COMMONWEALTH OF MASSACHUSETTS

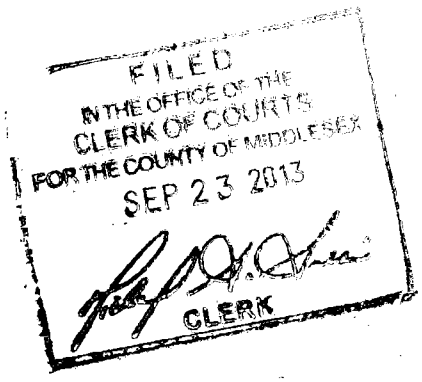
MIDDLESEX, ss.

Superior Court Department
Civil Action No.

TOWN OF ACTON, and
JANET K. ADACHI, MIKE GOWING,
KATIE GREEN, DAVID CLOUGH AND
JOHN SONNER AS THEY ARE THE
MEMBERS OF THE
BOARD OF SELECTMEN OF THE
TOWN OF ACTON,
Plaintiffs,

v.

W.R. GRACE & CO. — CONN.
Defendant.



VERIFIED COMPLAINT AND JURY TRIAL DEMAND

1. The Plaintiffs, Town of Acton (the "Town") and its Board of Selectmen ("Board") bring this action pursuant to the Town's Ground Water Cleanup Standards Bylaw (Chapter R of the Town's General Bylaws; hereafter the "Bylaw") to enjoin the defendant, W.R. Grace & Co.-Conn. ("Grace") from prematurely shutting down, decommissioning and/or removing a groundwater pumping and treatment remediation system (the active component of the so-called "Northeast Area Remedial Action") (hereafter the "Treatment System") installed and operated by Grace to remediate a plume of groundwater contamination from property owned and formerly operated by Grace in the Town. Grace's proposal to shut down, decommission and remove the Treatment System violates the Bylaw; will cause irreparable harm to the Town, the public, and the environment; and will continue to endanger a public drinking water supply aquifer within the Town which has been contaminated by Grace but not fully remediated by Grace as required by the Bylaw.

2. Attached as Exhibit A is a true, certified copy of the Bylaw.

The Parties

3. The plaintiff Town of Acton is a Massachusetts municipal corporation with its principal offices at Town Hall, 472 Main Street, Acton, MA 01720.

4. The plaintiffs Janet K. Adachi, Mike Gowing, Katie Green, David Clough and John Sonner are the duly elected members of the plaintiff Board of Selectmen of the Town. Each of these members resides in the Town.

5. The Defendant W.R. Grace & Co. — Conn. is a corporation organized under Connecticut law with a principal office at 7500 Grace Drive, Columbia, MD 21044. It was formerly known as W.R. Grace & Co.

Grace's Bankruptcy Action

6. On April 2, 2001, Grace filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Code in the United States Bankruptcy Code for the District of Delaware, Bankr., Case No. 01-01139-JKF.

7. On January 31, 2011, Grace's plan of reorganization was confirmed by the United States Bankruptcy Court for the District of Delaware.

8. Portions of Grace's Plan of Reorganization are currently under appeal to the Third Circuit Court of Appeals.

9. As of the date of the filing of this Complaint, Grace's Plan of Reorganization has not become effective.

10. This action is not barred by the automatic stay provisions of the Bankruptcy Code, 11 U.S.C. § 362.

11. Among other things, this action is a suit by a "governmental unit" to "enforce such governmental unit's police or regulatory power" within the meaning of 11 U.S.C. § 362(b)(4).

12. This Court has concurrent jurisdiction with the United States Bankruptcy Court for the District of Delaware to determine whether the automatic stay provision of the Bankruptcy Code applies to this action.

13. This suit would not be barred by the "discharge injunction" in Grace's confirmed plan of reorganization once it becomes effective.

14. This action seeks injunctive, not monetary relief.

15. This Court has concurrent jurisdiction to determine whether the discharge injunction in Grace's confirmed plan of reorganization applies to bar this action.

The Bylaw

16. The Town adopted the Bylaw on April 10, 1997 by unanimous vote of its annual Town Meeting.

17. The Town adopted the Bylaw "under its Home Rule Authority pursuant to Article 89 ... of the Amendments to the Massachusetts Constitution (the Home Rule Amendment), its police powers to protect the public health, safety, welfare, and its authorization under Massachusetts General Laws Chapter 40, Section 21, and its authority to plan for the prevention, control and abatement of water pollution under M.G.L. c. 21, § 27 (1)." Bylaw § 1.

18. The purpose of the Bylaw "is to protect, preserve, improve and maintain the Town of Acton's existing and potential public drinking water sources and to assure public health and safety through the application of stringent environmental ground water quality cleanup

standards which assure restoration of any contaminated water resources area covered by this Bylaw to a fully useable condition." Bylaw § 2.

19. The Bylaw recognizes (in §§ 3.1-3.4) that:

- The Town of Acton relies exclusively on groundwater sources within the Town as its sole source of public drinking water for residents, businesses and industries in the Town.

- There have been a number of documented releases and threats of release within the Town of "oil" and "hazardous material" as those terms are defined under Massachusetts General Laws Chapter 21E and the Massachusetts Contingency Plan, 310 CMR 40.0000 et. seq. (the "MCP").

- Groundwater that serves as Acton's public water supply has been contaminated or threatened by various releases and threats of release within the Town of "oil" and "hazardous material".

- Multiple contaminants in groundwater and/or multiple pathways of exposure to such contaminants has presented and continues to present extraordinary risks to Acton's present and future public drinking water supply sources.

20. The Bylaw provides (in § 5) that:

> Any Cleanup performed in the Town of Acton by a person potentially liable under Section 5(a) of General Laws Chapter 21E on, in, at, of or affecting any Resource Area(s) shall on a permanent basis meet or surpass in cleanness the Ground Water Cleanup Standards established by this Bylaw throughout the Resource Area for each and every contaminant for which the Cleanup is or has been undertaken.

21. The Bylaw further provides (in § 6) that:

> All sampled locations throughout the Resource Area shall meet the Ground Water [Cleanup] Standards established by this Bylaw. No averaging of samples may be used to determine compliance with the Ground Water Cleanup Standards for any particular sampling point, Resource Area or any combination of Resource Areas. All Resource Areas which undergo a Cleanup must be restored to a fully useable condition.

22. The Bylaw defines a "Cleanup" as "any response action, removal action or remedial action undertaken pursuant to any federal or state environmental law, rule, regulation,

order or decree involving the clean up or removal of any contaminant from the environment, including, without limitation, from land, waters and/or groundwaters." Bylaw § 4.9.

23. The Bylaw defines a "Resource Area" to mean and include "each and all of the following areas in the Town of Acton" (Bylaw § 4.11):

a. Zone 1 of all public water supply wells,

b. All DEP[1] Approved Wellhead Protection Areas,

c. Zone 2 of all public water supply wells,

d. All Interim Wellhead Protection Areas ("IWPAs") for a Public Water Supply, and

e. All Potentially Productive Aquifers.

24. The Bylaw further defines each of these five Resource Areas in Bylaw §§ 4.3-4.6 and 4.8.

25. The Bylaw defines "Contaminant" as "any physical, chemical, biological or radiological substance or matter in water. See 42 U.S.C. § 300f(6). The term 'Contaminant' includes, without limitation, any material or substance defined as 'oil' or 'hazardous material' under Massachusetts General Laws Chapter 21E or the Massachusetts Contingency Plan, 310 CMR 40.0000 et seq. (the 'MCP')." Bylaw § 4.1.

26. The Bylaw establishes Ground Water Cleanup Standards as follows:

"(1) Maximum Contaminant Level Goals ('MCLGs') established under the Safe Drinking Water

[1] DEP is defined in the Bylaw as "the Department of Environmental Protection, its predecessors and/or its successors." Bylaw § 4.2.

Act[2] for each Contaminant for which an MCLG has been established, see 40 CFR §§ 141.50 - 141.52; and (2) where an MCLG for a specific Contaminant is zero, or where an MCLG for a specific Contaminant has not been promulgated, 1 part per billion ("ppb") for any such volatile organic compound ('VOC') and 5 ppb total for all such VOC's." Bylaw § 4.10.

27. The Bylaw defines "Fully useable condition" to mean that "with respect to any Resource Area covered by this Bylaw, Contaminant levels meet or surpass in cleanness on a permanent basis Groundwater Cleanup Standards established by this Bylaw throughout the Resource Area for each and every Contaminant." Bylaw § 4.7.

28. Section 7 of the Bylaw provides that "it shall constitute a breach of this bylaw to discontinue for more than thirty (30) days or to abandon a Cleanup of a Resource Area without meeting the Groundwater Cleanup Standards of this Bylaw."

29. Section 7 of the Bylaw provides that "[a]ny breach of this Bylaw shall be deemed to cause irreparable harm to the Town of Acton and its citizens, residents, and persons employed in the Town, entitling the Town of Acton to all appropriate injunctive relief in addition to all other available remedies provided by law."

30. The Board is empowered by Section 7 of the Bylaw to enforce its provisions.

31. Over objection by Grace, the office of the Massachusetts Attorney General ("AG") approved the Bylaw pursuant to G.L. c. 40, § 32, on July 23, 1997.

32. Attached hereto as Exhibit B is a true, certified copy of the AG's letter approving the Bylaw.

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[2] Under the federal Safe Drinking Water Act ("SDWA"), Maximum Contaminant Level Goals or MCLGs are the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. *See* 40 CFR § 141.2. As applied to the operations of a public water system under the SDWA, MCLGs are nonenforceable goals which are generally set at or below the Maximum Contaminant Level ("MCL") which is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. *Id.*

33. After taking effect pursuant to G.L. c. 40, § 32, the Bylaw has continuously been in full force and effect in the Town.

34. The Bylaw is a valid exercise of the Town's Home Rule authority, police powers, and other governmental regulatory power.

35. The Bylaw is not preempted by any federal or state law or regulation.

36. The Ground Water Cleanup Standards established by the Bylaw are enforceable within the territorial limits of the Town of Acton.

37. The Board has the authority to grant a variance from the Ground Water Cleanup Standards of the Bylaw based on its consideration after a public hearing of a variety of factors including, without limitation, "whether achievement of the Ground Water Cleanup Standards is technologically infeasible or not cost-effective based on the limits of best available technology, the marginal costs, the marginal benefits, and the risks to the public health, safety, welfare and the environment." Bylaw § 8.

38. Grace has not applied for or obtained a variance under the Bylaw.

Grace's Violation of the Bylaw Is Imminent

39. As set forth in detail below, Grace has released Contaminants at and from its Acton property which have contaminated significant Resource Areas in the Town.

40. Grace is a person potentially liable under Section 5(a) of General Laws Chapter 21E for the release of these Contaminants.

41. Grace has been performing a Cleanup using the Treatment System of Grace's Contaminants on, in, at, of or affecting these Resource Areas in the Town.

42. Grace's Cleanup does not on a permanent basis meet or surpass in cleanness the Ground Water Cleanup Standards established by the Bylaw throughout the Resource Area for the Contaminants for which the Cleanup is or has been undertaken.

43. Grace has proposed to shut down, decommission and remove the Treatment System without meeting the Ground Water Cleanup Standards established by the Bylaw.

44. Grace is about to shut down the Treatment System without meeting the Ground Water Cleanup Standards established by the Bylaw and in violation of the Bylaw.

Grace's Contamination of Resource Areas in the Town

45. The W. R. Grace (Acton Plant) Superfund site (the "Site") is located in the towns of Acton and Concord.

46. The Site is comprised of approximately 260 acres of land and includes several surface water bodies and wetlands.

47. Grace or its predecessor(s)-in-interest have continuously owned the Site from approximately 1954 to and including the present.

48. Grace's operations at the Site included the use and disposal of numerous VOCs, including without limitation 1,1-dichloroethene (also known as "1,1-dichloroethylene" and "vinylidene chloride" ("VDC")), vinyl chloride, benzene, and 1,4-dioxane ("dioxane").

49. VOCs, including without limitation VDC, vinyl chloride, benzene, and dioxane, are Contaminants as defined in § 4.1 of the Bylaw.

50. Grace's operations at the Site released Contaminants (including without limitation VOCs, VDC, vinyl chloride, benzene, and dioxane) into unlined lagoons, an on-Site industrial landfill and/or other disposal areas at the Site.

51. Grace's operations at the Site released Contaminants (including without limitation VOCs, VDC, vinyl chloride, benzene, and dioxane) into the environment.

52. Grace's operations at the Site released Contaminants (including without limitation VOCs, VDC, vinyl chloride, benzene, and dioxane) into the groundwater beneath and downgradient of the Site.

53. Grace's manufacturing operations at the Site have ceased; however, Contaminants (including without limitation VOCs, VDC, vinyl chloride, benzene, and dioxane) released at or from the Grace's Site continue to contaminate and to migrate downgradient with groundwater at and from the Site.

54. The Town relies exclusively on groundwater as the sole source of public drinking water for the citizens, residents, businesses and other institutions within the Town.

55. Beneath the Site, there is a groundwater divide.

56. Groundwater generally south of the divide flows, *inter alia*, toward the public drinking water wells known as Assabet 1 and Assabet 2 located approximately 1,300 feet south of the Site.

57. Groundwater generally north of the divide flows, *inter alia*, toward the public drinking water well field known as the School Street Well Field (comprised of the Lawsbrook, Scribner and School Street Wells) located approximately 3,700 feet northeast of the Site.

58. Groundwater migrating from beneath the Site commingles with and comprises a portion of the groundwater aquifers providing groundwater to the public drinking water supply wells Assabet 1 and Assabet 2 (to the south) and the Lawsbrook, Scribner and School Street Wells (to the north).

59. These groundwater aquifers are Resource Areas under § 4.11 of the Bylaw including, without limitation, Zone 1 of public water supply wells, DEP Approved Wellhead Protection Areas, Zone 2 of public water supply wells, IWPAs for a Public Water Supply, and/or Potentially Productive Aquifers.

60. Pursuant to DEP regulations, these aquifers are categorized as GW-1 because they are used as a Current Drinking Water Supply Area; and they are also considered a Potential Drinking Water Supply Area.

Current Status of Contaminants at and from the Site

61. Contaminants (including without limitation VOCs) released at or from the Grace's Site have contaminated and continue to contaminate Resource Areas under § 4.11 of the Bylaw at levels above the limits specified by the Bylaw's Ground Water Cleanup Standards in § 4.10 of the Bylaw.

