



COMMODORE SEMICONDUCTOR SUPERFUND SITE

Lower Providence Township, Pennsylvania
August 2003 Update on Cleanup Progress



U.S. Environmental Protection Agency (EPA) Region III

Improvements Help Clean Up Groundwater Faster

The U.S. Environmental Protection Agency (EPA) has reviewed an enhanced cleanup plan that will speed up the time it takes to cleanup groundwater contamination at the Commodore Semiconductor Superfund Site in Lower Providence Township. The groundwater at the Site is contaminated with volatile organic compounds (VOCs) and is currently being cleaned up using a groundwater recovery and treatment system. The system works by pumping contaminated water out of the ground and cleaning it to standards set by the EPA.

In addition to the current groundwater treatment system, the enhanced cleanup will address low levels of VOCs confirmed to exist in the shallow soil and bedrock near and underneath the former manufacturing building. This is important because the VOCs in the soil and bedrock are seeping into the groundwater. By cleaning up those VOCs now, it will speed up the entire groundwater cleanup process. The low levels of VOCs will be treated in the ground using technologies called soil vapor extraction and chemical oxidation.

VOCs were used by Commodore in the manufacturing of computer chips. Examples of the VOCs found at the Site include trichloroethene (TCE) and tetrachloroethene (PCE).

How Does the Enhanced Cleanup Work?

Soil Vapor Extraction: Since VOCs are compounds that evaporate easily, the enhanced cleanup technology will work by evaporating the VOCs and then pulling the vapors through an underground piping system. The vapors will be treated using activated carbon, which will remove the contaminants before being released into the air.

Chemical Oxidation: Chemical oxidation is a process whereby one chemical is inserted into the soil to break down and destroy another chemical. In this case, permanganate was selected as the chemical to insert into the soil to get rid of the TCE. Three zones have been identified to benefit from this treatment:

1. The shallow soil near and beneath the

- building
2. The shallow and intermediate bedrock aquifers
 3. The deep bedrock aquifer

Who is Responsible for the Cleanup?

Rockwell Automation is the responsible party and has a legal obligation to conduct the cleanup at the Site. In August 2000, they completed constructing the current groundwater recovery and treatment system that EPA required under the Record of Decision.

Starting in 2001, Rockwell Automation did some additional studies on their own to find out if there were other technologies that could benefit the cleanup of the VOCs. The results of the study showed that several technologies, along with the current groundwater extraction system, would reduce the amount of VOCs faster. Rockwell Automation presented their findings in *The Enhanced Treatment Technologies Screening Evaluation Report* in August 2002. EPA, along with the Pennsylvania Department of Environmental Protection (PADEP), reviewed the report and agreed that enhanced treatments would benefit the cleanup. Rockwell Automation has decided to enhance the groundwater cleanup based on the results of their studies. This work is being conducted voluntarily since it is not required by the Record of Decision.

Next Steps

Rockwell Automation has already completed the work necessary to convert the soil vapor extraction test system to a full-scale system. This past spring, they installed three soil vapor extraction wells that will target the contaminated soil and bedrock under the former manufacturing building.

The full-scale system will use eight extraction wells and the existing French drain system to remove the vapors from the soil and bedrock. The vapor extraction system is designed to operate for about two years. PADEP has reviewed and approved the vapor extraction system's emissions controls and Rockwell Automation plans to start using the system in September 2003.

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The actual field work of injecting the permanganate into the shallow soil interval will take approximately 12 days and will be completed in September. Details of this work are

explained in the *Shallow Soil Work Plan, Revision 1*, August 2003. EPA will monitor the progress of the system to make sure that the treatment is cleaning the soil and groundwater.

Site Background

From 1970 to 1992 Commodore Business Machines operated a computer chip manufacturing facility at the Site, located at 950 Rittenhouse Road, Norristown, PA. Waste solvents were stored in an underground concrete storage tank on-site until 1975, when it was taken out of service. An unlined steel tank was installed next to the concrete one in 1975. Subsequent inspections by the Pennsylvania Department of Environmental Resources (PADEP's predecessor) showed that both tanks had leaked. The Site was listed on the National Priorities List (NPL) on October 4, 1989.

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Copies of the *Enhanced Treatment Report* and the *Shallow Soil Workplan*, as well as other Site-related documents, can be reviewed at the information repository:

Lower Providence Community Library
50 Parklane Drive
Eagleview, PA 19403
(610) 666-6640

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