STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION II
ID# 0324

Xerox Corporation-Salt Road Complex

Webster, New York
Signed July 30, 1993

Facility/Unit Type:	**Manufacturing of xerographic copiers and printing machines and associated supplies**
Contaminants:	**toluene, trichloroethylene, 1,1,1-trichloroethane, tetrachloroethylene, 1,2-dichloroethylene, vinyl chloride,**
Media:	**Ground water, soil**
Remedy:	**Ground-water pumping and treatment using onsite chemical oxidation and air stripping, bedrock blasting to enhance permeability, and institutional controls.**

FACILITY DESCRIPTION

On April 18, 1988, the Xerox Corporation and the EPA entered into an Administrative Consent Order pursuant to Section 3008(h) of RCRA which required Xerox to complete an RFI to determine the nature and extent of contamination at the Salt Road Complex and to conduct a CMS to evaluate cleanup alternatives.

The 400-acre Xerox Corporation Salt Road Complex site is a xerographic copier and printing machine manufacturing site located in Webster, New York. The Complex includes the portion of Building 224 that contains the developer operation, the portion of Building 225 that formerly contained the steel-shot reclamation operation, and the contaminated portions of contiguous or associated properties, including property owned by Xerox east of Salt Road.

Hydrogeologic and soil investigations undertaken by Xerox have resulted in the delineation of subsurface conditions and the extent of contamination at the Salt Road Complex in both soil and ground water. Overburden thickness typically ranges from about 2 to 17 feet and averages less than 5 feet. A broad, shallow bedrock ridge is present in the Complex below the overburden and appears to influence ground-water flow conditions in the vicinity. Due to the shallow nature of the surface soil, the majority of the contamination occurs in bedrock and is transported by ground-water flow mechanisms below the bedrock/soil interface.

Ground-water contamination seems to have resulted from a supplies manufacturing process and from spillage from two underground toluene spill tanks in the 224/225 courtyard. Xerox removed the tanks and contaminated soil from the site after the contamination was detected in 1982. Based on available data, ground-water contamination at the facility is contained within the confines of the lands owned by the Xerox Corporation. The soils in the courtyard area at the facility were the only onsite soils exposed directly to contaminants as a result of a release from an underground spill containment tank. Other soils may have been contaminated as a result of contact with contaminated ground water or due to the volatilization of contaminants from ground water underlying the soil.

As part of the previous interim remedial measures at the site, by 1986 Xerox had connected all residents of the surrounding area who had previously relied on well water to the public water supply. The corporation acquired four dwellings and 81.4 acres of land in transactions between 1986 and 1991 in order to expedite contaminant investigation and remediation. Xerox also undertook soil remediation measures in the courtyard of buildings 223 and 224 by excavating a total of approximately 959 cubic yards of soil for disposal at permitted landfill facilities between 1984 and 1986 . The excavated areas were then filled with rounded gravel. Ground-water extraction as an interim remedial measure began in 1986 with the installation of recovery wells 1, 2, 3, and 4. This system has since been expanded to

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration (µg/l)	Action Level (µg/l)	Cleanup Goal* (µg/l)	Point of Compliance
ground water		trichloroethene	390,000		5.0	
		1,2-DCA	36,000		5.0	
		toluene	56,000		5.0	
		1,1,1-TCA	4,700		5.0	
		1,1-DCE	3,000		5.0	
		tetrachloroethylene	2,100		5.0	
		vinyl chloride	2,800		2.0	
		1,1-DCE	60		5.0	
		1,2-DCA	270		5.0	
		chloroform	5,900		7.0	
		chloroethane	130		5.0	
		benzene	10		0.7	
		carbon tetrachloride	60		5.0	
		bromodichloromethane	3.0		7.0	
		ethylbenzene	12		5.0	
		1,1,2-TCA	1,300		5.0	
soil	5050 cy	tetrachloroethylene	121mg/kg**	14 mg/kg		

*Cleanup goals based on NY State MCLs
**Located 2 ft. below ground surface

include a total of 16 pumping wells and 122 monitoring wells as well as an iron pretreatment unit.

EXPOSURE PATHWAYS

The potential exposure pathways for ground-water contamination include migration into drinking water wells, basements, and surface streams. The primary exposure route through which humans may encounter contaminants in the soil is by incidental ingestion. Compounds in soil may also be available for human contact/exposure following intermedia transfer from soil to ground water.

SELECTED REMEDY

The proposed final corrective measure for this site includes continuing the ground-water recovery program already in operation; enhancing the permeability of the bedrock by blasting in order to increase the capture zones and recovery rates of five surrounding recovery wells; treating contaminated ground water using the existing peroxide ultraviolet oxidation process, treating the effluent from the oxidation system using air strippers; and discharging residual ground water into a storm sewer in accordance with Xerox's State Pollutant Discharge Elimination System permit. Discharge from the recovery and treatment system will be sampled and analyzed on a regular basis as required by Village of Webster Publicly Owned Treatment Works (POTW) to monitor actual discharge concentrations. Leachate generated by storm water infiltration into contaminated soil is within the zone of capture of the ground-water pumping system. The need for any additional corrective measures for soil at the site will be evaluated once the ground water has been remediated. In addition, institutional controls in the form of deed restrictions on future area use, fencing and public access will be implemented at the site to ensure that these areas are left undisturbed.

The annual operations and maintenance cost of this ground-water remedial action is $400,000. The cost of the overall remediation program is $10.5 million to date.

INNOVATIVE TECHNOLOGIES CONSIDERED

In situ bioremediation was examined as a method for remediating contaminated soil and ground water. The technology was deemed ineffective at this particular site due to the presence of low conductivity

soil and fractured bedrock flow regimes. For the bioremediation technique to be fully effective, soil and aquifer material must be porous and have a resident bacterial population.

PUBLIC PARTICIPATION

A public comment period was held from July 30, 1993 to September 14, 1993. Because EPA did not receive any comments during this period, no changes were made to the proposed final remedial measure.

NEXT STEPS

The selected remedial measure is currently being implemented and has proven to be effective in controlling the plume and is protective of human health and the environment. The need for additional remediation of contaminated soils will not be evaluated until the ground water has been remediated. If residual contaminants are detected in these soils following ground-water remediation, Xerox will review the need for remediation of these soils based on standards in effect at that time with the EPA and NYSDEC.

KEYWORDS

Ground water, soil; ingestion (soil, gw); VOCs, TCE, toluene; air stripping, innovative technology, institutional controls, offsite discharge, Publicly Owned Treatment Works (POTW)

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