

## W.R. GRACE Superfund Site Acton, Massachusetts

December 2002

*This update is to keep you informed about the ongoing remediation and groundwater investigations at the W.R. Grace Superfund Site on Independence Road in Acton.*

### Operational History Summary

The W.R. Grace Superfund Site located off Independence Road in Acton has been used for industrial purposes since the 1800s. After purchasing the property in 1954, W.R. Grace & Co.'s (Grace's) manufacturing operations produced a variety of latex and rubber based products as well as cellulose battery separators. Many of the waste products from these operations were disposed on site. In 1980, all on-site waste disposal operations at the facility ceased. In early 1982, Grace discontinued its organic chemical operations at the Acton site. These operations were the primary source of many of the wastes generated at the site.

### Implemented Remedies

In 1978, groundwater contamination was detected in two Acton municipal supply wells, Assabet 1 and 2, located southwest of the Grace property. This discovery prompted a series of investigations that culminated in the installation of the Aquifer Restoration System (ARS) by Grace in late 1984. The ARS is a network of eleven groundwater extraction wells designed to contain and cleanup contaminated groundwater, and it remains in operation. United States Environmental Protection Agency (USEPA) and Massachusetts Department of Environmental

Protection (MADEP) first issued orders requiring the cleanup of this site in 1980. In 1983, this site was included on the Superfund National Priorities List (NPL). From 1994 through 1997, the excavation, treatment, and containment of over 173,000 cubic yards of contaminated soil and sludge from 11 source areas were completed.

### Recently Completed Investigations

As reported in the last update mailing dated August 2001 and at a public meeting held in November 2001, the final phase of work, the study and remediation of contaminated groundwater at the site, is continuing. Field work to obtain additional information needed to complete the understanding of the extent of contamination in the groundwater to the northeast of the Acton Water District property off Lawsbrook Road, the area along Fort Pond Brook from the former North Lagoon to the Acton Water District's Christofferson Well, and near the Assabet River on the Concord portion of the Grace-owned property, was completed in the Spring of 2002. As part of this effort, fourteen new monitoring wells were installed and sampled, groundwater samplers were deployed at 20 locations beneath the Assabet River and 22 locations beneath Fort Pond Brook, and additional groundwater sampling was conducted near Fort Pond Brook. This information, combined with the Remedial Investigation field work previously conducted in 2000-2001, as well as data collected at the site since the early 1980s, was reported in the Draft Remedial Investigation Report, which was submitted to the USEPA and



MADEP on August 30, 2002. This report presents a description of the current nature and extent of groundwater contamination at the site and provides the necessary and sufficient framework for evaluating additional remedial alternatives that may be considered for the site in the feasibility study. A copy of this report and previous submittals are available for review at the following Site repositories: the Acton Public Library, located at 486 Main Street Acton, MA Phone: 978-264-9641, and the EPA Records Center located at One Congress Street Boston, MA; by appointment only, phone: 617-918-1440. Additional information may also be found at the EPA Superfund web site: [www.epa.gov/region01/superfund](http://www.epa.gov/region01/superfund).

The current extent of contaminated groundwater is depicted on Figure 1 using concentrations of vinylidene chloride (VDC or 1,1-dichloroethene), which is the most widespread contaminant at the site. This figure shows the maximum VDC concentration, regardless of depth, detected in groundwater samples collected between July 2001 and June 2002. Not all of the groundwater within the boundary shown on Figure 1 is contaminated.

Figure 2 is a geologic section showing the vertical distribution of VDC in groundwater from the Grace property to the northeast beneath the BOC Gases property to the Acton Water District Scribner supply well. The location of the section is shown on Figure 1. As shown on Figure 2, groundwater contamination occurs at varying depths beneath the site. Figure 2 shows that the depth to groundwater beneath the BOC Gases property is approximately 50 feet below ground surface and the upper 50 feet of groundwater is not contaminated. The depth to contaminated groundwater beneath the BOC Gases property is approximately 100 feet below ground surface.

Contaminant concentrations in groundwater have decreased significantly since the 1980s and 1990s as a result of the cessation of

waste disposal in 1980, operation of the ARS since 1984, and remediation of the source areas between 1994 and 1997.

The extent of contaminated groundwater is not expected to increase and will be monitored and mapped on a yearly frequency. Therefore, as groundwater remediation continues at the site, the VDC concentrations depicted on Figure 1 should decrease and the extent of contamination depicted on Figure 1 will shrink.