62. Contaminants (including without limitation VOCs) released at or from Grace's Site continue to contaminate public drinking water aquifers and continue to migrate toward public drinking water supply wells.

VDC

63. VDC is a VOC and is a Contaminant within the meaning of Bylaw § 4.1.

64. VDC is a possible human carcinogen according to EPA Cancer Guidelines.[3]

65. VDC "may cause health problems if present in public or private water supplies in amounts greater than the drinking water standard set by EPA."[4]

66. For VDC, the federal and state MCL and MCLG are set at seven (7) parts per billion ("ppb").[5]

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[3] See http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showQuickView&substance_nmbr=0039#woe.

[4] See http://water.epa.gov/drink/contaminants/basicinformation/1-1-dichloroethylene.cfm.

67. Concentrations of VDC in Resource Areas that exceed 7 ppb do not meet the Ground Water Cleanup Standards of the Bylaw. *See* Bylaw § 4.10(1).

68. Concentrations of VDC exceed 7 ppb in a continuous plume of Contaminants extending from Grace's Site to the Lawsbrook and Scribner public drinking water supply wells. *See* Figure 4 to the Letter dated February 25, 2013 from Grace's consultant, Tetra Tech, Inc. ("Tetra Tech") to the USEPA and DEP, a true and accurate copy of which is attached as Exhibit C (the "Tetra Tech Letter").

69. Within the plume are concentrations of VDC ranging from 7-30 ppb, 30-60 ppb and 60-86 ppb. *See* Tetra Tech Letter at Figure 4.

70. These concentrations are up to over 12 times greater than the MCLs and MCLGs for VDC.

71. VDC concentrations in Extraction Well NE-1 have exceeded 7 ppb on all dates shown in Figure 5 of the Tetra Tech Letter.

72. VDC released at or from Grace's Site is contaminating Resource Areas in concentrations that do not meet the Ground Water Cleanup Standards of the Bylaw.

Vinyl Chloride

73. Vinyl chloride is a VOC and is a Contaminant within the meaning of Bylaw § 4.1.

74. Vinyl chloride is a known human carcinogen according to the EPA's Cancer Guidelines.[6]

75. The federal and state MCLG for vinyl chloride is zero (0) ppb.[7]

76. The federal and state MCL for vinyl chloride is two (2) ppb.[8]

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[5] See http://water.epa.gov/drink/contaminants/basicinformation/1-1-dichloroethylene.cfm; and http://www.mass.gov/eea/agencies/massdep/water/drinking/standards/1-1-dichloroethylene.html.

[6] *See* http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showQuickView&substance_nmbr=1001.

[7] See http://water.epa.gov/drink/contaminants/basicinformation/vinyl-chloride.cfm and http://www.mass.gov/eea/agencies/massdep/water/drinking/standards/vinyl-chloride.html.

77. Concentrations of vinyl chloride in Resource Areas that exceed 1 ppb do not meet the Ground Water Cleanup Standards of the Bylaw. *See* Bylaw § 4.10(2).

78. Concentrations of vinyl chloride exceed 2 ppb within the Resource Area in the vicinity of the Site. *See* Attachment A to the Tetra Tech Letter.

79. Vinyl chloride released at or from Grace's Site is contaminating Resource Areas in concentrations that do not meet the Ground Water Cleanup Standards of the Bylaw.

Other VOCs

80. Benzene is a VOC and is a Contaminant within the meaning of Bylaw § 4.1.

81. Benzene is a known human carcinogen according to the EPA's Cancer Guidelines.[9]

82. Concentrations of benzene in Resource Areas that exceed 1 ppb do not meet the Ground Water Cleanup Standards of the Bylaw. *See* Bylaw § 4.10(2).

83. Concentrations of benzene exceed one ppb within the Resource Area in the vicinity of the Site. *See* Attachment A to the Tetra Tech Letter.

84. Benzene released at or from Grace's Site is contaminating Resource Areas in concentrations that do not meet the Ground Water Cleanup Standards of the Bylaw.

85. Dioxane is a VOC and is a Contaminant within the meaning of Bylaw § 4.1.

86. Dioxane is likely to be carcinogenic according to the EPA's Cancer Guidelines.[10]

87. There is no established MCL or MCLG for dioxane.[11]

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[8] *Id.*

[9] *See* http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showQuickView&substance_nmbr=0276 .

[10] http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showQuickView&substance_nmbr=0326.

[11] DEP's Office of Research and Standards ("ORS") has established an ORS Guideline ("ORSGL") for dioxane in drinking water of 0.3 ppb. See http://www.mass.gov/eea/agencies/massdep/water/drinking/standards/1-4-dioxane.html.

88. Concentrations of dioxane in Resource Areas that exceed 1 ppb do not meet the Ground Water Cleanup Standards of the Bylaw. *See* Bylaw § 4.10(2).

89. Concentrations of dioxane exceed 1 ppb in the Resource Area in the vicinity of the Site.

90. Dioxane released at or from Grace's Site is contaminating Resource Areas in concentrations that do not meet the Ground Water Cleanup Standards of the Bylaw.

EPA and DEP Actions at the Site

91. There is a long history of federal and state enforcement activity concerning the Grace Site; however, as shown below, these enforcement efforts have not caused and will not cause Grace's Cleanup of Resource Areas affected by Contaminants released by Grace to meet the Ground Water Cleanup Standards of the Bylaw. Rather, to require Grace to meet the Ground Water Cleanup Standards of the Bylaw, the Plaintiffs must seek relief from this Court to enforce the Bylaw.

92. The United States filed a civil action against Grace on April 17, 1980 to require cleanup of the Site pursuant to Section 7003 of the Resource Conservation and Recovery Act ("RCRA") (*United States* v. *W.R. Grace & Co.*, D. Mass. Civ. A. No. 80-748-C).

93. The Commonwealth of Massachusetts initiated a parallel administrative action to the United States' RCRA action.

94. In October 1980, EPA and Grace entered into a Consent Decree regarding Site cleanup under RCRA (the "1980 Consent Decree").

95. The 1980 Consent Decree required, among other things, restoration to a fully usable condition of groundwater and drinking water aquifers contaminated by operations at the Site.

96. On July 14, 1980, the Massachusetts Department of Environmental Quality Engineering (now DEP), and Grace entered into an Administrative Consent Order (the "ACO"), which was amended on April 15, 1981, to conform to the federal Consent Decree between Grace and EPA.

97. On September 8, 1983, EPA added the Site to the National Priorities List of Superfund sites pursuant to Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA").

98. In March 1985, pursuant to the 1980 Consent Decree and the ACO, Grace began operating an Aquifer Restoration System ("ARS") to remove and treat contaminated groundwater under the former waste disposal areas south of the groundwater divide at the Site.

99. Until November 2002, the ARS consisted of eleven extraction wells pumping at a combined rate of approximately 570 gallons per minute.

100. Between November and December 2002, three of the extraction wells were removed from service, leaving a system of eight extraction wells pumping at a combined rate of approximately 400 gallons per minute.

101. In September 1989, EPA issued a Record of Decision for the Site pursuant to CERCLA (the "First ROD").

102. The First ROD divided planned activities at the Site into three "Operable Units."

103. Operable Unit One addressed disposal areas and surficial contamination at the Site.

104. Operable Unit Two addressed residual contamination in disposal areas at the Site following implementation of Operable Unit One.

105. Operable Unit Three ("OU3") addressed contaminated groundwater and the establishment of groundwater target cleanup goals.

106. In 1994, Grace began implementing the work under Operable Unit One, which included, among other things, excavation and removal of contaminated soils at the Site.

107. No action was undertaken under Operable Unit Two based on the results of post-excavation sampling following the completion of work under Operable Unit One.

108. In 1998 (approximately 18 years after the 1980 Consent Decree and the ACO), EPA, Grace and DEP negotiated a Statement of Work for a Remedial Investigation/Feasibility Study for work under OU3, and Grace commenced work under OU3 to determine the extent of groundwater contamination on- and off-Site and to identify the remedial measures necessary to restore the groundwater to a "fully useable condition in the shortest practical time." Record of Decision for OU3 at 12.

The Record of Decision for OU3

109. On September 30, 2005 1998 (approximately 25 years after the 1980 Consent Decree and the ACO), EPA issued the Record of Decision selecting the remediation plan for OU3 (the "OU3 ROD").

110. Among other things, the OU3 ROD addressed remediation of contaminated groundwater that poses a potentially unacceptable risk to human health and the environment.

111. The OU3 ROD stated that the selected remedy for OU3 "provides for a comprehensive approach for [the] Site that addresses all remaining current and potential future risks presented at the Site." OU3 ROD at 16.

112. The predominant concern raised by commenters during the public comment period on the OU3 ROD "centered on how the Proposed Plan addressed groundwater contamination in one specific part of the site, the Northeast Area." OU3 ROD at 86.

113. Baseline human health and ecological risk assessments conducted in connection with the OU3 ROD,

> revealed that potential exposure to compounds of concern in groundwater and sediment via ingestion, dermal contact, and/or inhalation by human receptors may present an unacceptable human health risk (cancer risk greater than 10^{-4} and noncancer Hazard Index greater than 1), or an unacceptable ecological risk.

OU3 ROD at 46.

114. The OU3 ROD concluded that, because of these risks, "actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment." OU3 ROD at 46.

115. The OU3 ROD's selected remedy for OU3 included "active treatment of contaminated groundwater ..., monitored natural attenuation of groundwater beyond the active treatment zones and institutional controls to restrict groundwater use until the cleanup objectives have been met to address unacceptable risks." OU3 ROD at 66.

116. The Response Action Outcome for the selected remedy under the OU3 ROD is to:

- Prevent potential exposure to concentrations of contaminated groundwater from the Site having carcinogens in excess of [Applicable or Relevant and Appropriate Requirements ("ARARs")] (i.e. [Maximum Contaminant Levels ("MCLs")], non-zero MCLGs), and prevent exposure to groundwater that may pose a total excess cancer risk in groundwater in excess of USEPA's cancer risk range of 10^{-4} to 10^{-6} and/or which exceed a target noncancer hazard index of one.

- Restore groundwater quality consistent with ARARs and cleanup goals so that the aquifer is suitable as a public water supply and for irrigation purposes without pre-treatment for Site-related contaminants.

OU3 ROD at 47.

117. The OU3 ROD describes the "primary expected outcome of the selected remedy" as restoring "the groundwater/aquifer at the Site ... such that it will be useful for domestic purposes (e.g., ingestion, bathing, cooking, etc.) without pre-treatment for Site-related contaminants." OU3 ROD at 76.

118. The OU3 ROD specified that restoring groundwater to a "fully usable condition" required restoring groundwater "to a level that is protective in accordance with state and federal regulations such as [the] Safe Drinking Water Act, taking into account site-specific conditions." OU3 ROD at 91.

119. The OU3 ROD provides that "attainment of federal and state drinking water standards shall be a requirement of the groundwater remedy." OU3 ROD at 77.

120. The OU3 ROD determined that MCLs and non-zero MCLGs established under the Safe Drinking Water Act are appropriate remedial goals for ground or surface waters that are current or potential sources of drinking water pursuant to the National Contingency Plan. *See* OU3 ROD at 120.

121. The OU3 ROD, at Table L-4, established MCLGs and MCLs as Interim Groundwater Cleanup Levels.

122. For VDC, the OU3 ROD established an Interim Groundwater Cleanup Level based on the MCLG for VDC of seven (7) ppb. This is the exact same numerical standard as the Bylaw's Ground Water Cleanup Standard for VDC. *See* Bylaw § 4.10(1).

123. For vinyl chloride and benzene, the OU3 ROD established an Interim Groundwater Cleanup Level based on their respective MCLs of two (2) ppb and five (5) ppb.

124. Based on the MCLG of zero for each of these known or likely carcinogenic compounds, the Bylaw sets a stricter Ground Water Cleanup Standard for vinyl chloride and benzene of 1 ppb any and 5 ppb total of these VOCs. *See* Bylaw § 4.10(2).

125. For dioxane, a likely carcinogen, there is no established MCL or MCLG so the OU3 ROD is silent as to its cleanup standard.

126. By contrast, the Bylaw applies the Ground Water Cleanup Standard of 1 ppb any and 5 ppb total (which is actually more lenient than the DEP ORSGL guidance limit for dioxane in drinking water of 0.3 ppb). *See* Bylaw § 4.10(2).

127. The OU3 ROD required, among other things, the installation of additional extraction wells in the northeast area of the Site as part of the Northeast Area Remedial Action.

128. The OU3 ROD selected a remedy involving targeted active pumping, rather than one "relying on monitored natural attenuation for groundwater in the Northeast Area of the Site," in part in response to public comments from the Town and others. OU3 ROD at 85. *See also* OU3 ROD at 87.

129. On September 29, 2005, DEP issued a Letter of Concurrence with the OU3 ROD. OU3 ROD at Appendix A.

130. In September 2006, EPA issued a Remedial Design/Remedial Action Statement of Work under OU3 at the Site (the "RD/RA").

131. The RD/RA described, among other things, procedures and submittals required for the Treatment System and the Northeast Area Remedial Action.

132. The RD/RA for OU3 provides that "[t]reated effluent from groundwater extracted from the Northeast Area may be diverted back to the Northeast Area Aquifer (NAA) or, under appropriate conditions, discharged to Sinking Pond. The purpose of discharging treated effluent

to the NAA would be to mitigate a decrease in yield of groundwater to the School Street public well field and/or mitigate a decrease of stream flow to Fort Pond Brook, which is also located in the Northeast Area." RD/RA at 2-3.

133. The RD/RA also required Grace to evaluate, as part of the Treatment System's design, whether "treated groundwater from the Northeast Area will be recharged back into this area (via re-injection or infiltration galleries) or be treated and then discharged to Sinking Pond." RD/RA at 16.

134. DEP stated in its Letter of Concurrence on the OU3 ROD that, "A portion of the treated water will be discharged to Sinking Pond; the remainder will be infiltrated and/or reinjected into the ground in the area of the Northeast Plume to minimize reduction in yield at the School Street municipal wells." OU3 ROD at Appendix A.

135. The RD/RA required the Northeast Area Groundwater Concept design to include preliminary design assumptions and parameters for, among other things, "compliance with all ARARs, pertinent codes, and standards." RD/RA at 18.

136. The RD/RA required a Northeast Area Groundwater Operation and Maintenance Quality Assurance Plan that includes, without limitation, a description of monitoring tasks, required laboratory tests, and data collection. RD/RA at 41.

