

PRELIMINARY

Health Assessment for

SHERWOOD MEDICAL INDUSTRIES

CERCLIS NO. FLD043861392

VOLUSIA COUNTY

DELAND, FLORIDA

Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

APR 19 1989

PRELIMINARY HEALTH ASSESSMENT

SHERWOOD MEDICAL INDUSTRIES

VOLUSIA COUNTY

DELAND, FLORIDA

SEPTEMBER 13, 1988

Prepared by:

State Health Office

Florida Department of Health and Rehabilitative Services (HRS)

Prepared for:

Agency for Toxic Substances and Disease Registry (ATSDR)

Background

The Sherwood Medical Industries site was placed by the U.S. Environmental Protection Agency (EPA) on the National Priorities List (NPL) in 1982. The plant produces stainless steel medical supplies and generates the following hazardous wastes: 50,000 gal/day of acidic waste water containing chromium; 400 gal/month of electrolytic sludges containing chromium; 206 gal/month of trichloroethylene waste; and 344 gal/month of aliphatic solvent waste. According to 1987 analytical results ground water at Sherwood Medical was contaminated with trans 1,2-dichloroethylene, tetrachloroethylene, and trichloroethylene; the sources of contamination has not been identified.

The following documents were reviewed by Florida HRS:

- Draft Community Relations Plan by Booz, Allen and Hamilton Inc. - May 9, 1988.
- Sherwood Medical Work Plan and Site Operations Plan for a Comprehensive Feasibility Study by ERM-S, Inc. - May 1, 1988.
- ATSDR Site Summary - June 7, 1988.

Environmental Contamination and Physical Hazards

The Sherwood Medical Industries plant is still in operation. The site is fenced and access is restricted. The physical hazards of concern for on-site workers are the open ponds #1 and #2 located on the eastern boundary of the site and a holding pond located near the retention building.

Contaminants of concern and their maximum concentrations at the site consist of the following:

- Floridan Aquifer:

- o New well #2 (main well) and 16" fire well: trans 1,2-dichloroethylene (25 ug/L), tetrachloroethylene (280 ug/L), trichloroethylene (65 ug/L)

- Intermediate Aquifer:

- o Monitoring well MW-8D: trans 1,2-dichloroethylene (15 ug/L)

(Site map and sampling locations are given in figure #1)

Potential Environmental and Human Exposure Pathways

Potential environmental pathways at the Sherwood Medical site are off-site migration of contaminated ground water, and wind blown volatile organic compounds from the air stripper. There are possible of involvements of other pathways; additional information will be obtained when the Remedial Investigation is completed. Potential human exposure pathways of concern are ingestion of contaminated ground water by residents living in the area and inhalation of volatile organic gases from the air strippers by on-site workers or people living down stream of the wind.

Demographics

The Sherwood Medical Industries Site occupies approximately 43 acres of land in Deland, Volusia County. The site is bordered to the north by U.S. Highway 92, to the east by Kepler Road (State Road 430-A), to the south by a Florida Department of Transportation maintenance yard construction office, and to the west by Lake Miller. Approximately 15 residences, all with private potable water supply wells, are located immediately across Kepler Road. New residential subdivisions are being built further to the east.

Evaluation and Discussion

In 1986, on-site testing at Sherwood Medical conducted by Volusia County Public Health Unit indicated that ground water (Floridan aquifer) was contaminated with trans 1,2-dichloroethylene, tetrachloroethylene, trichloroethylene, and vinyl chloride. In 1987, ground waters on site were tested by Department of Environmental Regulation (DER). The results showed that ground waters (Intermediate and Floridan aquifers) on site was contaminated with trans 1,2-dichloroethylene, tetrachloroethylene, and trichloroethylene. Ground water has also been tested for vinyl chloride, however, the detection limit was higher than the guidance level of health concern.

