Info - Wells G & H

SUPERFUND PROGRAM:
Information Fact Sheet

EPA REGION I

WELLS G & H SITE
Woburn, Massachusetts

NOVEMBER 1986

Introduction

Wells G & H are two municipal water supply wells that drew water from the Aberjona River Aquifer and supplied the city of Woburn, Massachusetts (see figure 1). In 1979 these wells were found to be contaminated with volatile organic compounds (VOC's) and were subsequently shut down.

The Environmental Protection Agency (EPA) is currently conducting a remedial investigation (RI) of the Wells G & H Site to determine the source and extent of contamination. The site boundaries consist of approximately a one square mile area surrounding Wells G & H. The RI is being conducted in two parts, with part I having been recently completed. Part I determined the hydrogeology of the Wells G & H Site, identified contaminant source areas and determined the nature and extent of groundwater contamination at the site. Part II of the RI concentrates on the source areas of contamination themselves and assesses the nature and extent of soil contamination at these sources.

Concurrent with the RI, an aquifer pump test was conducted in December 1985 to determine the pumping influence of Wells G & H on the Aberjona River Aquifer. In addition to the RI and pump test, EPA is currently conducting an Endangerment Assessment (EA) to evaluate the potential risks to public health and the environment which could result from exposure to contaminants at the site.

This fact sheet presents the results and conclusions of part I of the remedial investigation, and the pump test. Preliminary results of the endangerment assessment are also described.

Remedial Investigation Results

The findings of part I of the remedial investigation include:

- The most widespread contamination at the site is volatile organic contamination of groundwater. Volatile organic contaminants detected include trichloroethene, tetrachloroethene, trans-1,2-dichloroethene, and 1,1,1-trichloroethane.

- Four areas of groundwater contamination have been identified: a northern plume, a northeastern plume, a northwestern area, and a western area of shallow overburden groundwater contamination.

- Source areas of contamination were identified as follows: the northern plume of groundwater contamination is coming from the Unifirst Corporation Property, the northeastern plume of groundwater contamination is coming from the W.R. Grace property, the northwestern area of groundwater contamination is likely coming from a gasoline spill(s) or leaking underground storage tank(s), and the western area of groundwater contamination is primarily coming from the Wildwood Conservation Corporation property.

Results Of The Pump Test

The results of the pump test of Wells G & H are as follows:

- The pumping of the wells affect groundwater levels in the Aberjona aquifer throughout a wide area of the wetland on both the east and west sides of the Aberjona River. The approximate area of influence of Wells G & H stretches from 1,200 feet south of Well G to 1,100 feet north of Well H and from the east to the west side of the river valley.

- Wells G & H withdraw water from several sources including (1) portions of the sand and gravel aquifer on both sides of the river, (2) leakage from the Aberjona River, and (3) interception of groundwater that flows toward the river valley.

Endangerment Assessment Results

The endangerment assessment of the Wells G & H Site is currently underway. The preliminary results of the endangerment assessment are as follows:

- Although groundwater in the source areas and in the vicinity of Wells G & H is contaminated, groundwater is not currently used for human consumption. Therefore exposure to contamination in groundwater is minimal.

- Soil contamination has been found on site. The properties on which soil contamination was detected are generally fenced or paved and are in industrial areas. Therefore exposure to contaminants via direct contact is expected to be limited.

- Groundwater is discharging to the surface waters of the Aberjona River but levels of contaminants in the surface waters appear to be low within the study area.

- Contaminants are thought to be released to the air from soils and surface waters but levels of contaminants are presently below detection limits.