137. The RD/RA required Grace, in designing the Treatment System, to present "[a]lternate procedures to prevent releases or threatened releases of hazardous substances, pollutants, or contaminants, which may endanger health and the environment or cause an exceedance of any cleanup standard." RD/RA at 41.

138. The RD/RA provides that completion or partial completion of groundwater remediation at and downgradient of the Site will require, among other things, a human health risk assessment. RD/RA at 47.

139. The Treatment System began to operate in April 2010 (approximately 30 years after the 1980 Consent Decree and the ACO).

140. The Treatment System has, since April 2010, involved pumping groundwater from bedrock extraction well NE-1, treating the pumped water at a treatment facility located on a property adjoining the Site (the "Linde Property"), and injecting the treated water into shallow unconsolidated deposits using reinjection well RE-1 or RE-2.

141. The Treatment System was planned and the RD/RA design called for a pumping rate of fifty (50) gallons per minute.

142. Since 2010, the Treatment System has been operating at an average pumping rate of less than twenty (20) gallons per minute. *See* Tetra Tech Letter at page 4.

143. Despite operating at about 40% of the RD/RA design capacity, the Treatment System has, during its three years of operations, removed over fourteen pounds of VOCs from the aquifer since operation began (approximately 5.9 pounds in the nine months of operation in 2010; approximately 4.5 pounds in 2011; and approximately 3.7 pounds in 2012; and an unreported amount to date in 2013). *See* Tetra Tech Letter at page 4 and Figures 4 and 5.

144. Based on a comparison of the extent and concentration of Grace's plume of Contaminants affecting Resource Areas in 2009 (before the Treatment System began to operate) and in 2012 (approximately three years into its operation), the Treatment System has removed and will (if it is not shut down) continue to remove significant amounts of Grace's Contaminants

from affected Resource Areas downgradient of the Site. *Compare* Tetra Tech Letter Figures 4 and 5.

145. Despite this progress to date, the Cleanup being performed under the Northeast Area Remedial Action has not achieved "the Ground Water [Cleanup] Standards established by [the] Bylaw throughout the Resource Area for each and every Contaminant for which the Cleanup is or has been undertaken." Bylaw § 5.

146. Instead, as shown on Figure 4 to the Tetra Tech Letter, Contaminant concentrations of VDC exceed the Bylaw's Ground Water Cleanup Standard of 7 ppb in a continuous plume affecting Resource Areas extending from the Grace Site (in the area of the former blow down pit) to the Lawsbrook and Scribner wells.

147. From Figure 4 to the Tetra Tech Letter, this plume appears to be about a mile long and about 1200 feet wide.

148. Within the plume there are Contaminant concentrations of VDC in concentration ranges of 7-30 ppb, 30-60 ppb and 60-86 ppb, up to an order of magnitude greater than the MCLG of 7 ppb.

149. The highest concentrations are proximate to the Lawsbrook and Scribner wells, and a substantial area of elevated concentrations exists beneath the residential subdivision in the Lisa Lane area.

Grace's Proposal to Discontinue the Treatment System

150. Despite Tetra Tech acknowledging that there "has been a significant reduction in VOC concentrations in the Northeast Area as well as some shrinkage of the areal extent of contamination" since the Treatment System began to operate and that "[w]ater levels and extraction rate data collected by the Acton Water District....do not show any obvious impact to

yield or drawdown from operation" of the Treatment System, Grace proposed to "shut down the Northeast Area Remedial Action on April 1, 2013 and begin decommissioning the system." *See* Tetra Tech Letter at pages 3, 5 and 6.

151. Specifically, Grace proposed to shut down the active pumping system; decommission extraction well NE-1, reinjection wells RE-1 and RE-2, and observation wells RE-1OBS and RE-20OBS; remove the treatment system building and associated underground piping and electrical lines from the Linde property; and regrade and seed disturbed areas. Grace proposes to maintain access to the Linde Property for annual groundwater monitoring. *See* Tetra Tech Letter at page 7.

152. Thus, Grace sought to take advantage of a provision in the OU3 ROD allowing, at the end of three years of operation of the groundwater extraction system, for "an evaluation to determine if pumping can be discontinued." OU3 ROD at 69.

153. Because any such proposal to shut down the Treatment System required concurrence from EPA and DEP under the requirements of the OU3 ROD, the Town objected to the proposed shutdown, decommissioning and removal of the Treatment System in a letter to EPA and DEP, a true copy of which is attached as Exhibit D.

154. In addition to noting the Town's objections to the proposed shutdown, decommissioning and removal of the Treatment System under the requirements of the OU3 ROD, the Town pointed out that its, "Discontinuance and removal…would also violate the Town's Ground Water Cleanup Standards Bylaw …." Exhibit D, at page 5, n. 5.

155. EPA and DEP took under advisement Grace's proposal to shut down, decommission and remove the Treatment System and the Town's objection thereto.

156. By letter dated September 20, 2013, EPA, in consultation with DEP, provided "conditional approval for shutdown of the Northeast treatment system."

157. Attached as Exhibit E is a true and accurate copy of EPA's conditional shutdown approval letter dated September 20, 2013.

158. The conditional shutdown approval letter included five conditions, only two of which are preconditions to Grace shutting down the Treatment System:

- The 2013 annual groundwater sampling and elevation measurements must be completed prior to shutdown (it is our understanding from recent discussions that the annual groundwater event has already been completed); [and]

- We understand that W. R. Grace has sampled the four individual Scriber wells on September 19, 2013. Once W. R. Grace confirms that they will perform three additional rounds of quarterly sampling for the Scribner well, the Northeast Area treatment system may be shut down.

See Exhibit E, page 2, ¶¶ 2 and 5.[12]

159. According to the conditional shutdown approval letter, the first precondition has been satisfied and that the second precondition simply requires Grace to confirm that it will perform certain future testing.

160. As such, the conditional shutdown approval letter authorizes Grace to imminently shut down the Treatment System.

161. The conditional shutdown approval letter does not address the Bylaw's Ground Water Cleanup Standards in any way.

[12] The other three conditions related to Grace's (a) not dismantling or removing the Treatment System "until EPA and MassDEP review and provide comments on the 2014 annual groundwater monitoring report for the site," (b) sampling and analyzing for 1,4 dioxane the "four individual wells that make up the Scribner town well ... quarterly for at least a one-year period," and (c) providing these sampling results to AWD and DEP "as soon as the results are available or, at a minimum, within 10 days of the end of the quarterly monitoring period." Exhibit E, page 2, ¶¶ 1, 3 and 4.

162. In fact, the Ground Water Cleanup Standards established by the Bylaw have not been met throughout the Resource Areas affected by Grace's Contaminants at this time.

163. Shutting down the Treatment System without meeting the Ground Water Cleanup Standards throughout the Resource Areas would violate the Bylaw.

164. In the absence of active treatment performed by the Treatment System, Grace (and EPA and DEP) are relying on "monitored natural attenuation" of groundwater contamination and so-called "institutional controls" to restrict groundwater use until the cleanup objectives of the OU3 ROD have been met to address unacceptable risks. *See* OU3 ROD at 66.

165. Unlike the active treatment performed by the Treatment System, "monitored natural attenuation" and "institutional controls" do not constitute an active Cleanup of Grace's Contaminants under Section 4.9 of the Bylaw.

The Resource Areas Have Not Been Restored to a Fully Usable Condition

166. Notwithstanding the issuance of the conditional shutdown approval letter, Grace's proposal to shut down the Treatment System violates the Bylaw because Grace's Cleanup of its Contaminants affecting Resource Areas in the Town has not and does not "on a permanent basis meet or surpass in cleanness the Ground Water Cleanup Standards established by [the] Bylaw throughout the Resource Area for each and every Contaminant for which the Cleanup is or has been undertaken." Bylaw § 5.

167. Moreover, under Bylaw §§ 4.7 and 6, Grace's Cleanup has not restored all affected Resource Areas "to a fully useable condition."

168. Groundwater within these Resource Areas remains – and for decades more is likely to remain – polluted with Grace's Contaminants above MCLGs, above MCLs, and above the Bylaw's Ground Water Cleanup Standards.

169. This condition affects not only the public drinking water supply Resource Areas but also prevents any member of the public owning property within the plume-affected area from making an otherwise legal private use of the contaminated groundwater.

170. Grace's consultant, Tetra Tech, has submitted a draft "Institutional Control Plan" dated May 20, 2011 (the "Draft ICP"), proposing to "prevent unacceptable exposures to contaminated groundwater ... and to minimize unnecessary spreading of groundwater contamination" by limiting "the installation of extraction and injection wells within the [Institutional Control] Area of the Site until Interim Groundwater Cleanup Goals are attained." Draft ICP at 1-1. Those levels have not been attained and will not be attained for decades.

171. With respect to the Draft ICP, EPA has stated in a letter to the Town dated July 11, 2011, that: "an area of groundwater contamination has been identified where groundwater would not be safe for homeowners or other to ingest or otherwise come into contact with." That unsafe contaminated condition remains unabated.

172. Simply put, Grace's Cleanup has not restored the contaminated Resource Areas to a Fully Usable Condition, and shutting down the active Treatment System components of the Northeast Area Remedial Action will prolong the time during which the contaminated Resource Areas remain not restored to a Fully Usable Condition.

COUNT I
(Violation of Chapter R of the General Bylaws of the Town of Acton)

173. The Plaintiffs repeat and reiterate the allegations set forth in ¶¶ 1-172, above.

174. The Bylaw provides that (§ 5; emphasis added):

> **Any Cleanup performed in the Town of Acton** by a person potentially liable under Section 5(a) of General Laws Chapter 21E on, in, at, of or affecting any Resource Area(s) **shall on a permanent basis meet or surpass in cleanness the Ground Water Cleanup Standards established by this Bylaw throughout the Resource Area for each and every contaminant for which the Cleanup is or has been undertaken.**

175. Pursuant to Section 4.10 of the Bylaw, the Ground Water Cleanup Standards under the Bylaw are equivalent to the MCLGs established under the Safe Drinking Water Act for each contaminant for which an MCLG has been established, or, if the MCLG is zero or no MCLG has been established, 1 ppb for any VOC and 5 ppb total for all VOCs.

176. Under Section 7 of the Bylaw, "it shall constitute a breach of this bylaw to discontinue for more than thirty (30) days or to abandon a Cleanup of Resource Area without meeting the Ground Water Cleanup Standards of this Bylaw."

177. Grace's proposal to shut down, discontinue and remove the Treatment System, the active treatment component of the Northeast Area Remedial Action, violates the Bylaw because Grace's Cleanup has not met the applicable Ground Water Cleanup Standards throughout the affected Resource Areas on a permanent basis; and Grace's proposal therefore constitutes a premature discontinuance and abandonment of the Cleanup in violation of the Bylaw.

178. Grace's imminent shut down of the Treatment System violates the Bylaw because Grace's Cleanup has not met the applicable Ground Water Cleanup Standards throughout the affected Resource Areas on a permanent basis. Grace's proposal therefore constitutes a premature discontinuance and abandonment of the Cleanup in violation of the Bylaw.

179. Without limitation, Grace's Cleanup has not met the Bylaw's Ground Water Cleanup Standards for VDC, vinyl chloride, benzene, dioxane, and, total VOCs throughout the Resource Areas contaminated by the release of Contaminants at and from the Site.

180. Under Section 7 of the Bylaw, "[a]ny breach of this Bylaw shall be deemed to cause irreparable harm to the Town of Acton and its citizens, residents, and persons employed in

the Town, entitling the Town of Acton to all appropriate injunctive relief in addition to all other available remedies provided by law."

181. Grace's failure to complete its Cleanup "on a permanent basis [to] meet or surpass in cleanness the Ground Water Cleanup Standards established by [the] Bylaw throughout the Resource Area for each and every contaminant for which the Cleanup is or has been undertaken" has caused and will cause irreparable harm to the Town, the public and the environment.

182. Accordingly, the Plaintiffs seek injunctive relief prohibiting Grace from shutting down, decommissioning and removing the Treatment System until such a time as Grace has in accordance with the Bylaw on a permanent basis met or surpassed in cleanness the Ground Water Cleanup Standards established by the Bylaw throughout the affected Resource Areas for each and every Contaminant for which the Cleanup is or has been undertaken.

COUNT II
(Declaratory Judgment)

183. The Plaintiffs repeat and reiterate the allegations set forth in ¶¶ 1-182, above.

184. There is an actual controversy between the Plaintiffs and Grace concerning the permissibility of Grace's proposal to shut down, discontinue and/or remove the Treatment System.

185. For Grace to shut down the Treatment System will prolong the contamination of the affected Resource Areas, violate the Bylaw, and irreparably harm the Town, the public and the environment.

186. The Town is entitled to a declaratory judgment that Grace's proposal to shut down, discontinue and/or remove the Treatment System violates the Bylaw and will cause irreparable harm to the Town, the public and the environment.

WHEREFORE, the Plaintiffs request that the Court grant the following relief:

1. Determine that adjudication of this action requesting enforcement of the Bylaw is an exercise of the Town's police and regulatory powers, and is therefore excepted from the automatic stay under the Bankruptcy Code;

2. Declare that W.R. Grace & Co.-Conn.'s proposal to shut down, decommission and/or remove the Treatment System violates the Bylaw and causes or will cause irreparable harm to the Town, the public and the environment;

3. Issue an *ex parte* temporary restraining order forthwith restraining and enjoining W.R. Grace & Co.-Conn. and those acting in concert with it from shutting down the Treatment System (*i.e.* the groundwater pumping and treatment system component of the Northeast Area Remedial Action) until further order of this Court;

4. Issue a short order of notice to W.R. Grace & Co.-Conn. to show cause why the Court should not issue a preliminary injunction restraining and enjoining W.R. Grace & Co.-Conn. and those acting in concert with it from shutting down, decommissioning and/or removing the Treatment System (*i.e.* the groundwater pumping and treatment system component of the Northeast Area Remedial Action, including without limitation extraction well NE-1, reinjection wells RE-1 and RE-2, and the associated treatment system, treatment system building, pumps, piping, electrical lines and treatment system components) until such time as Grace has in accordance with the Bylaw on a permanent basis met or surpassed in cleanness the Ground Water Cleanup Standards established by Chapter R of the Town of Acton's Bylaw throughout the Resource Area for each and every contaminant for which the Cleanup by Grace is or has been undertaken.

