

Redfield Site

Groundwater Treatment and Containment System

September 2003

Brown Group Retail, Inc., the current owner of the former Redfield plant and building, evaluated several technologies to contain and treat solvents in the groundwater under the Redfield site. After careful analysis, Brown Retail installed a groundwater containment and treatment system to prevent solvents in the groundwater located under the site from moving off-site. The system began operating in March 2000 and has treated approximately 15.5 million gallons of groundwater through the beginning of September 2003.

In general, the system works by stopping groundwater containing solvents at the site fence line, and removing and treating the water. Eight groundwater-pumping wells initially were installed about 30 feet from the fence line along the north and east boundaries of the site. These wells capture contaminated water before it flows off-site, pumps it to the surface, cleans it and returns it to the ground. The system also captures and cleans groundwater a short distance beyond the fence line. The remaining portion of the existing plume is being diluted and flushed by clean water reinjected by this system and by clean water from around the plume.

Each pumping well is connected to a main pipe that flows into a treatment facility that removes the solvents from the water. The treatment facility is approximately the same size as a storage shed. The treated, clean water is then returned to the ground through injection wells and to surface water through an existing drainage ditch to Goldsmith Gulch, south of the Redfield property. Brown Retail has proper permits for both discharges.

All of the equipment associated with this technology, with the exception of the treatment facility, is located underground. The landscape has not been affected. Groundwater-monitoring wells are located downgradient of the pumping wells to monitor water levels and to ensure the plume is captured. Quarterly monitoring of off-site wells is conducted to assess water quality. With the groundwater system operating, only clean water flows off-site, and solvent levels in the off-site groundwater are reduced by the clean reinjected water as well as uncontaminated groundwater flowing through the area. Through this process, cleanup of the off-site plume is accelerated.

The pump-and-treat system (also known as a hydraulic barrier) has been used successfully at many other sites for a number of years. This technology is the fastest way to prevent contaminated groundwater from leaving the Redfield property. Pump-and-treat is a commonly used method of groundwater containment at U.S. Environmental Protection Agency sites. While other technologies can be used to address solvent contamination, the pump-and-treat containment system is a time-tested technology with a proven track record.

As part of the CDPHE-approved off-site corrective measures, Brown Retail has further enhanced the system by adding nine injection wells and two extraction wells during the summer of 2003. Nine more injection wells and five more extraction wells will be added. This will further accelerate the flushing of residual solvents in the aquifer with clean water.

For More Information:

We will continue to update our neighbors as new information about the site becomes available. We welcome your questions or comments. Please feel free to contact the following representatives for more information or call the Redfield information line at (303) 637-2503.

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Redfield Information Line: (303) 637-2503

Redfield Web site: <http://www.redfieldsite.org>

Information Repository:

Virginia Village Library, 1500 S. Dahlia St., (303) 757-6662
Glendale Public Library, 999 S. Clermont, (303) 691-0331