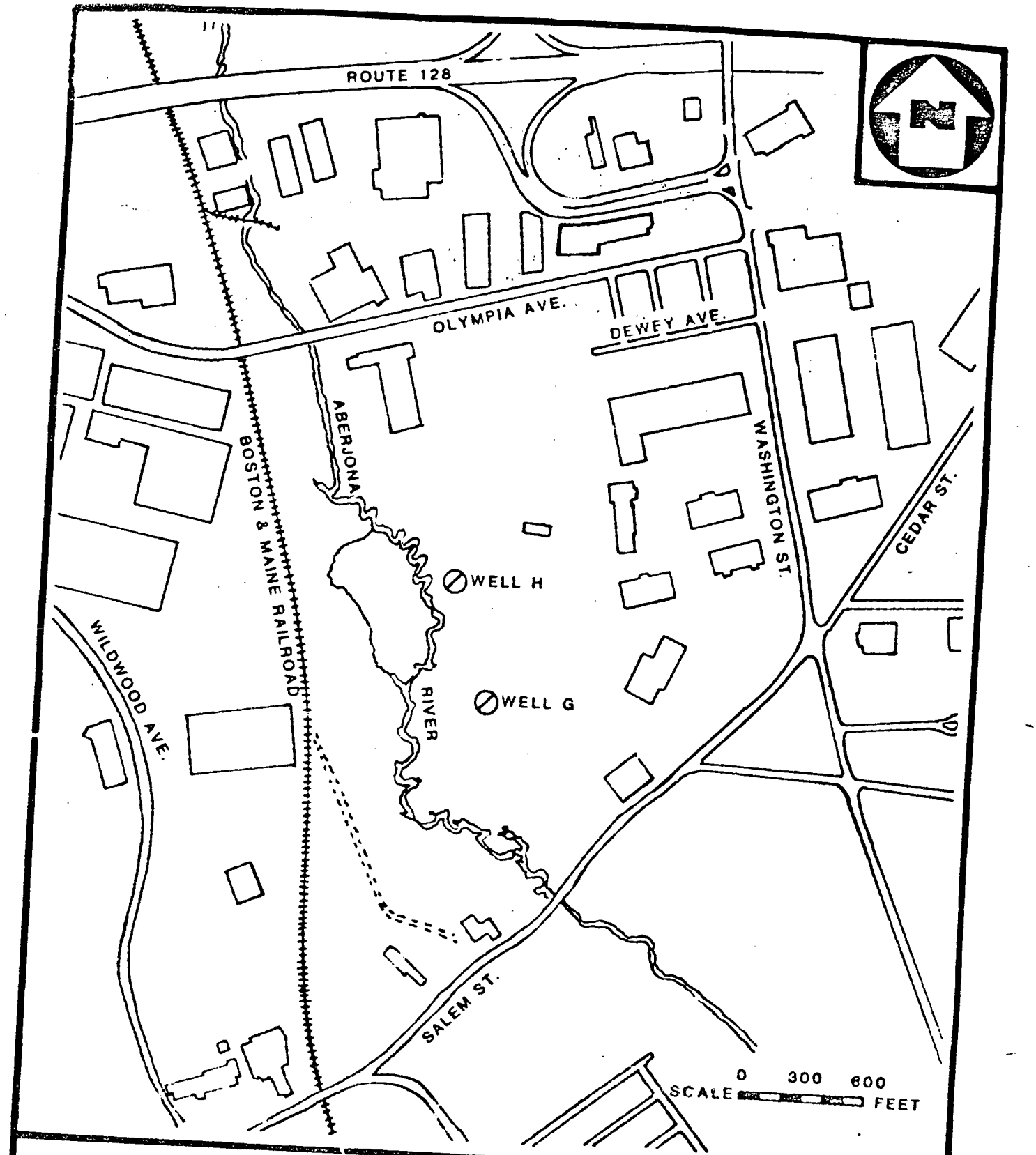
All of these potential routes of exposure will be further evaluated in the EA. In addition to assessing existing exposures, the EA will characterize potential exposures that could occur if no action were to be taken to clean up the site.

Additional Information

Copies of the phase I remedial investigation and pump test reports are available for public review at the Woburn Conservation Commission, Woburn Public Library and at the F.A.C.E. office on Main Street in Woburn. For more information contact:

Barbara Newman, Project Manager
U.S. Environmental Protection Agency--Region I
JFK Federal Building, HEC-1907
Boston, Massachusetts 02203
(617) 565-3643

Patty D'Andrea, Community Relations Coordinator
U.S Environmental Protection Agency--Region I
JFK Federal Building, RPA-2203
Boston, Massachusetts 02203
(617) 565-3425



SITE MAP
WELLS G AND H
WOBURN, MA

FIGURE 1

1986

GLOSSARY

Aquifer:
An underground layer such as sand or gravel that can store and supply water, called groundwater, to wells and springs.

Hydrogeology:
Study of groundwater occurence and movement in earthen materials.

Overburden:
General term for earthen material such as till or sand and gravel that has been deposited on the bedrock by glaciers, water or wind.

Plume:
A well defined, usually mobile, area of contamination found in surface water or groundwater.

Routes of exposure:
Means by which people may come in contact with contaminants, for example by breathing contaminated air or drinking contaminated water.

Volatile organic compounds:
A group of organic chemicals having a tendency to evaporate easily at room temperature. Examples include certain solvents, paint thinners and degreasers.

United States
Environmental Protection
Agency

Region I
Office of Public Affairs — 2203
John F. Kennedy Federal Building
Boston, MA 02203