An air stripper is used to remove the volatile organic chemicals from this contaminated ground water which is used for both process and potable supplies. Sampling done by Volusia County Public Health Unit in 1986

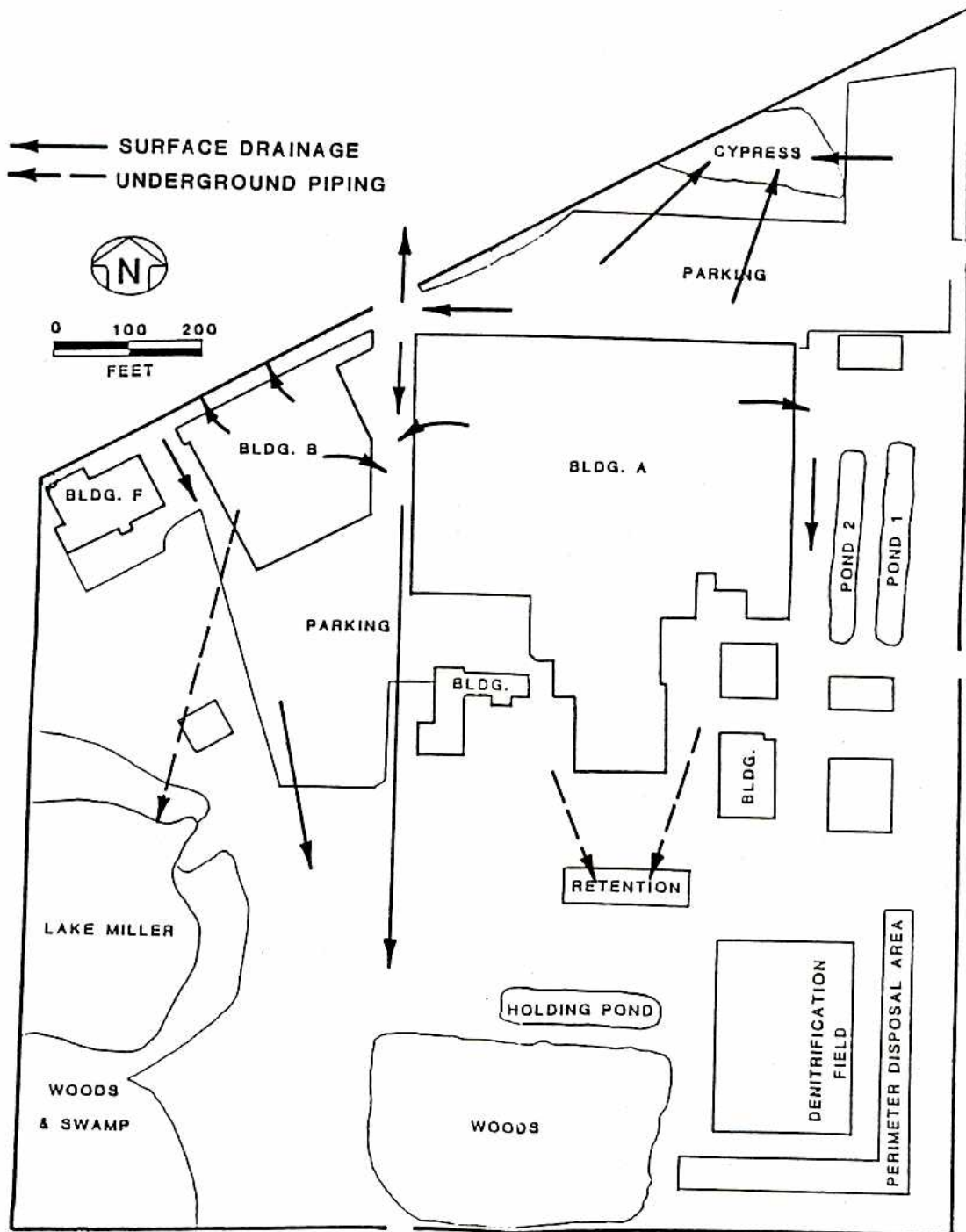
indicated that the concentrations of VOCs were reduced to below the level of health concern. No air sampling has been conducted after the installation of air stripper, therefore, this media cannot be evaluated. During this time private wells in the area were surveyed and tested for one year; however, the private wells were not contaminated with VOCs.

At the present time, soil and sediment sampling program are being conducted for remedial investigation. Analytical results of testing will be discussed in the next health assessment.