5. After a hearing for which notice is given to W.R. Grace & Co.-Conn., issue a preliminary injunction restraining and enjoining W.R. Grace & Co.-Conn. and those acting in concert with it from shutting down, decommissioning and/or removing the Treatment System (*i.e.* the groundwater pumping and treatment system component of the Northeast Area Remedial Action, including without limitation extraction well NE-1, reinjection wells RE-1 and RE-2, and the associated treatment system, treatment system building, pumps, piping, electrical lines and treatment system components) until such time as Grace has in accordance with the Bylaw on a permanent basis met or surpassed in cleanness the Ground Water Cleanup Standards established by Chapter R of the Town of Acton's Bylaw throughout the Resource Area for each and every contaminant for which the Cleanup by Grace is or has been undertaken;

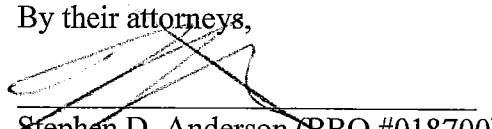
6. Issue a permanent injunction restraining and enjoining W.R. Grace & Co.-Conn. and those acting in concert with it from shutting down, decommissioning and/or removing the Treatment System (*i.e.* the groundwater pumping and treatment system component of the Northeast Area Remedial Action, including without limitation extraction well NE-1, reinjection wells RE-1 and RE-2, and the associated treatment system, treatment system building, pumps, piping, electrical lines and treatment system components) until such time as Grace has in accordance with the Bylaw on a permanent basis met or surpassed in cleanness the Ground Water Cleanup Standards established by the Town of Acton's Bylaw throughout the Resource Area for each and every contaminant for which the Cleanup is or has been undertaken;

7. Award the its costs of this action; and

8. Award the Town such other relief as is just and proper.

THE PLAINTIFF DEMANDS A JURY TRIAL ON ALL ISSUES SO TRIABLE.

The Plaintiffs,
By their attorneys,



Stephen D. Anderson (BBO #018700)
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mmakarious@andersonkreiger.com

Dated: September 23, 2013

VERIFICATION

I, Douglas Halley, on oath depose and say that I am the Health Director for the Town of Acton. I have been employed professionally by the Town for over thirty years. In my professional capacity, over the course of decades, I have reviewed significant amounts of information concerning Contaminants released at and from the Grace Site, remedial activities conducted at and in the vicinity of the Grace Site, and the continued presence of Grace's Contaminants affecting Resource Areas within the Town. I have visited the Grace Site on numerous occasions and I have personally observed both contaminated areas at the Site and various remedial activities conducted with respect thereto, including without limitation the Northeast Area Remedial Action's Treatment System. To the best of my knowledge, information and belief, the facts set forth in this Verified Complaint are true and accurate based on my personal knowledge and on information derived from records in the Town of Acton's possession, custody and control.

Signed under the penalties of perjury this 23rd day of September 2013

Douglas Halley

EXHIBIT A

A TRUE COPY, ATTEST:

TOWN CLERK, ACTON, MA

CHAPTER R

Ground Water Cleanup Standards

1. Authority

This Bylaw is adopted by the Town of Acton under its Home Rule Authority pursuant to Article 89, Section 6 of the Amendments to the Massachusetts Constitution (the Home Rule Amendment), its police powers to protect the public health, safety, welfare, and its authorization under Massachusetts General Laws Chapter 40, Section 21, and its authority to plan for the prevention, control and abatement of water pollution under M.G.L. c. 21, § 27 (1).

2. Purpose

The purpose of this Bylaw is to protect, preserve, improve and maintain the Town of Acton's existing and potential public drinking water sources and to assure public health and safety through the application of stringent environmental ground water quality clean up standards which assure restoration of any contaminated water resources area covered by this Bylaw to a fully useable condition.

3. Recitations

3.1 *The Town of Acton relies exclusively on groundwater sources within the Town as its sole source of public drinking water for residents, businesses and industries in the Town.*

3.2 *There have been a number of documented releases and threats of release within the Town of "oil" and "hazardous material" as those terms are defined under Massachusetts General Laws Chapter 21E and the Massachusetts Contingency Plan, 310 CMR 40.0000 et.seq. (the "MCP").*

3.3 *Groundwater that serves as Acton's public water supply has been contaminated or threatened by various releases and threats of release within the Town of "oil" and "hazardous material".*

3.4 *Multiple contaminants in groundwater and/or multiple pathways of exposure to such contaminants has presented and continues to present extraordinary risks to Acton's present and future public drinking water supply sources.*

4. Definitions

The following terms shall have the following meanings in this Bylaw:

4.1 *"Contaminant" means any physical, chemical, biological or radiological substance or matter in water. See 42 U.S.C. § 300f(6). The term "Contaminant" includes, without limitation, any material or substance defined as "oil" or "hazardous material" under Massachusetts General Laws Chapter 21E or the Massachusetts Contingency Plan, 310 CMR 40.0000 et seq. (the "MCP").*

4.2 *"DEP" means the Department of Environmental Protection, its predecessors and/or its successors.*

4.3 *"Zone 1" shall be that area defined as "Zone 1 - The Wellhead Protection Area" by Section 4.3.2.1 of the Acton Zoning Bylaw's Groundwater Protection District Regulations.*

4.4 *"DEP Approved Wellhead Protection Area" means the protective radius around a public water supply well or wellhead which has been approved by DEP as show on a DEP Bureau of Waste Site Cleanup Map of the Town of Acton dated October 25, 1996 produced by Mass. GIS and on file with the Town Clerk of the Town of Acton. In the event of a conflict between Section 4.3 and Section 4.4 hereof, the broader shall control.*

4.5 *"Zone 2" means that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation). See 310 CMR 22.02. Zone 2 shall include (a) all areas in the Town of Acton defined as "Zone 2 - The Recharge Protection Area" by Section 4.3.2.2 of the Acton Zoning Bylaw's Groundwater Protection District regulations, and (b) all areas in the Town of Acton depicted as Zone 2 as shown on a DEP Bureau of Waste Site Cleanup Map of the Town of Acton dated October 25, 1996 produced by Mass. GIS and on file with the Town Clerk of the Town of Acton. In the event of a conflict between Section 4.5(a), Section 4.5(b) and/or Section 4.6 hereof, the broader shall control.*

4.6 *"IWPA" means the Interim Wellhead Protection Area, an area extending to a one-half mile radius from a public water supply wellhead with an approved pumping rate of 100,000 gallons per day or greater, that is intended to protect the wellhead pending the delineation of its Zone 2, as shown on a DEP Bureau of Waste Site Cleanup Map of the Town of Acton dated October 25, 1996 produced by Mass. GIS and on file with the Town Clerk of the Town of Acton. See 310 CMR 22.02.*

4. Definitions continued

4.7 *"Fully useable condition" means that, with respect to any Resource Area covered by this Bylaw, Contaminant levels meet or surpass in cleanness on a permanent basis Groundwater Cleanup Standards established by this Bylaw throughout the Resource Area for each and every Contaminant.*

4.8 *"Potentially productive aquifer(s)" means all aquifers within Acton delineated by the U.S. Geological Survey as a high or medium yield aquifer, as shown on a DEP Bureau of Waste Site Cleanup Map of the Town of Acton dated October 25, 1996 produced by Mass. GIS and on file with the Town Clerk of the Town of Acton. See 310 CMR 40.0006.*

4.9 *"Cleanup" means any response action, removal action or remedial action undertaken pursuant to any federal or state environmental law, rule, regulation, order or decree involving the clean up or removal of any contaminant from the environment, including, without limitation, from land, waters and/or groundwaters.*

4.10 *"Ground Water Cleanup Standards" means the groundwater quality standards adopted by the Town of Acton pursuant to this Bylaw and are as follows: (1) Maximum Contaminant Level Goals ("MCLGs") established under the Safe Drinking Water Act for each Contaminant for which an MCLG has been established, see 40 CFR § § 141.50 - 141.52. and (2) where an MCLG for a specific Contaminant is zero, or where an MCLG for a specific Contaminant has not been promulgated, 1 part per billion ("ppb") for any such volatile organic compound ("VOC") and 5ppb total for all such VOC's.*

4.11 *"Resource Area" means and includes each and all of the following areas in the Town of Acton:*

a. *Zone 1 of all public water supply wells,*

b. *All DEP Approved Wellhead Protection Areas,*

c. *Zone 2 of all public water supply wells,*

d. *ALL IWPAs for a Public Water Supply, and*

e. *All Potentially Productive Aquifers.*

5. Scope

Any Cleanup performed in the Town of Acton by a person potentially liable under Section 5(a) of General Laws Chapter 21E on, in, at, of or affecting any Resource Area(s) shall on a permanent basis meet or surpass in cleanness the Ground Water Clean Up Standards established by this Bylaw throughout the Resource Area for each and every Contaminant for which the Cleanup is or has been undertaken.

6. Application of Ground Water Cleanup Standards

All sampled locations throughout the Resource Area shall meet the Ground Water Clean Up Standards established by this Bylaw. No averaging of samples may be used to determine compliance with the Ground Water Cleanup Standards for any particular sampling point, Resource Area or any combination of Resource Areas. All Resource Areas which undergo a Cleanup must be restored to a fully useable condition.

7. Enforcement

The Board of Selectmen is authorized and empowered to enforce the provisions of this Bylaw. Pursuant to G.L. Chapter 40, Section 21, breach of this Bylaw shall be punishable by a penalty of three hundred dollars ($300.00) for each offense. Each day during which a breach of this Bylaw continues shall constitute a separate offense. Without limitation, it shall constitute a breach of this Bylaw to discontinue for more than thirty (30) days or to abandon a Cleanup of a Resource Area without meeting the Groundwater Cleanup Standards of this Bylaw. Any breach of this Bylaw shall be deemed to cause irreparable harm to the Town of Acton and its citizens, residents, and persons employed in the Town, entitling the Town of Acton to all appropriate injunctive relief in addition to all other available remedies provided by law.

8. Variance From Groundwater Cleanup Standards

The Board of Selectmen shall have the power, after public hearing for which notice has been given by publication and posting , by mailing to the applicant, all abutters, all abutters to abutters, and the Acton Water District Commissioners, to grant upon petition with respect to a particular Cleanup a variance from the Groundwater Cleanup Standards of this Bylaw where the Board of Selectmen specifically finds that desirable relief may be granted without substantial detriment to the public good and without nullifying or substantially derogating from the intent or purpose of this Bylaw. In determining whether to grant such a variance, the Board of Selectmen should consider the following:

- ***(i)*** *the ability of the applicant to demonstrate that its contribution to a discharge, release, or disposal of the Contaminants at issue can be distinguished from the contribution of other parties;*
- ***(ii)*** *the amount and concentration of the contaminants involved;*

8. Variance From Groundwater Cleanup Standards continued

(iii) *the degree of toxicity and the fate and transport of the contaminants involved;*

(iv) *the degree of involvement by the applicant in the generation, transportation, treatment, storage, or disposal of the contaminants involved;*

(v) *the degree of care exercised by the applicant with respect to the contaminants concerned, taking into account the characteristics of such contaminants;*

(vi) *the degree of cooperation by the applicant with the Federal, State or local officials to prevent any harm to the public health, safety, welfare, or environment;*

(vii) *alternatives proposed by the applicant to protect the public health, safety, welfare and the environment including, without limitation, any prospective contribution by the applicant to costs of treatment of the affected groundwater before its distribution within Acton's public water supply; and*

(viii) *whether achievement of the Ground Water Cleanup Standards is technologically infeasible or not cost-effective based on the limits of best available technology, the marginal costs, the marginal benefits, and the risks to the public health, safety, welfare and the environment.*

The Board of Selectmen may impose conditions, safeguards and limitations in such a variance to protect the public health, safety, welfare and the environment and to effectuate the purposes of this Bylaw.

9. Applicability

This Bylaw shall apply to any existing, ongoing or proposed Cleanup to the maximum extent permitted by law.

10. Severability

If any part of this Bylaw is adjudicated invalid, the remaining parts shall remain in full force and effect. If this Bylaw is adjudicated invalid or inapplicable in any area or zone, it shall remain valid and applicable to the maximum geographical extent possible.

EXHIBIT B

SCOTT HARSHBARGER
ATTORNEY GENERAL
(617) 727-2200

The Commonwealth of Massachusetts
Office of the Attorney General
One Ashburton Place
Boston, MA 02108-1698

July 23, 1997

Catherine Belbin
Town Clerk
Town Hall
472 Main Street
Acton, Massachusetts 01720

Dear Ms. Belbin:

I return the amendments to the general by-laws, adopted under article 40 of the warrant for the Acton annual town meeting that convened on April 7, 1997, and the map that pertains to that article, with the enclosed approval of this Office.

Sincerely,

Kathryn B. Palmer
Assistant Attorney General
Municipal Law Unit
(617) 727-2200 x 2085

Enc.

cc: Anderson Z. Kreiger, Esq., 47 Thorndike St., Cambridge, MA 02141

EXHIBIT C

TETRA TECH

P.N. 117-3008084.32

February 25, 2013

Mr. Derrick Golden
Waste Management Division
U.S. Environmental Protection Agency
Region I
5 Post Office Square
Mail Code OSRR07-4
Boston, MA 02109-3912

Ms. Jennifer McWeeney
Bureau of Waste Site Cleanup
Massachusetts Department of
Environmental Protection
One Winter Street, 7th Floor
Boston, MA 02108

RE: Evaluation of Northeast Area Remedial Action, W. R. Grace Superfund Site, Acton, Massachusetts

Dear Mr. Golden and Ms. McWeeney:

This letter presents an evaluation of the Northeast Area Remedial Action, which has been operating since April 2010. This evaluation is required by the Record of Decision (ROD) (USEPA, 2005) which assumed that, given the relatively low estimated volume of contamination that remains in the aquifer, the aggressive targeted pumping in the Northeast Area would continue for approximately three years, at which time the data would be evaluated to determine if pumping could be discontinued. Since that three-year period will be completed in March 2013, this evaluation is appropriate now.

Background

Based on the distribution of VDC-contaminated groundwater in 2001-2002, the ROD selected a focused groundwater extraction remedy for the vicinity of the highest observed 1,1-dichoroethene (VDC) contaminated groundwater. This section provides a brief summary of groundwater contamination present in the Northeast Area at the time the remedy was selected as well as the requirements for the Northeast Area Remedial Action.