## **Acton Water District Wells**

The Acton Water District continues to operate and maintain air strippers to remove any volatile organic compounds present in groundwater pumped from the Assabet 1, Assabet 2, Scribner, Lawsbrook, and Christofferson wells. Low levels of several volatile organic compounds, including VDC, have historically been detected in samples of water from these wells prior to treatment. The Acton Water District routinely samples and treats the water they provide to users to assure that quality standards are met.

## **Private Well Survey Update**

The results of the private well survey indicated that there were four active private wells within the private well survey area (approximately 500 feet from the mapped plume in 2000). The wells were sampled for VOCs and an evaluation process continues to determine if two private wells used for irrigation within the northeast portion of the plume should be decommissioned based on concerns that their operation could effect the existing plume of contamination or present a potential health risk. The Acton Board of Health is currently considering a moratorium on new installations of private wells within the private well survey area and has continued a hearing from September 30<sup>th</sup>, 2002 to December 9<sup>th</sup>, 2002.



## On-going Investigations

Current Site activities include: additional sediment and surface water sample collection for use in the ecological and human health risk assessments, refining a computer model (which simulates groundwater flow) for use in the feasibility study, conducting the 2002 groundwater quality sampling round, continued operation of the Aquifer Restoration System, evaluating two private irrigation wells within the contaminant plume, and performing treatability testing for recovered groundwater.

The information from these activities will be used to support an ecological risk assessment and public health risk assessment for the Site as well as a feasibility study of alternatives that are available to address the remaining contamination in the groundwater. These assessments and studies will be presented in a document called the Draft Remedial Investigation/Feasibility Study, which is currently scheduled to be submitted in March of 2004. Based upon this evaluation and a full public involvement process, a Record of Decision (ROD) will be prepared by USEPA with concurrence from the MADEP. The ROD will identify remedial actions that are to be taken to remediate contaminated groundwater beneath the Site.

### Mailing List Additions, Deletions & Changes

The US EPA currently maintains a site mailing list of over 800 addresses. If you or someone you know would like to be added to the site mailing list, please contact Sarah White, US EPA at 617-918-1026

The US EPA and MA DEP encourage public participation and keeping the public fully informed about ongoing work at the W.R. Grace site. Information updates and press releases will continue to be published periodically to inform the community about the progress and milestones at the Grace Superfund site. If you have questions about the W.R. Grace Superfund site or would like more information, call or write to:

