



# Vapor Intrusion Investigation Planned Near Former Plants

**MLC Moraine Facilities (formerly Delphi Harrison, GM  
Engine and Assembly Plants)**

Moraine, Ohio

September 2010

## **You are invited**

EPA will be a guest of the City of Moraine which is holding a public informational meeting about the vapor intrusion investigation on Thursday, Sept. 30, 6 p.m. to 7:30 p.m., City Council Chambers 4200 Dryden Rd. Moraine, Ohio 45439.

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Information Respository is located  
At: Montgomery County Library,  
Main Branch, 215 E. Third St.  
Dayton, Ohio (937) 227-9500

Region 5 toll-free: 800-621-8431,  
9:30 a.m. – 5:30 p.m., weekdays

Region 5 Address:

EPA Region 5  
77 W. Jackson Blvd.  
Chicago, IL 60604

Motors Liquidation Co. under the supervision of U.S. Environmental Protection Agency Region 5 is making plans to conduct a vapor intrusion investigation in residential areas southwest and east of the former General Motors manufacturing complex. EPA wants Motors Liquidation Co. (MLC) to do the sampling this fall and next spring. The sampling will be very unobtrusive and will consist of small holes dug near streets.

“Vapor intrusion” is the name given to an environmental problem involving a class of petroleum-based chemicals called volatile organic compounds or VOCs. When VOCs are spilled on the ground, they can soak into underground water supplies and then release hazardous vapors. These gases can then rise through the soil to the surface or seep through basement cracks and contaminate indoor air during the vapor intrusion process.

VOCs released at the former GM plants have been carried along by underground water 2,000 feet southwest of the facilities toward the Great Miami River. While the plants released several different VOCs, the two of most concern are called TCE (trichloroethylene) and PCE (tetrachloroethylene).

## **No current health threat**

Currently, no evidence exists that vapor intrusion is actually occurring around the MLC facilities. The company and EPA want to collect soil gas samples to get some actual field data. For a soil gas sample, small holes are sunk into the ground and the soil is analyzed to see if gas is trapped between dirt particles. In a 2008 study, computer modeling concluded vapor intrusion does not pose a health risk to nearby residents even though underground water supplies in and around the plant sites are contaminated with VOCs. Underground water is called “ground water” in environmental terms. Since the 2008 health risk study, EPA scientists are considering new guidance that recommends actual sampling data be collected instead of relying strictly on computer modeling.

Under the authority of the federal Resource Conservation and Recovery Act (RCRA), EPA reviews environmental work plans and work process for cleanup activities proposed at the Moraine site. The Agency will ask MLC to take soil gas samples this fall under low-water conditions and again next spring when the water table is high. Regardless of the outcome of these soil gas samplings, MLC will conduct sub-slab and indoor air testing in the southwest neighborhoods at some point in the future to make sure vapor intrusion is not occurring. Testing in the homes could start next spring.

## **Sampling procedure**

In the neighborhoods southwest of the plant sites, MLC proposes to install eight sampling points in the right-of-way between the streets and sidewalk and one other collection point near the Moraine City Building at the southeast corner of Main Street and Dryden Road.

In the neighborhood east of the site, the potential for vapor intrusion is much lower because the ground water closer to the surface in that area meets drinking water standards. On MLC property three sampling points will be installed. All the sampling points will be installed as permanent monitor locations. Each small shaft will be completed near the surface with a sub-grade vault and flush-mounted lid with a concrete pad to discourage tampering. Ground water samples will also be collected in the same boring when the soil-gas point is installed. Experts will use these samples to evaluate the potential for the ground water to serve as a source for VOCs in soil gas.

Officials already know VOC concentrations in ground water flowing southwest of the site do not meet drinking water standards. Because of that pollution, if the soil gas samples should indicate an immediate health threat MLC will speed up the timetable for asking homeowners for permission to take sub-slab and indoor air samples. MLC will pay for all sampling.

## **Site background**

The MLC site covers 465 acres along Dryden, Stroop and Springboro roads in Moraine and includes former manufacturing sites for Delphi Harrison Thermal Systems, the GM Truck Group Assembly Plant and the GM Powertrain Group Engine Plant. Frigidaire, a GM division, also produced appliances on the site from the late 1920s until 1979. Delphi ceased operations in 2003, and GM stopped all manufacturing in late 2008. Many of the buildings have been torn down, but the giant 4 ½ million-square-foot assembly plant remains. In 2001 the DMAX Engine Plant was built at 3100 Dryden Road on the northwest corner of the complex.

MLC was formed out of the 2009 GM bankruptcy and took over most of GM's nonproductive assets. MLC was given a budget to clean up the automaker's former properties and then sell or dispose of the land for redevelopment or reuse.

EPA and state partner Ohio EPA have been involved with the site since the environmental regulators issued the first of many legal orders in 1991.

## **Pollution situation**

Experts believe many of the VOCs polluting the ground water flowing southwest from the site originated from the former Oil House area. The Oil House area included an underground tank farm and several aboveground tanks and containers holding hazardous waste. All of the buildings and tanks in this area have been removed or demolished.

Ongoing interim cleanup measures at the site are aimed at controlling and containing the ground water contamination. Soil contamination on most of the site remains within health standards for an industrial property and much of the site is covered with concrete slabs and asphalt.

But the underground water supplies are another matter. VOCs in ground water on and off the site exceed drinking water standards called maximum contaminant levels or MCLs. The ground water flows in two "aquifers," an upper one and a lower one. An aquifer is a layer of permeable rock or sand containing enough water to supply wells and springs.

There are two former municipal well fields (North and South Dryden) within a half-mile south of the site that draw water from the lower aquifer. These well fields were shut down in 1988 when pollution appeared to be moving toward them. Within the well fields, GM and now MLC has an arrangement with Montgomery County for using county well DN-13 to pump out contaminated ground water from the lower aquifer as part of the ongoing interim cleanup measures.

## **Future steps**

The vapor intrusion investigation remains just one part of possible future cleanup actions on and around the MLC site. GM installed several ground water capture and treatment technologies over the years. However, the upper and lower aquifers remain contaminated with excessive levels of VOCs.

EPA could require current owner MLC to meet drinking water standards in the aquifers, which would mean expanded, long-term cleanup systems.

MLC will propose a comprehensive cleanup plan for the Moraine facilities that will be reviewed by EPA experts. The public will then get a chance to review and comment on the proposed plan before it becomes final.