STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION III
ID # 3407

Superior Tube Company

Evansburg, Pennsylvania
Signed September 30, 1993

Facility/Unit Type:	**Manufacturing of specialty cold drawn precision tubing and tubular parts**
Contaminants:	**Tricloroethylene (TCE), 1,2-dichloroethylene (DCE), vinyl chloride, arsenic, copper, benzo(a)pyrene, cobalt, nickel**
Media:	**Ground water, soil, sediment**
Remedy:	**Ground water treatment using air strippers equipped with GAC emission control devices, in situ vapor extraction, carbon adsorption, excavation of contaminated soil and sediment, ground water monitoring, institutional controls**

FACILITY DESCRIPTION

On July 30, 1990, EPA and Superior Tube Company entered into a Consent Order pursuant to RCRA, which required Superior to conduct an RFI at its facility in Evansburg, and to prepare a CMS in which it proposed and evaluated several corrective measures alternatives for site remediation.

The 96-acre Superior Tube Company site is a precision tubing production facility located in Evansburg, Montgomery County, Pennsylvania. The surrounding land is almost equally divided between residential, industrial, and recreational uses.

In the mid-1970s, Superior began conducting hydrogeologic studies which identified ground water contaminated with TCE in excess of MCLs. Results of regular sampling of domestic wells surrounding the facility prompted Superior to implement remedial actions such as ground-water monitoring, recovery, and treatment. In 1989, EPA conducted a Preliminary Assessment and Site Inspection of the facility, identifying 22 SWMUs and six Areas of Concern (AOCs) in order to track and delineate releases to the environment.

Historically, the natural flow of ground water is in a westward direction beneath the facility toward the Perkiomen Creek. However, due to the ground-water recovery program at Superior which has been in operation for over 12 years, the ground-water flow patterns have changed significantly from the natural gradient. Superior currently operates five ground-water recovery wells and three plant water supply wells at the facility. The current recovery and pumping operation causes ground water to flow toward the facility.

Two public water suppliers obtain drinking water from wells located near Superior. The Evansburg Water Company (EWC) serves approximately 357 persons in the vicinity of the facility. Two of the EWC wells are located 1,500 feet northeast of Superior. A third well is located adjacent to a pumping house approximately 2,000 feet northwest of the facility. Another EWC supply system is located approximately 3 miles north of the facility. The Collegeville-Trappe Joint Water Works serves approximately 5,000 persons in Trappe and Collegeville, and uses ten ground-water supply wells which are located 1 to 3.4 miles west of Superior.

EXPOSURE PATHWAYS

Although ground water is not used for current consumption and soils and sediments are not ingested at this site, the Health and Environmental Assessment was conducted using this conservative approach as a potential exposure scenario. The RFI determined that, under current onsite conditions, the lifetime risk of cancer to workers at the site from incidental ingestion of untreated ground water and contaminated soils and sediments is unacceptable.

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration	Action Level	Cleanup Goal (ppm)	Points of Compliance
ground water		TCE 1,2-DCE vinyl chloride	47,000 ppb		0.005 0.1 0.002	(gw)onsite: MW-2, MW-3, MW-4, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-20, PW-3D, PW-4, PW-5, PW-7
soil/sediment		arsenic copper benzo(a)pyrene			28** 2,900	offsite: EWC wells 101,102, 103, all domestic residential wells in annual monitoring program
sediment		cobalt nickel			33 1,600	(soil) Scrap Metal Area, Pipe Storage Area, Outfall 002 Area, Outfall 004 Area, 1291 Degreaser Area

* Ground-water cleanup goals based on SDWA MCLs
** Soil and sediment cleanup goals are background concentrations, or Risk Based Concentrations (RBCs)

The potential non-carcinogenic effects to site workers are also of concern. In addition, concern about offsite migration of contaminated ground water into residential drinking water wells has prompted Superior and EPA to implement remedial actions designed to control the flow and to allow for pumping and treatment of contaminated ground water.

SELECTED REMEDY

The remedial actions selected for this site include the following:

- Excavate contaminated onsite soil and sediment from the Scrap Metal and Pipe Storage Areas, dispose of in a permitted offsite disposal facility, and cap excavated areas with asphalt
- Excavate contaminated sediments in French Run and the unnamed tributary of the Perkiomen Creek, and dispose of contaminated sediments in a permitted offsite disposal facility
- Remove and treat contaminants in soil and fractured rock beneath the 1291 degreaser using in situ vapor extraction on a pilot basis
- Continue to recover TCE-affected ground water using existing Plant Wells 1 and 3 in the South Recovery System Area, and using Monitoring Wells 1, 4, and 5 in the North Recovery System Area
- Continue to treat TCE-affected ground water recovered from North and South Recovery Systems using air stripping retrofitted with granular activated carbon (GAC) emission control devices
- Initiate recovery of TCE-affected ground water from Monitoring Well 18 (MW-18) in the North Recovery System Area, offsite Monitoring Well 20 (MW-20) north of French Run, and existing Plant Well 3D (PW-3D) in the South Recovery System Area and treat TCE-affected ground water using air stripping with GAC emission control devices
- Continue to discharge treated ground water from the North and South Recovery Systems to an unnamed tributary of the Perkiomen Creek through Outfall 002 and reuse treated ground water to minimize the loss of such water from the regional aquifer as a result of the recovery operation
- Require the following:
  - Conduct onsite and offsite monitoring of hazardous constituents of concern on a regular schedule
  - Maintain the existing security system which

restricts access to the facility at all times
- Limit future land use of the property to an industrial usage
- Prohibit any construction which would interfere with the remedy and/or damage the selected remedial equipment
- Prevent the installation of onsite drinking water wells in areas where the ground water is known to be contaminated, or in areas where the well may cause the migration of contaminated ground water.

- Notify the Lower Providence Township of the area of contaminated ground water associated with the facility.

The estimated capital cost for the selected remedy is $996,960 which includes an annual O & M cost of $254,200.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

A public comment period was held from July 21, 1993 through August 19, 1993 and a public meeting was held at the Lower Providence Municipal Township Building. The meeting was attended by EPA representatives, area residents, local public officials, local water authority representatives from the Evansburg Water Company, the Collegeville-Trappe Joint Water Works, and representatives of the Superior Tube Company. EPA received several comments with respect to sampling and analysis of offsite residential wells, and the operation and maintenance of in-house carbon filters. As a result of these comments, EPA has expanded the institutional controls component of the selected remedy.

NEXT STEPS

EPA will provide Superior Tube with the opportunity to negotiate an administrative consent order which will require the implementation of the selected remedy. The system's performance will be monitored and adjustments made as warranted by performance data collected during operation. If EPA determines that portions of the aquifer cannot be restored to their beneficial use, modifications may be made for long-term management.

KEYWORDS
Ground water, sediments, soil; ingestion (soil, gw); VOCs, DCE, TCE, inorganics/heavy metals, arsenic; air stripping, capping, excavation, institutional controls, monitoring (GW), offsite discharge, offsite disposal, onsite treatment

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