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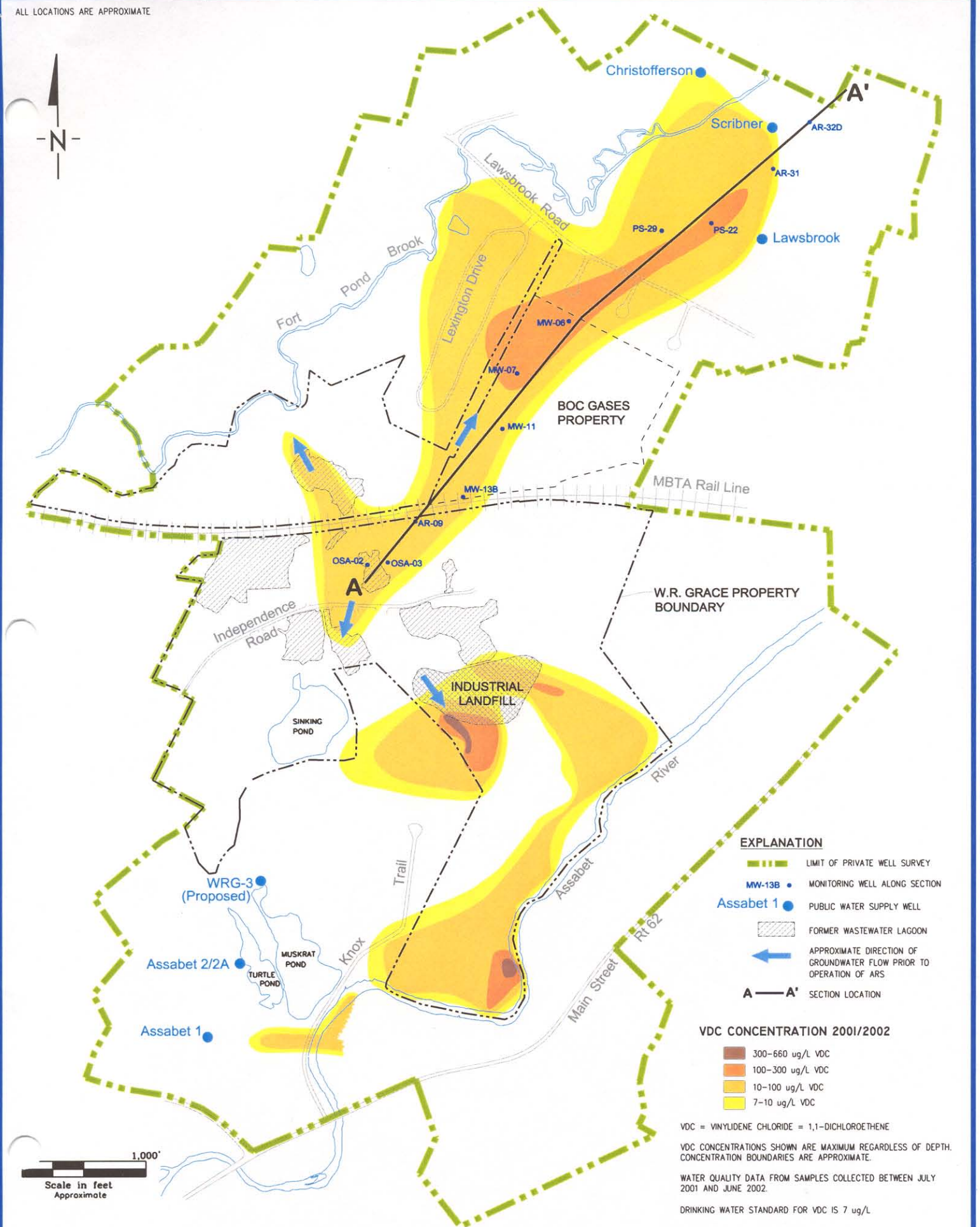
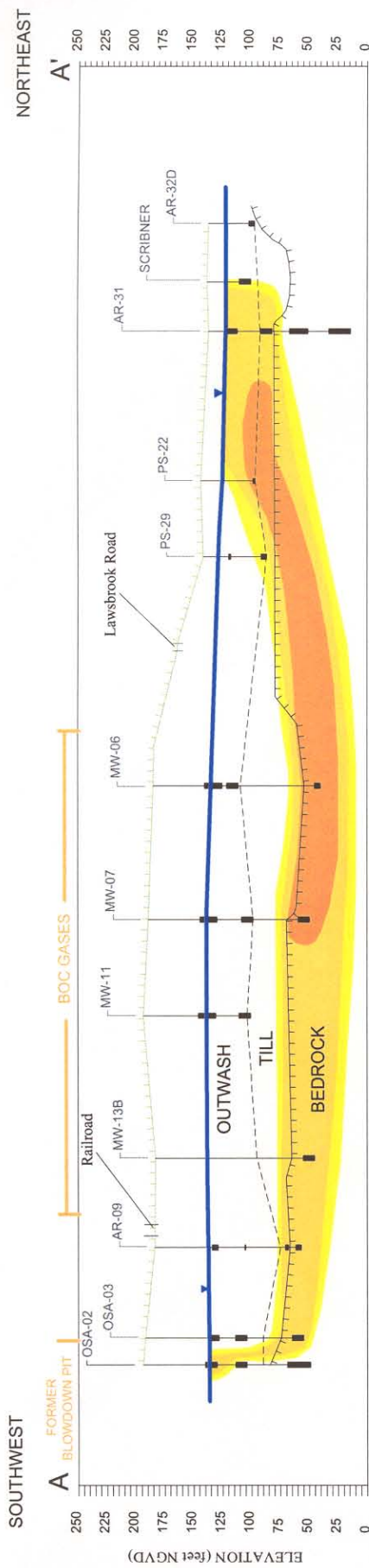


Figure 1 Distribution of VDC in Groundwater, 2001 - 2002



### EXPLANATION

WELL OR WELL CLUSTER DESIGNATION  
MW-11

GROUND SURFACE

WATER TABLE

MONITORING WELL

OPEN INTERVAL

140

Vertical Scale

Horizontal Scale  
0 700

SCALE IN FEET

VERTICAL EXAGGERATION: 5x

VDC CONCENTRATION 2001/2002

100-300 µg/L  
10-100 µg/L  
7-10 µg/L

### NOTES:

SAMPLES COLLECTED BETWEEN JULY 2001 AND JUNE 2002

CONCENTRATION BOUNDARIES ARE APPROXIMATE

WATER TABLE MEASURED NOVEMBER 1, 2001

NGVD - NATIONAL GEODETIC VERTICAL DATUM

**FIGURE 2. SECTION A-A'**  
**2001/2002 VDC CONCENTRATIONS IN GROUNDWATER**