. This is in contrast with the Town's potential chapter 21E claim, which provides for strict liability against former site owners and operators whose properties were contaminated with hazardous material during that owner's/operator's tenure at the site.

Second, as described above by Dr. D'Amore, it is unlikely further hazardous waste assessment actions would be necessary in the course of the landfill closure. In the event, however, that unforeseen conditions turn up and warrant further testing for contaminants, and if oil or hazardous materials were found in excess of DEP's reportable concentrations, unless the one-year statute of limitations had not already run against the Davis estate by that point, a claim against the estate for cleanup costs would, in all likelihood, be time-barred.

Private wells:

Dr. D'Amore and I have been informed by the Board of Health that there are four private drinking water supply wells in the vicinity of the landfill: three fairly new deep bedrock wells on the west side of Breakneck Hill Road; and the Carroll well, an older but also a deep bedrock well, located on the east side of Breakneck Hill Road and in close proximately to the landfill. According to Dr. D'Amore, the three wells across the street are likely to be sufficiently cross-gradient from the landfill to have a very low probability of impact from groundwater flowing from the landfill property.

In contrast, the Carroll well is also cross-gradient but much closer to the landfill. Because of its proximity to the dump site, Dr. D'Amore recommends that the well be sampled for Priority Pollutant 13 metals, iron, pesticides, volatile organic compounds, PCBs, EPH/VPH compounds. The cost to collect, analyze the sample and prepare a brief letter report is \$1,500.

Dr. D'Amore and I would be happy to respond to any questions you might have in evaluating how the Town would like to proceed.