



NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT (NIROP) FRIDLEY, MINNESOTA ENVIRONMENTAL CLEANUP PROGRAM

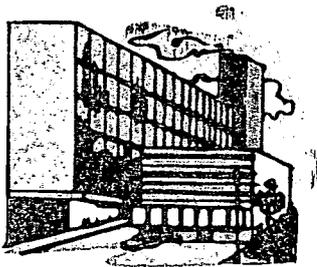
The Naval Industrial Reserve Ordnance Plant (NIROP) in Fridley, Minnesota, is conducting environmental cleanup activities in cooperation with the United States Environmental Protection Agency and the Minnesota Pollution Control Agency. Under the Comprehensive Environmental Restoration and Liability Act (CERCLA), also known as Superfund, a facility must demonstrate that it can operate in an environmentally sound manner as well as show corrective action measures on sites where releases may have occurred. NIROP Fridley is conducting these cleanup activities pursuant to an agreement with EPA and MPCA, in compliance with CERCLA regulations.

This fact sheet was developed to describe the construction of a treatment facility in support of cleanup activities that have been conducted at NIROP Fridley. It also outlines the future activities that are planned for the facility.

The fact sheet provides a brief summary of the many reports and reviews that have been written regarding NIROP Fridley. The fact sheet provides an overview of the purpose and operation of the treatment system installed in 1998. The goal of the cleanup effort at NIROP Fridley is to protect human health and the environment, and the Navy is committed to meeting that goal.

What is NIROP Fridley and what was done there?

NIROP stands for Naval Industrial Reserve Ordnance Plant. The NIROP Fridley plant in Fridley, Minnesota, was established in 1940 and began production in January 1941. The plant, which is still in operation today, is used to design and manufacture advanced Naval weapons systems. The northern portion of the facility is government owned and operated by a private contractor (United Defense LP), whereas the remainder of the facility is owned and operated independently by United Defense. As is typical in most industrial facilities, the manufacturing processes used in the plant sometimes involved the use of chemicals that could affect the environment if they were released.



Some of the manufacturing processes performed at the facility utilized volatile organic compounds (VOCs). VOCs are typically light hydrocarbons that readily evaporate at ambient temperatures. Soil and groundwater are being closely monitored for VOCs since they can cause adverse health effects. Study results have indicated the presence of con-

taminants in the groundwater beneath the site and the general location of these contaminants.

How is the Navy fixing the groundwater?

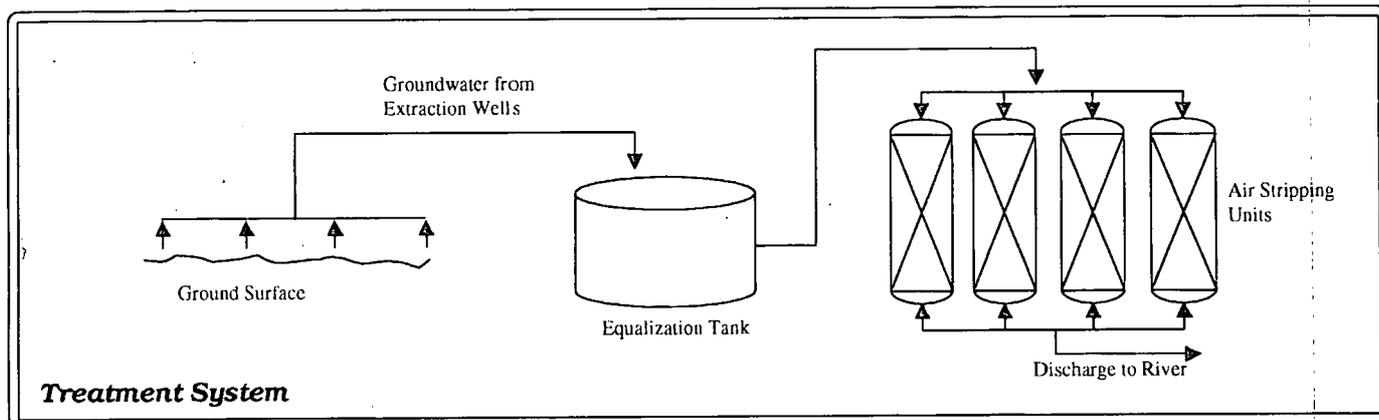
After determining the location of the contamination, an extraction system was designed in which the groundwater is pumped from the ground and sent to a treatment system where the VOCs are removed. The treated water is sent either to a water treatment plant for further treatment or discharged to the Mississippi River, provided it meets Federal and state guidelines. Discharge of the treated water is permitted by the MPCA under a National Pollution Discharge Elimination System (NPDES) permit. The MPCA approved of discharge to the river after public input.

How does the treatment system work?

Once the groundwater is pumped to the treatment system, it is split among 4 air stripping units. The air stripping units remove VOCs from the groundwater by forcing air through the water and volatilizing the contaminants, which then reside in the exhaust air. The contaminant concentrations are low enough that the exhaust air does not need any further treatment. The treated water can be disposed in two ways: discharge to the storm sewer for release to the Mississippi River or discharge

to the sanitary sewer for additional treatment at the local publicly owned treatment works. Under normal operating conditions, the treatment system is fully capable of treating the groundwater to safe levels so it can be discharged to the river. However, in the event that the treated water cannot be safely discharged to the river it will instead go to the public water treatment plant for further treatment until safe levels can be reestablished for discharge to the river. Sensitive electronic instrumentation continuously monitors the process to ensure water quality and safety.

Several controls have been put in place to ensure that the plant operates safely. During the start-up of the plant, samples will be collected to make certain it meets the NPDES requirements and air emission limits. Samples will be split with MPCA for confirmation of the results. Once the treatment system is running, safety controls automatically prevent discharge to the river if the air stripping units suffer a mechanical failure.



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