



Our Mission: To facilitate the cleanup of Bay Harbor without creating additional contamination sites in Northern Michigan!

Contamination At Bay Harbor - A Brief History

Cement Kiln Dust (CKD) when mixed with water becomes leachate, a toxic bleach-like soup. It burns skin, kills fish (and all else in its path), and releases large amounts of heavy metals such as mercury, arsenic and lead. A DEQ study in 2004 showed that even in a diluted 10% concentration of leachate, fathead minnow mortality was 100%.

The Penn Dixie cement plant closed down in 1980, leaving behind huge piles of CKD along the shore of Lake Michigan. The DNR ordered that those piles be isolated or removed prior to new development of the property. This would have been relatively easy and inexpensive then, but it wasn't done.

Instead the CKD was bulldozed into quarries and spread on the ground to make way for development of the multimillion dollar Bay Harbor Resort and golf course. In 1994, under the Engler administration, the DNR and Bay Harbor developers (CMS, David Johnson, and Boyne USA), entered into a covenant not to sue should problems from the buried CKD develop.

Problems did arise. As ground and surface water flowed through the newly exposed CKD, it formed a gelatinous red-black toxic ooze that flowed into Little Traverse Bay. The Northwest Michigan Health Department was forced to close several miles of beach at East Park and Bay Harbor in 2004. In 2005, the Environmental Protection Agency (EPA) ordered CMS (the developer in charge of the cleanup) to "isolate, contain or remove" the CKD to prevent further contamination of the Bay. Again that order was ignored in favor of a "less expensive" alternative - allow the groundwater to become contaminated, then transport it for disposal in an injection well in Alba, the highest point in Northern Michigan and headwaters to six great river watersheds.

No to the Alba Injection Well

1. Approximately 2.5 million cubic yards of CKD were buried under Bay Harbor. According to Dr. Timm, retired chemist from DOW Chemical, it could take up to 15,000 years for all the mercury to leach out of the CKD. CMS claims it is impractical and too expensive to remove or contain the CKD. Instead they are building an elaborate array of trenches and pipes to collect the ground and surface water after it flows through the CKD and becomes contaminated. Already, clogging problems have occurred.

**Does CMS really plan to collect and dispose of hazardous leachate for an eternity?*

**Have they calculated the cost of collecting and transporting leachate to off-site disposal for thousands of years?*

**The golf course was built over the top of massive amounts of CKD. Watering the golf course (millions of gallons in a season) just adds to the leachate problem. Wouldn't it be more ethical and more cost effective in the long run to dig up the golf course and encase or entomb the CKD - as opposed to collecting and transporting the leachate for disposal for all eternity?*

2. Known carcinogenic chemicals such as benzene, toluene, xylene, and ethyl benzene have been found in leachate at Bay Harbor. These chemicals are commonly found in petroleum products, not CKD.

**Is it possible other materials/chemicals were buried in the quarry pits along with the CKD?*

**Total organic compounds have been found but not differentiated. Could PCB's and PBB's be among them? Do we want to risk contaminating other watersheds with these chemicals? Why hasn't proper testing been done?*

3. The proposed Alba injection well lies within the groundwater aquifer/headwaters of the Jordan, Manistee, Thunder Bay, Boyne, AuSable, and Elk Rivers, and Lake Charlevoix. These watersheds comprise most of Northern Michigan.

**Injection wells have failed in the past. Should our rivers and underground aquifers become poisoned, the technology to fix the problem does not exist.*

**According to the DEQ's own data, the current leachate collection efficiency rate at seep 2 (there are 4 identified seeps), is only 3 - 6%. If all the leachate currently entering Little Traverse Bay, from just this one seep, were collected and transported to an injection well for disposal, it would require 250-500 truck loads PER DAY! Is it worth putting our most beautiful rivers at risk when this "solution" does not even begin to solve the leachate problem at Bay Harbor?*

4. Approximately 135,000 gallons of leachate would be transported to Alba daily for at least 10 years. According to Dr. Chris Grobbel's environmental assessment study, the proposed leachate truck route from Bay Harbor to Alba would cross over 20 coldwater and designated trout streams and tributaries and pass over 9 miles of sensitive wetlands.

**At the current proposed rate of 15-20 truck loads of toxic leachate per day, what are the chances of an accident or spill?*

**Who will pay for the maintenance and increased wear and tear on county roads due to the increased use?*

5. According to geologist Dr. McClurg, the rock layers in Michigan are bowl shaped, like stacked cereal bowls. The Dundee layer, into which CMS wants to inject toxic leachate, while over 2,000 feet deep in Alba, is actually the surface rock layer in parts of Emmet County. CMS is proposing to pump at high pressure, a million gallons of leachate a week for at least 10 years - the life of the permit - into the Dundee layer.

**What is to stop the leachate from expanding horizontally and eventually making its way back into Lake Michigan?*

**A continental rift (fault line) runs through this area. In Ohio, deep injection wells caused a series of small earthquakes which fractured the rock containment layers, allowing the injected toxins to escape. Do we want to accept that risk here?*

6. The DEQ estimated that approximately 1 million gallons of ground and surface water run through the CKD and into Lake Michigan every day. This water should be replenishing the Lake. Instead, it is absorbing toxic CKD, and needs to be collected and transported out of the Little Traverse Bay watershed for disposal.

**Why is the off-site disposal of millions of gallons of contaminated ground and surface water not considered a major water diversion and a violation of the Great Lakes Water Compact?*

7. Fix the problem at the source! Dig up the CKD at the golf course and entomb it in material used to line hazardous waste landfills. This would protect not only Little Traverse Bay, but eliminate possible contamination of other watersheds.

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