Groundwater Contamination

Figure 1 shows the distribution of VDC-contaminated groundwater in the Northeast Area in 2001-2002. As shown, groundwater contamination, consisting mainly of VDC, extended from the Grace property to the northeast beneath the Linde property and to the Acton Water District (AWD) property. The former Blowdown Pit was the likely source of groundwater contamination from the Grace property in the northeastern part of the Site. The highest VDC concentration detected in Northeast Area groundwater at that time was in 260 µg/L in a sample from monitoring well MW-06B.

In addition to the Grace property-related VDC contamination, groundwater in the Northeast Area is affected by light non-aqueous phase liquid (LNAPL) and LNAPL-related contamination originating on the Linde property. The Linde property-related contamination consists of Number 2 fuel oil and associated dissolved-phase extractable petroleum hydrocarbons

(EPH) and volatile petroleum hydrocarbons (VPH) contamination. Figure 2 shows the approximate extent of LNAPL-related groundwater contamination based on groundwater quality samples collected between 2001 and 2012 (ENSR/AECOM, various monitoring reports) as well as the area where separate-phase LNAPL has been observed on at least one occasion since 1996.

Northeast Area Remedial Action

The ROD-required groundwater remedy for the Northeast Area began operating in April 2010. Groundwater is pumped from bedrock extraction well NE-1, treated for VOCs, and then injected into the shallow unconsolidated deposits using reinjection well RE-1 and/or RE-2. The locations of the extraction and re-injection wells are shown on Figure 2. The ROD-specified objectives of the Northeast Area Groundwater Remedial Action are (USEPA, 2005, p. 69) to:

- Protect the municipal water supply by reducing the areal extent of groundwater contamination;
- Reduce the mass of contamination in the most concentrated part of the plume;
- Minimize impacts to the School Street wellfield and Fort Pond Brook; and
- Minimize impacts to residential property owners in the Northeast Area by locating remedial system components on industrial property or public lands where technically and administratively feasible.

The ROD did not require that a specific capture zone be attained by the Northeast Area extraction system, but focused instead on groundwater extraction from the geographic area which had the highest residual VOC concentrations in 2001-2002. As stated in the ROD (USEPA, 2005, p. 69), USEPA assumed that the Northeast Area Remedial Action would continue for approximately three years. The ROD specifies that an evaluation be made to determine if the Northeast Area Remedial Action can be discontinued at the end of this first three-year period and, if necessary, every two years thereafter. That first three-year period will be completed in March 2013.

Additional details regarding groundwater contamination in the Northeast Area and the construction and operation of the Northeast Area Remedial Action are documented in the Interim Northeast Area Groundwater Remedial Action Report, Revision 01 (GeoTrans and O&M, Inc., 2011) and the Operable Unit Three Monitoring Program Report, 2012 (Tetra Tech GEO, 2012).

Northeast Area Remedial Action Evaluation

The ROD states that after three years of operation, an evaluation of the Northeast Area Remedial Action will be conducted and include the following factors (USEPA, 2005, p. 69):

- The effectiveness of the extraction and treatment system;
- Contaminant concentrations at each of the three School Street Wells and whether they are meeting, and are expected to continue to meet MCLs; and
- Input from Acton Water District regarding yield and drawdown.

The following presents an evaluation of the Northeast Remedial Action using data collected through December 2012.

Effectiveness of the extraction and treatment system

A. VOC Concentrations and Areal Extent of Contamination

There has been a significant reduction in VOC concentrations in the Northeast Area as well as some shrinkage of the areal extent of contamination. These reductions are the combined result of natural attenuation and operation of the Northeast Area Remedial Action. A review of groundwater quality results from the twelve monitoring wells located in the Northeast Area that are part of the annual monitoring program indicate that VOC concentrations continue to decline. Time-concentration plots showing VDC, vinyl chloride, and benzene concentrations in these monitoring wells are included in Attachment A and their locations are highlighted on Figure 2. A vertical line on each of the graphs indicates when the Northeast Area Remedial Action began operation. It is important to note that natural attenuation, which includes dilution, natural biological and chemical degradation, adsorption and precipitation, is contributing to VOC declines in groundwater in the Northeast Area and will continue to do so regardless of the presence of active remediation in this area. In addition to natural attenuation, extraction from NE-1 has affected VOC concentrations in some locations.

Of the three main Grace contaminants, VDC is the most widely distributed and is found at the highest concentrations in the Northeast Area. Therefore the discussion of VOC concentrations in the Northeast Area will focus on VDC. A close review of the time-concentration plots for the monitoring wells in the Northeast Area shows the following with regard to VDC concentrations before and after start-up of the Northeast Area Remedial Action.

- VDC concentrations in three monitoring wells (AR-27D, MW-06B, and PS-22B) appear to have an increased rate of decline beginning after start-up of the Northeast Area Remedial Action.

- VDC concentrations in four monitoring wells (AR-31D, AR-35MBR, MW-04B, and MW-07B) do not appear to have been appreciably affected by start-up of the Northeast Area Remedial Action;

- VDC concentrations in monitoring well MW-13B, which is located at the westernmost upgradient edge of the mapped VDC-contaminated groundwater, appear to have increased slightly since start-up of the Northeast Area Remedial Action. Recent VDC concentrations in samples from this upgradient well, however, are lower than concentrations observed at the time the remedy was selected.

- VDC concentrations in four monitoring wells (AR-09A, AR-29SBR, AR-30D and PS-29B) were below the Interim Groundwater Cleanup Level (IGCL) of 7 µg/L prior to start-up of the Northeast Area Remedial Action. VDC concentrations continue to be below the IGCL at these locations. Three of these wells are located within the delineated School Street wellfield Zone 2, and the fourth (AR-09A) is the most upgradient monitoring well for the Northeast Area.

The areal extent of contamination in the Northeast Area is expected to shrink as contaminant concentrations decline. The areal extent of VDC in the Northeast Area is illustrated on Figure 1 and Figures 3 and 4. Figure 1 shows the areal extent of VDC in the Northeast Area

in 2001-2002 and Figure 3 shows the areal extent of VDC in the Northeast Area in 2009. These figures represent time periods prior to operation of the Northeast Area Remedial Action. Therefore, they reflect the impact of natural attenuation on the distribution of VDC in the Northeast Area. The overall extent of VDC concentrations greater than 7 µg/L did not change appreciably between 2001-2002 and 2009, but the extent of the area with elevated VDC concentrations shrank appreciably. In 2001-2002, the maximum VDC concentration was 260 µg/L at monitoring well MW-06B and the area with VDC concentrations between 100 and 200 µg/L extended from monitoring well MW-07B to the north into the School Street well field and past monitoring well PS-22. In 2009, the maximum VDC concentration was 140 µg/L at monitoring well MW-06B, there was no area with concentrations in excess of 200 µg/L, and the area with VDC concentrations between 100 and 200 µg/L was limited to northern portion of the Linde property and the area between the Linde property and the School Street well field.

Figure 4 shows the distribution of VDC in the Northeast Area in 2012, after the remedial action had been in operation for about 2 years and four months. Comparison of Figure 3 to Figure 4 shows how the distribution of VDC in the Northeast Area changed as a result of both ongoing natural attenuation and operation of the Northeast Area Remedial Action. The overall extent of VDC concentrations greater than 7 µg/L appears to have shrunk in some areas between 2009 and 2012 and the extent of the area with elevated VDC concentrations shrank appreciably. There was a substantial reduction in the VDC concentration in samples collected from MW-06, the location of the highest VDC concentrations at the time the remedy was selected. In 2012, the maximum VDC concentration was 86 µg/L in well AR-31D located on the AWD property. There is no area with concentrations in excess of 100 µg/L and the area with VDC concentrations between 60 and 100 µg/L now appears to be limited to a small area beneath School Street well field. A comparison of Figures 1, 3 and 4 show the significant reduction in VDC concentration that has occurred in the Northeast Area since the 2001-2002, the data upon which the ROD was based.

The water quality data show that there has been a significant reduction in VOC concentrations in the Northeast Area as well as some shrinkage of the areal extent of contamination as a result of natural attenuation and operation of the Northeast Area Remedial Action.

B. VOC Mass Removal

Extraction well NE-1 has been pumping at a monthly average extraction rate of 15.4 to 20.6 gallons per minute (gpm) since April 2010, with an overall average rate of approximately 18.6 gpm. VDC concentrations have been decreasing since pumping began. As shown on Figure 5, VDC concentrations have decreased from 170 µg/L in April 2010 to 32 µg/L in December 2012. Vinyl chloride and benzene concentrations in extraction well NE-1 have always been low; with a vinyl chloride concentration of 5.2 µg/L in April 2010 falling below the IGCL of 2 µg/L by September 2010. Benzene has always been below the IGCL of 5 µg/L. The extraction rates and the water quality results from extraction well NE-1 were used to calculate the mass of VOCs removed by extraction well NE-1. As shown on Figure 4, extraction well NE-1 has removed approximately 14 pounds of VOCs since operation began. The rate of VOC removal has been declining, with approximately 5.9 pounds of total VOCs removed in the nine months of operation in 2010, approximately 4.5 pounds in 2011 and approximately 3.7 pounds in 2012. At the start of the remedial action, approximately 1.4 pounds of total VOCs was being removed

each month. The rate of VOCs removal has decreased over the course of the system's operation, dropping to about 0.3 pounds per month in 2012.

School Street Well Field Water Quality

Water quality sampling of the three Acton public water supply wells indicate that contaminant concentrations have been below the ICGL since before the start-up of the Northeast area extraction and treatment system in April 2010. Of the three main Grace-related contaminants, VDC has never been detected above the IGCL of 7 µg/L in the Christofferson well, and benzene and vinyl chloride have never been detected above the IGCLs of 5 µg/L and 2 µg/L, respectively, in any of the three wells. VDC has been detected historically above the IGCL of 7 µg/L in only a few samples collected from the Lawsbrook and Scribner wells. Figure 6 is a graph showing the VDC concentrations detected in the Lawsbrook and Scribner wells since 1997. As shown on the graph, VDC was only ever detected above the IGCL in two samples from the Lawsbrook well. The samples were collected in 2001 and 2002 and the maximum concentration was 9.9 µg/L. VDC was detected above the IGCL in a few samples from the Scribner well between 1997 and 2007, with a maximum concentration of 15 µg/L in a sample collected in 2000. The water quality data indicate that VDC concentrations have been below the IGCL in all three public water supply wells since 2007, and VDC concentrations have been decreasing in samples from the Lawsbrook and Scribner wells for the last ten or more years. There is no reason to expect VDC, vinyl chloride, or benzene concentrations in the Christofferson, Lawsbrook or Scribner wells to exceed IGCLs in the future, regardless of whether the NE Area groundwater remedy continues to operate, or not.

Yield and Drawdown of School Street Well Field

Water level and extraction rate data collected by the Acton Water District for the three public water supply wells do not show any obvious impacts to yield or drawdown from operation of the Northeast Area remedial system. Figures 7 through 9 show pumping rates and water levels for the Christofferson, Lawsbrook and Scribner wells, respectively, between 2007 and 2012. There are no discernible differences in either water levels or pumping rates between the time period before operation of the Northeast Area Remedial Action (January 2007 through March 2010) and the time period during operation of the remedial action (beginning April 2010).

EPH/VPH Concentrations

As discussed previously, the Linde property is a source of Number 2 fuel oil and dissolved-phase EPH and VPH contamination. In order to evaluate whether the Linde-related groundwater contamination is migrating toward the Northeast Area extraction system, samples from extraction well NE-1 have been collected monthly and analyzed for EPH and VPH and three unconsolidated deposits monitoring wells (MW-06D1, MW-06D2 and MW-49), located between the Linde-related contamination and extraction well NE-1, have been sampled periodically for EPH and VPH. The water quality data suggest that extraction well NE-1 may be pulling Linde-related contamination to the north.

Between May 2010 and May 2012, no VPH or EPH parameters were detected in extraction well NE-1 or in monitoring wells MW-06D1, MW-06D2 and MW-49. In August 2012, 2-methylnaphthalene and naphthalene were detected in monitoring well MW-49 at concentrations of 3 µg/L and 17 µg/L, respectively, though they were not detected in the

duplicate sample collected at the same time. In addition, there have been sporadic detections of EPH and VPH parameters in extraction well NE-1 since June 2012. These detections suggest that Linde-related contamination is being pulled toward the Northeast Area extraction system.

Recommendations

Grace proposes to shut down the Northeast Area Remedial Action on April 1, 2013 and begin decommissioning the system. The system has met its stated goal of reducing the mass of contamination in the most concentrated part of the plume and will have operated for three years, as required by the ROD. Continued operation of the system is not necessary, because:

1) VOC mass removal rates by the extraction and treatment system have dropped substantially, from approximately 1.4 pounds of VOCs during the first month of operation, to approximately 0.3 pounds in December 2012;

2) The water quality data show that there has been a significant reduction in VOC concentrations in the Northeast Area as well as some shrinkage of the areal extent of contamination as a result of natural attenuation and operation of the Northeast Area Remedial Action. The highest VDC concentration in the Northeast Area has declined from 260 µg/L in 2001-2002 to 140 µg/L in 2009 to 86 µg/L in 2012, and the VDC concentration in samples from well MW-06B have declined from 260 µg/L in 2001-2002 to 25 µg/L in 2012;

3) VDC concentrations in Northeast Area groundwater were declining, due to natural attenuation, prior to startup of the remedial action, and those declines are continuing.

4) VDC concentrations in the three public water supply wells were below ICGLs before the start-up of the Northeast area remedial action in April 2010, and there is no reason to expect concentrations in the Christofferson, Lawsbrook or Scribner wells to exceed IGCLs in the future, regardless of whether the Northeast Area Remedial Action is operating, or not.

5) Operation of the Northeast Area Remedial Action may be pulling Linde-related contamination to the north, as evidenced by recent sporadic detections of EPH and VPH parameters in extraction well NE-1 and monitoring well MW-49.

Following shut down of the Northeast Area Remedial Action, Grace proposes to decommission the system. There is no need to leave the de-activated system in place for some period of time while the effects of shut down are being evaluated. Nor is there a need for increased water quality monitoring to be implemented after shut down. Water quality data demonstrate that the highest concentrations of VDC have already migrated through the Northeast Area and concentrations have been declining since before the remedial action became operational.

Therefore, upon system shut down, Grace proposes to implement the following activities:

- Decommission extraction well NE-1, reinjection wells RE-1 and RE-2 and observation wells RE-1OBS and RE-2OBS in compliance with MassDEP requirements;
- Remove the treatment system building and associated underground piping and electrical lines from the Linde-property; and
- Regrade and seed disturbed areas.

