

September 2007

## Superior Fibers, Inc. Bremen, Ohio

### Background

Superior Fibers, Inc. (Superior) operates a manufacturing facility on approximately 32 acres at 499 North Broad Street on the north side of the Village of Bremen in eastern Fairfield County. Superior manufactures glass filtration fibers at the facility. The facility was constructed in approximately 1952. Modiglass Fibers operated the facility in the 1950s and early 1960s. In 1964 the facility was purchased by Reichhold Chemicals, Inc. Superior purchased the facility in 1984 and is the current owner. Trichloroethene, also known as trichloroethylene or TCE, was used as a degreasing agent at the facility until approximately 1987. TCE and its breakdown products, cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride, were the primary contaminants detected in ground water at concentrations exceeding regulatory standards on Superior's property during site assessment activities that were initiated by Superior in 2002. In 2006, ground water contamination was confirmed to be migrating off of Superior's property.

### Site Assessment Activities

Superior conducted site assessment activities in 2002 and entered the site into Ohio EPA's voluntary action program in February 2003 by submitting the results of their investigation in a no further action letter to Ohio EPA with a request for a



covenant not to sue (CNS). Superior's site assessment activities detected the presence of twelve chemicals of concern (COCs) in site soil and ground water.

Ohio EPA issued a CNS in March 2005 that included an operation and maintenance (O&M) agreement requiring Superior to conduct quarterly ground water monitoring and, if COCs were detected and confirmed in any monitoring wells on the property boundary, initiate active remediation of the ground water contamination. Contaminants were detected at early warning wells located on the property boundary in February 2006 and were confirmed in March 2006 thus triggering Superior's obligation to implement an active remedy in accordance with their O&M agreement.

### Remediation

Ground water remediation activities are being conducted on two areas of the site - the source area and the east property line.

The source area where TCE was disposed of is located in the approximate center of Superior's property. Approximately 1400 cubic yards (approximately 2000 tons) of soil were recently excavated in this area from the ground surface to the water table, with the contaminated soil being sampled and disposed of at an appropriate licensed landfill. A series of slotted chemical feed pipes were placed horizontally in the bottom of the excavation, and backfilled with a layer of gravel above the pipes and then clean soil to the existing ground



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surface. Chemical oxidants are introduced into the top of the ground water through the feed pipes to break down the contaminants in a process known as in-situ chemical oxidation or ISCO. The ISCO process will also be conducted in deeper ground water in the source area by directly injecting the chemical oxidants at greater depths under pressure in individual borings completed by a truck-mounted drilling rig.

Along the southern half of Superior's east property line, a series of wells that inject air into the subsurface were constructed to remediate ground water as it leaves Superior's property. The wells, known as air sparging/ biosparging (AS/B) wells, introduce air into the ground water either under low pressure to supply native bacteria with oxygen to metabolize the TCE breakdown compounds or under higher pressures to directly volatilize the TCE. The effectiveness of the AS/B system is currently being evaluated and the system may be adjusted or enhanced.



## Off-Site Ground Water Contaminant Plume Delineation

Additional ground water monitoring wells were installed off of Superior's property to delineate the extent of the ground water contaminant plume emanating from Superior. Ground water monitoring activities to date indicate that the ground water contaminant plume is migrating to the southeast and south. Additional monitoring wells will be installed as needed to delineate off-site ground water contamination.

## Ohio EPA's Role

Ohio EPA is providing regulatory oversight of the ground water delineation and remediation activities that are being conducted by Superior. Ohio EPA is concerned about the proximity of the nearby village wellfield, which supplies drinking water to the villages of Bremen, Rushville and other areas. Ohio EPA receives regular updates from Superior and is closely monitoring Superior's progress in delineating and remediating the ground water contamination.

Updates to this fact sheet may be posted on Ohio EPA's website at [http://www.epa.state.oh.us/cdo/superior\\_fibers.html](http://www.epa.state.oh.us/cdo/superior_fibers.html)

For more information about this site, contact the Public Interest Center at 614-644-2160.

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