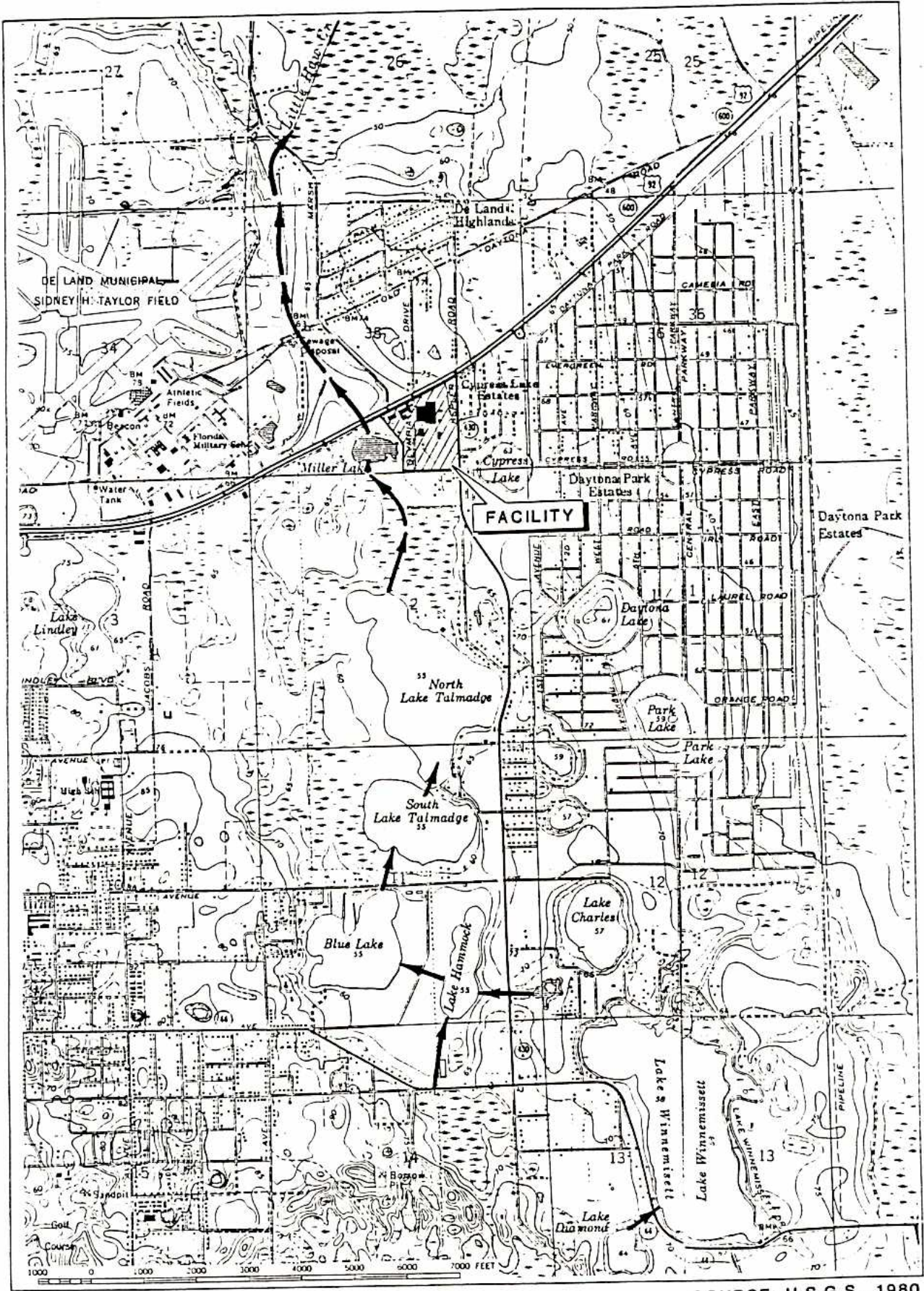
Conclusions and Recommendations

Based on available information, this site is considered to be of potential public health concern because of the risk to human health caused by the possibility of exposure to hazardous substances at concentration that may result in adverse health effects. As noted in the Physical Hazards and Environmental Contamination section, human exposure to trans 1,2-dichloroethylene, tetrachloroethylene, and trichloroethylene may occur through the ingestion of contaminated groundwater when the plume of contamination at Sherwood Medical migrates to the Floridan aquifer that supplies water to private wells in the area. Since Sherwood Medical is surrounded by residential homes which use well water for irrigation and domestic use, a well monitoring system for both on-site and off-site ground water should be considered. Air sampling may also be considered because on-site workers are the potential receptors of gases emitted from the air stripper.

FIGURE 1
SITE AND REGIONAL DRAINAGE PATTERNS
SHERWOOD MEDICAL COMPANY
DELAND, FLORIDA



DRAINAGE PATTERNS WITHIN THE FACILITY BOUNDARIES



SOURCE: U.S.G.S., 1980

DRAINAGE PATTERNS IN THE VICINITY OF SHERWOOD MEDICAL