After decommissioning of the Northeast Area Remedial Action is complete, Grace will maintain access to the Linde property for annual monitoring events. This includes access to the property for the collection of water level and groundwater samples from monitoring wells located on the Linde property.

If you have any questions regarding this evaluation, please call me at (978) 952-0120 or Thor Helgason at 781-642-8775.

Sincerely,

Anne B. Sheehan

Anne B. Sheehan
Project Manager

ABS/enclosures

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Dave Fuerst, O & M
Jack Guswa, JG Environmental
Doug Halley, Town of Acton
Thor Helgason, demaximis, inc.
Seth Jaffe, Foley Hoag
Bob Medler, Remedium
Jaime Hussey, AECOM

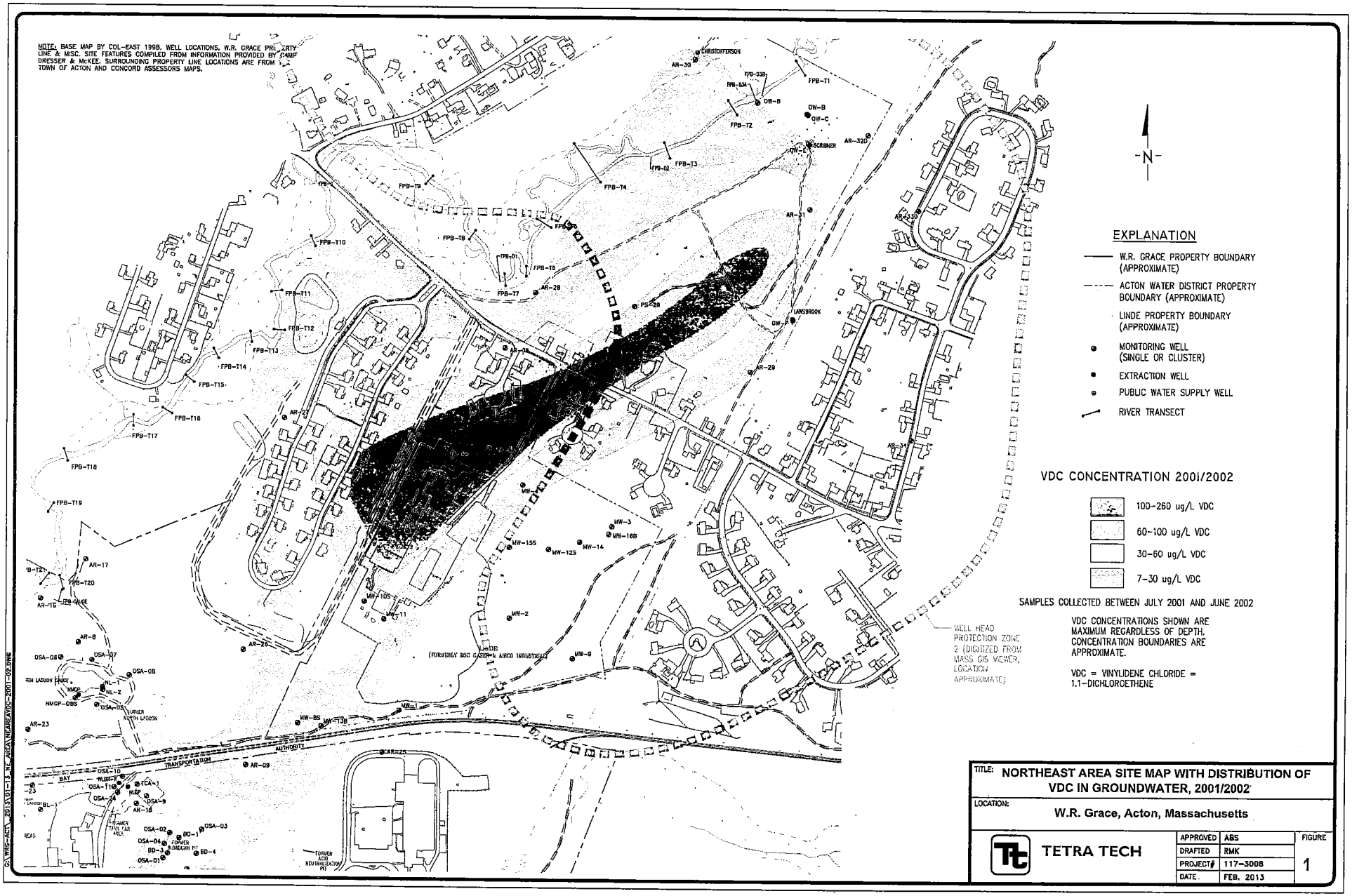
REFERENCES

GeoTrans and O&M, Inc., 2011. Interim Northeast Area Groundwater Remedial Action Report, Revision 01, January 20, 2011.

Tetra Tech GEO, 2012. Operable Unit Three Monitoring Program Report, 2012, December 20, 2012.

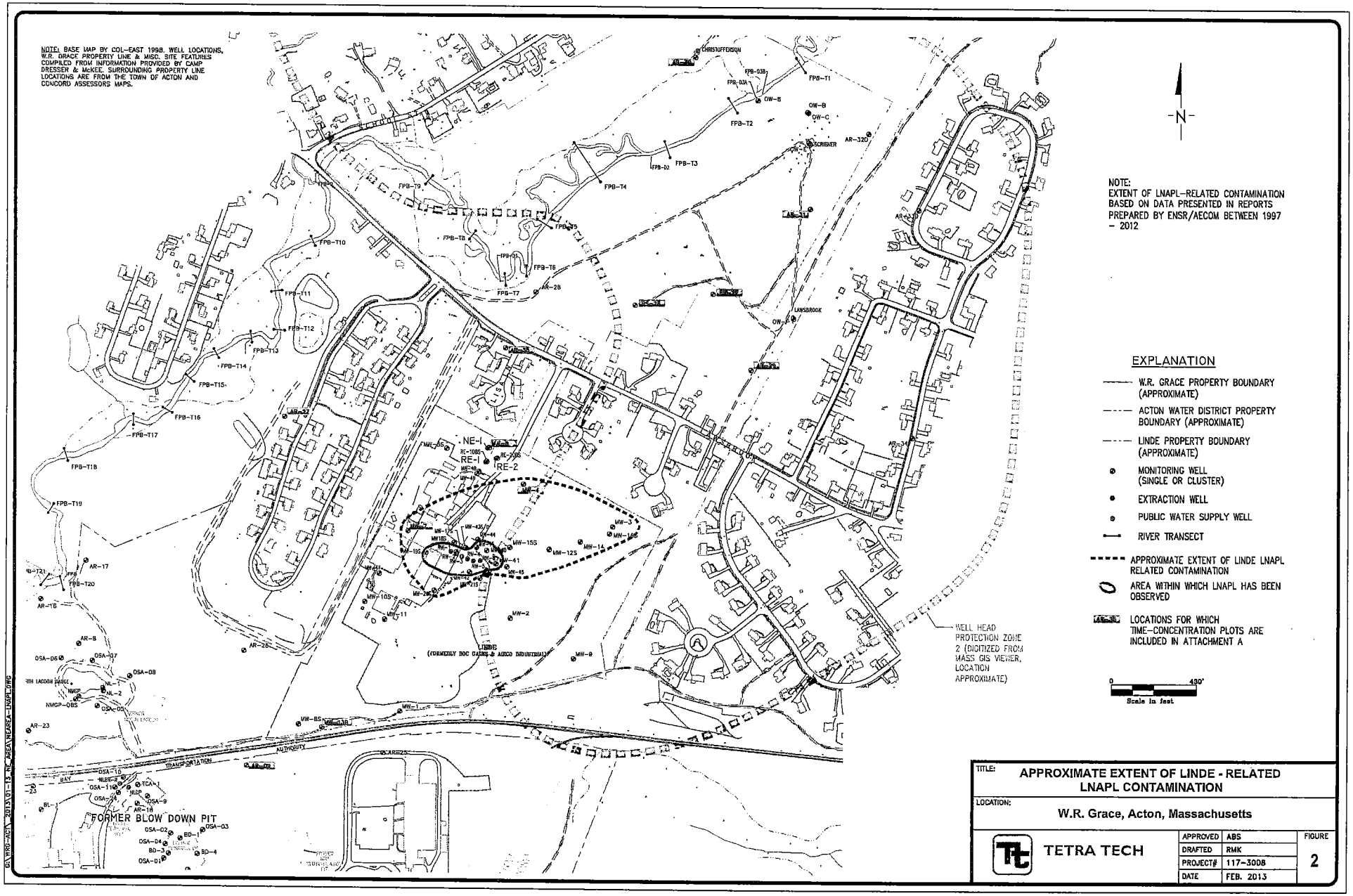
USEPA, 2005. Record of Decision, W. R. Grace & Co. (Acton Plant) Superfund Site, Operable Unit Three, September 2005.

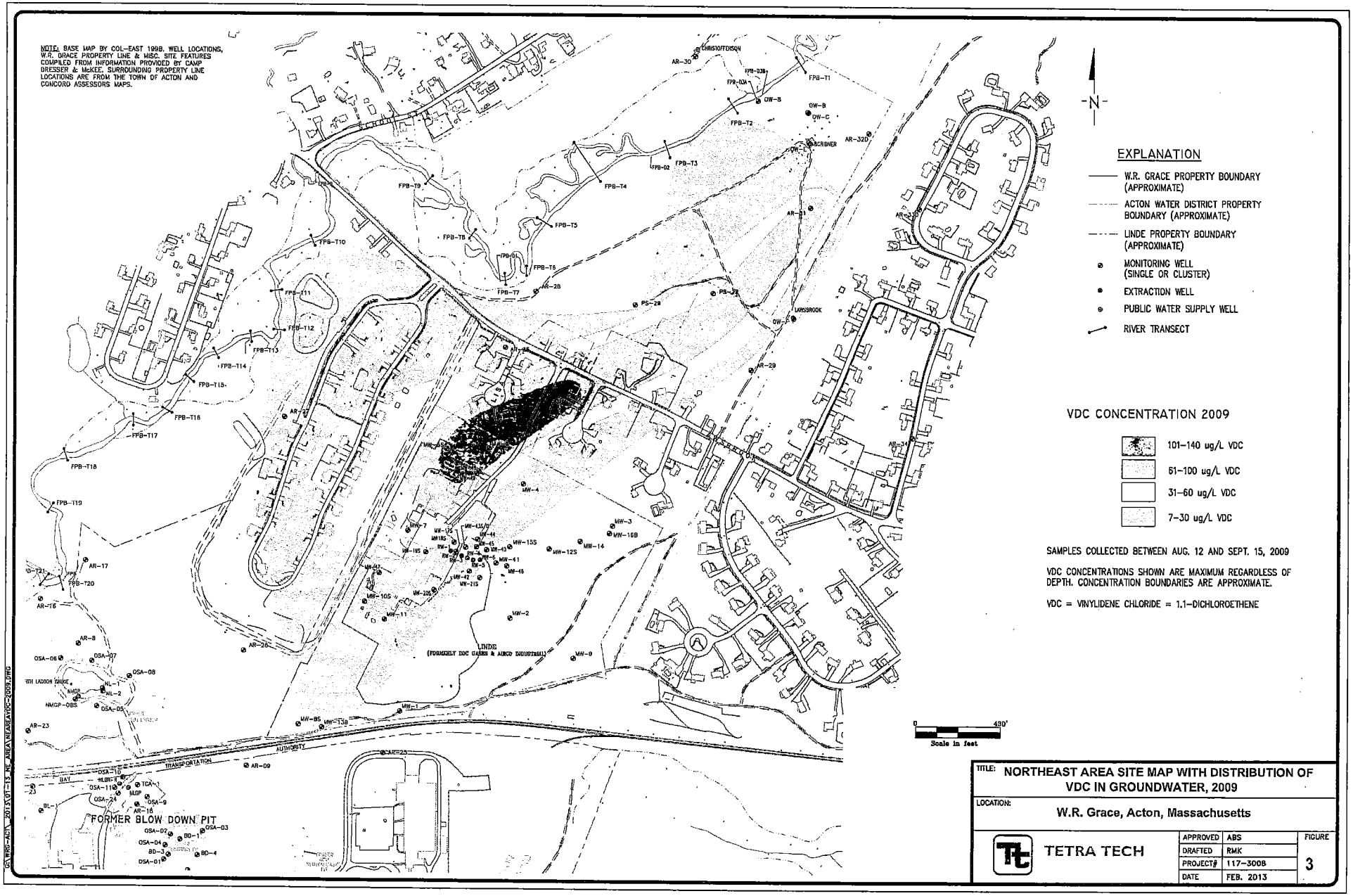
LIST OF FIGURES

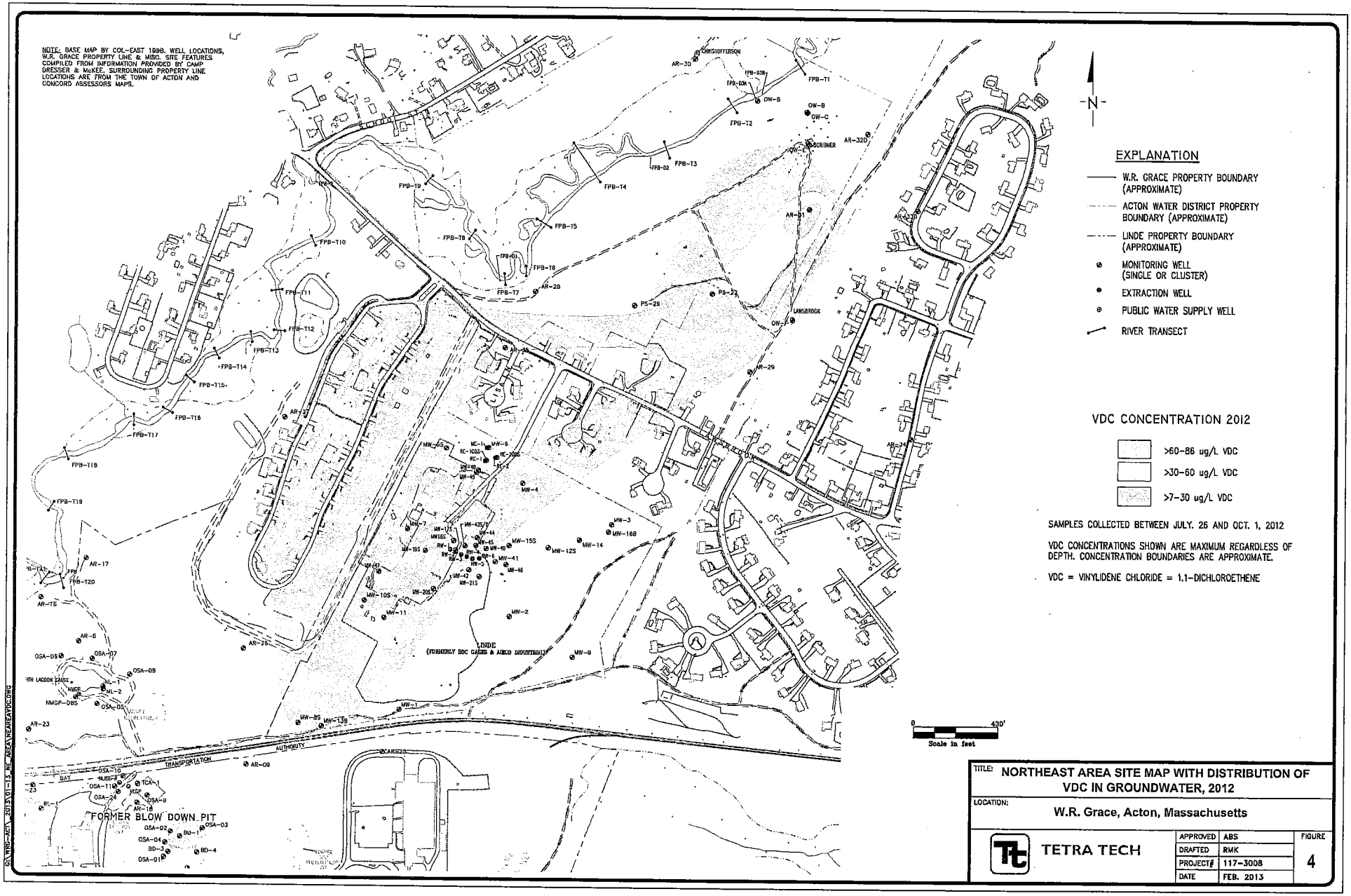


TITLE:	NORTHEAST AREA SITE MAP WITH DISTRIBUTION OF VDC IN GROUNDWATER, 2001/2002
LOCATION:	W.R. Grace, Acton, Massachusetts
TETRA TECH	
APPROVED	ABS
DRAFTED	RMK
PROJECT#	117-3008
DATE	FEB. 2013
FIGURE	1

G:\WRG-ACT_2013\VDC-13_NE_AREA\NEAREAVOC-2001-02.DWG


NOTE: BASE MAP BY COL-EAST 1998. WELL LOCATIONS, W.R. GRACE PROPERTY LINE & MISC. SITE FEATURES COMPILED FROM INFORMATION PROVIDED BY CAMP DRESSER & McKEE. SURROUNDING PROPERTY LINE LOCATIONS ARE FROM THE TOWN OF ACTON AND CONCORD ASSESSORS MAPS.
N
NOTE:
EXTENT OF LNAPL-RELATED CONTAMINATION BASED ON DATA PRESENTED IN REPORTS PREPARED BY ENSR/AECOM BETWEEN 1997 - 2012
EXPLANATION
W.R. GRACE PROPERTY BOUNDARY (APPROXIMATE)
ACTON WATER DISTRICT PROPERTY BOUNDARY (APPROXIMATE)
LINDE PROPERTY BOUNDARY (APPROXIMATE)
MONITORING WELL (SINGLE OR CLUSTER)
EXTRACTION WELL
PUBLIC WATER SUPPLY WELL
RIVER TRANSECT
APPROXIMATE EXTENT OF LINDE LNAPL RELATED CONTAMINATION
AREA WITHIN WHICH LNAPL HAS BEEN OBSERVED
LOCATIONS FOR WHICH TIME-CONCENTRATION PLOTS ARE INCLUDED IN ATTACHMENT A
WELL HEAD PROTECTION ZONE 2 (DIGITIZED FROM MASS GIS VIEWER, LOCATION APPROXIMATE)
0
400'
Scale in feet
FORMER BLOW DOWN PIT
NE-1
RE-1
RE-2
(FORMERLY BOC GASES & AIRCO INDUSTRIAL)
LANGSBROOK
SCRIGGER
CHRISTOFFERSON
TRANSPORTATION AUTHORITY
TITLE: APPROXIMATE EXTENT OF LINDE - RELATED LNAPL CONTAMINATION
LOCATION: W.R. Grace, Acton, Massachusetts
TETRA TECH
APPROVED ABS
DRAFTED RMK
PROJECT# 117-3008
DATE FEB. 2013
FIGURE 2


NOTE: BASE MAP BY COL-EAST 1998. WELL LOCATIONS, W.R. GRACE PROPERTY LINE & MISC. SITE FEATURES COMPILED FROM INFORMATION PROVIDED BY CAMP DRESSER & McKEE. SURROUNDING PROPERTY LINE LOCATIONS ARE FROM THE TOWN OF ACTON AND CONCORD ASSESSORS MAPS.
N
EXPLANATION
W.R. GRACE PROPERTY BOUNDARY (APPROXIMATE)
ACTON WATER DISTRICT PROPERTY BOUNDARY (APPROXIMATE)
LINDE PROPERTY BOUNDARY (APPROXIMATE)
MONITORING WELL (SINGLE OR CLUSTER)
EXTRACTION WELL
PUBLIC WATER SUPPLY WELL
RIVER TRANSECT
VDC CONCENTRATION 2009
101–140 ug/L VDC
61–100 ug/L VDC
31–60 ug/L VDC
7–30 ug/L VDC
SAMPLES COLLECTED BETWEEN AUG. 12 AND SEPT. 15, 2009
VDC CONCENTRATIONS SHOWN ARE MAXIMUM REGARDLESS OF DEPTH. CONCENTRATION BOUNDARIES ARE APPROXIMATE.
VDC = VINYLIDENE CHLORIDE = 1,1-DICHLOROETHENE
0
430'
Scale in feet
LINDE
(FORMERLY BOC GASES & AIRCO INDUSTRIAL)
FORMER BLOW DOWN PIT
TRANSPORTATION AUTHORITY
TITLE: NORTHEAST AREA SITE MAP WITH DISTRIBUTION OF VDC IN GROUNDWATER, 2009
LOCATION: W.R. Grace, Acton, Massachusetts
TETRA TECH
APPROVED ABS
DRAFTED RMK
PROJECT# 117-3008
DATE FEB. 2013
FIGURE 3



TITLE: NORTHEAST AREA SITE MAP WITH DISTRIBUTION OF VDC IN GROUNDWATER, 2012

LOCATION: W.R. Grace, Acton, Massachusetts

TETRA TECH

APPROVED	ABS
DRAFTED	RMK
PROJECT#	117-3008
DATE	FEB. 2013

FIGURE 4

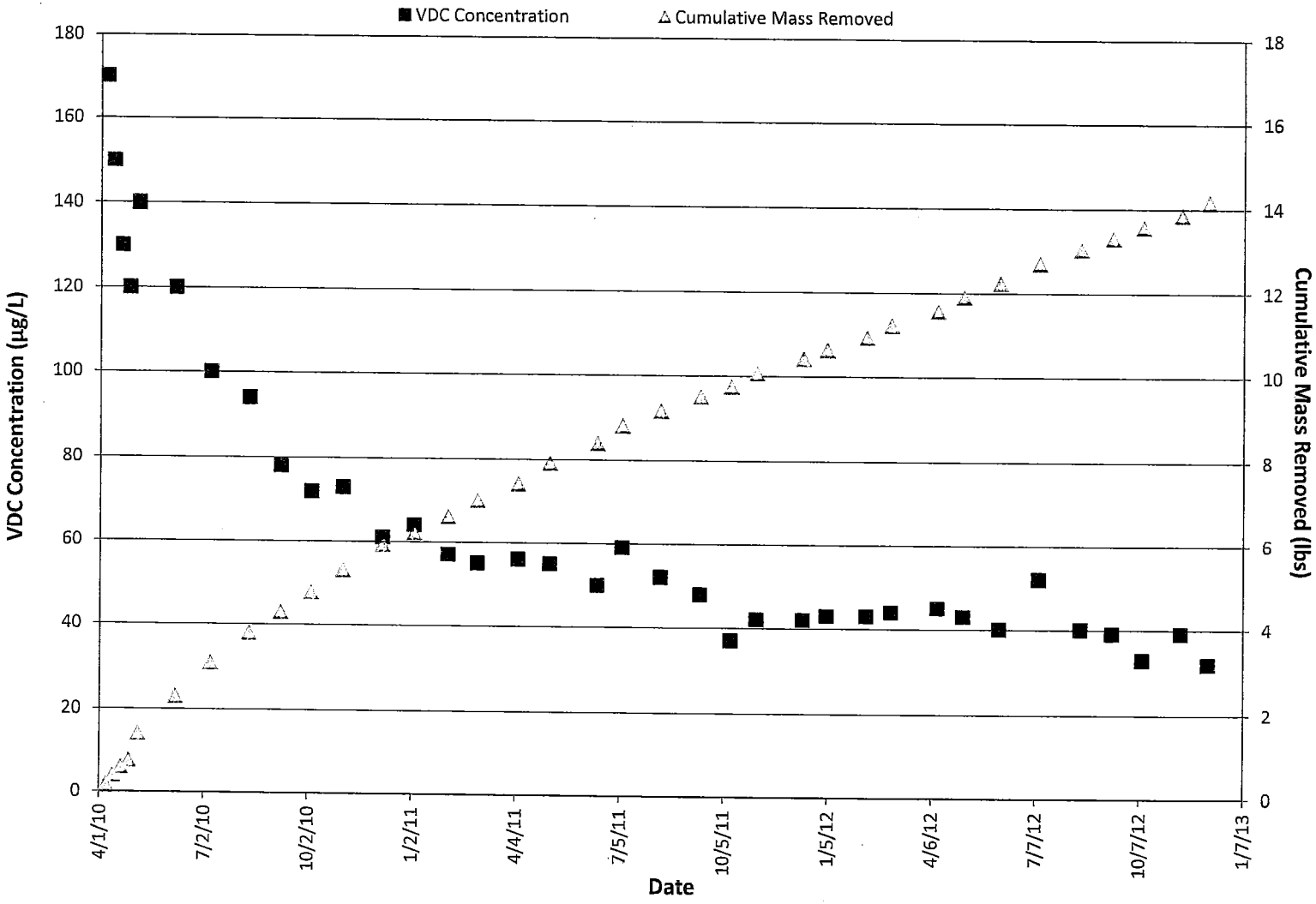


Figure 5. VDC Concentrations In and Cumulative Mass Removed By Extraction Well NE-1

M:\DOCs\WRGrace\Acton\2013\NE Eval\NE-1MassRemoved.xlsxChart1

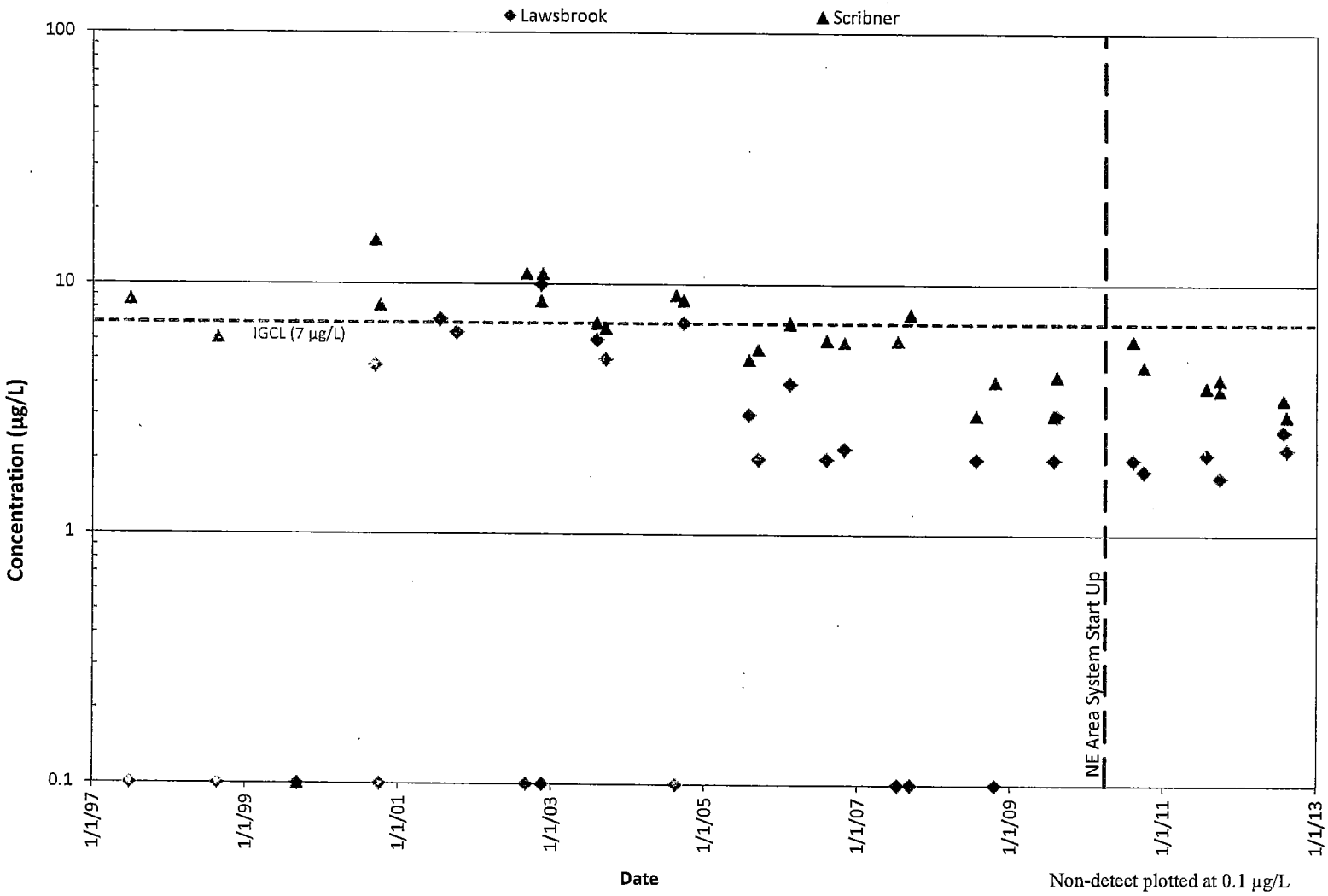
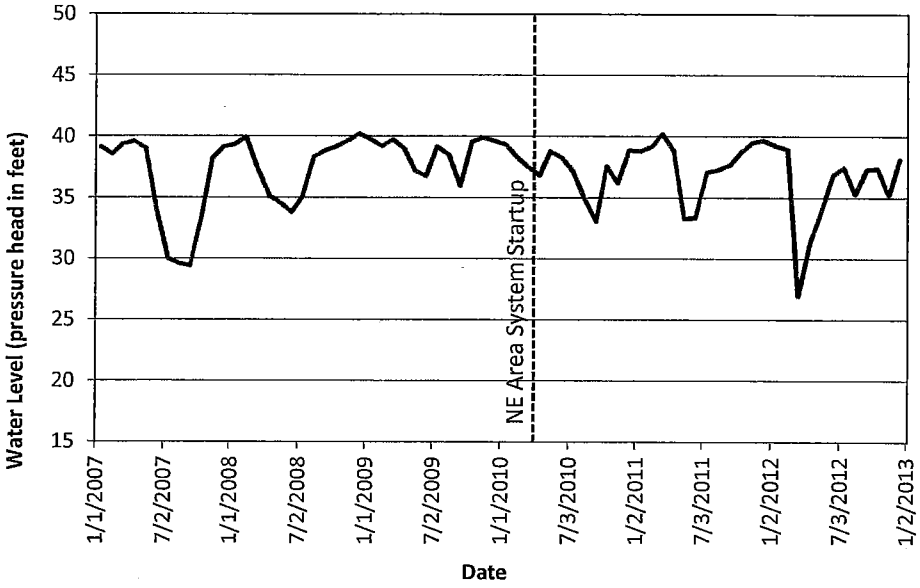
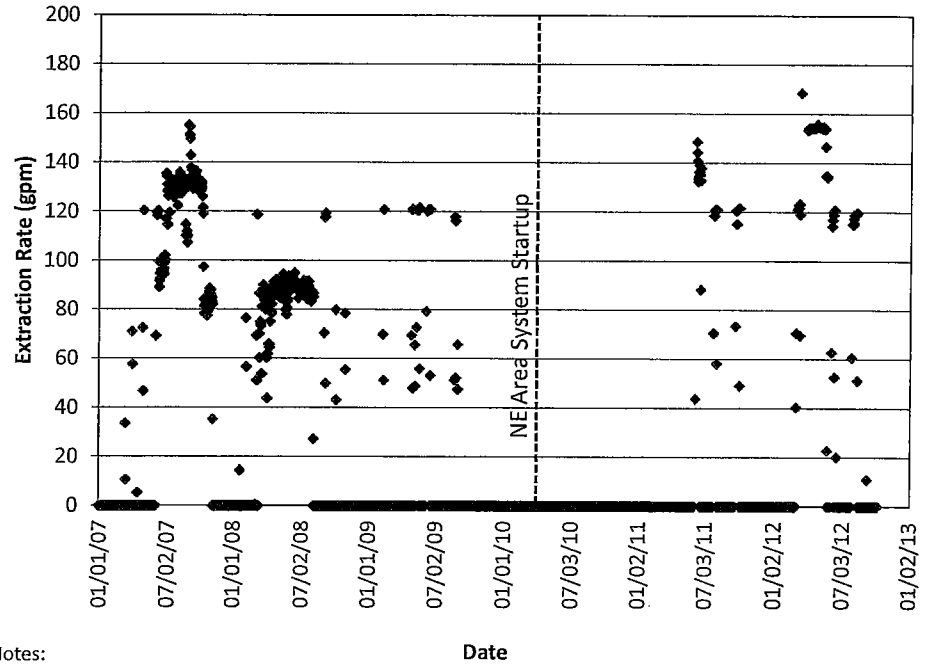


Figure 6. VDC Concentrations in Lawsbrook and Scribner Public Water Supply Wells

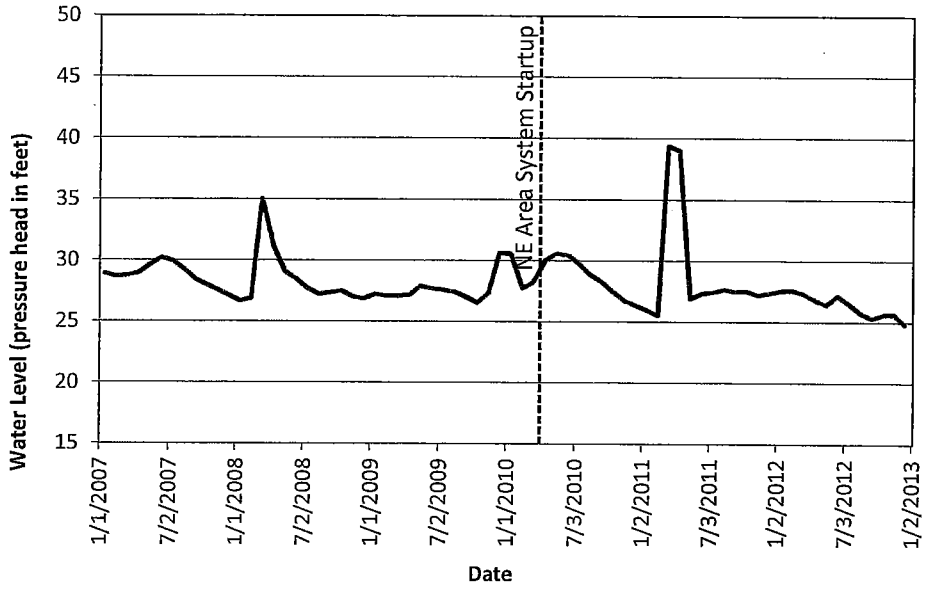
M:\DOCs\WRGrace\Acton\2013\NE Eval\VDCLaws_Scrib.xlsxChart1

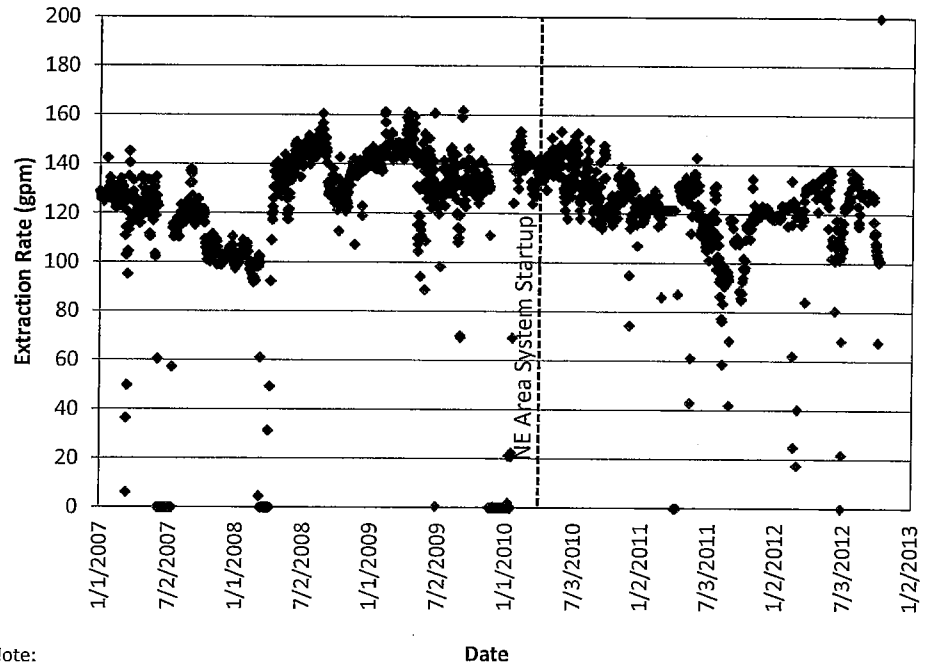




Notes:
Water levels are monthly averages .
Christofferson is normally offline and is only turned on occasionally.

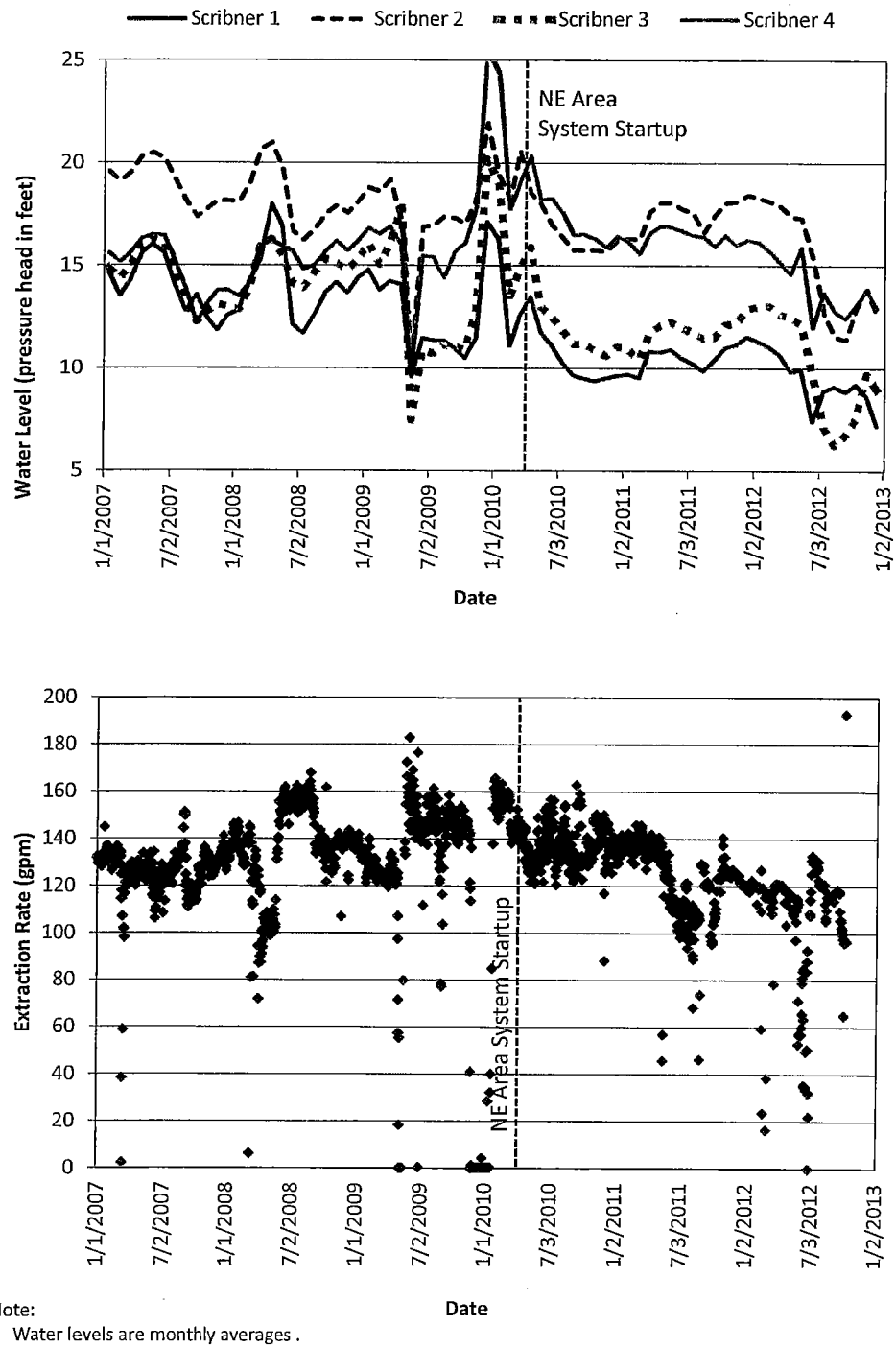
Figure 7. Water Levels and Extraction Rates in Christofferson Well





Note:
Water levels are monthly averages .

Figure 8. Water Levels and Extraction Rates in Lawsbrook Well



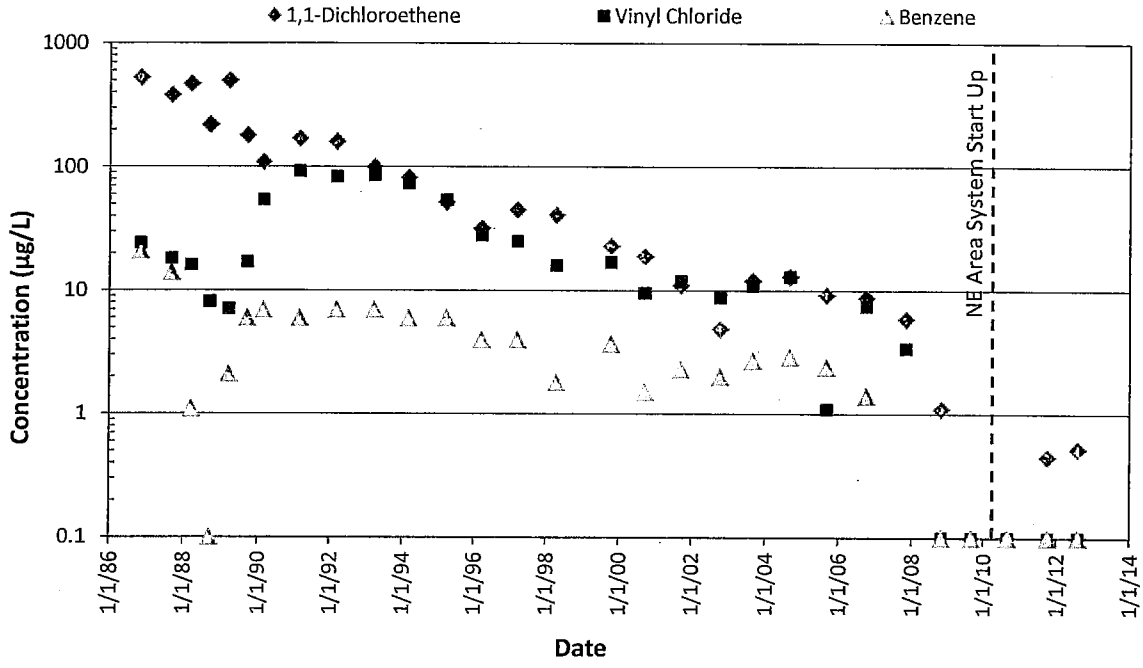
Note:
Water levels are monthly averages .

Figure 9. Water Levels and Extraction Rates in Scribner Well

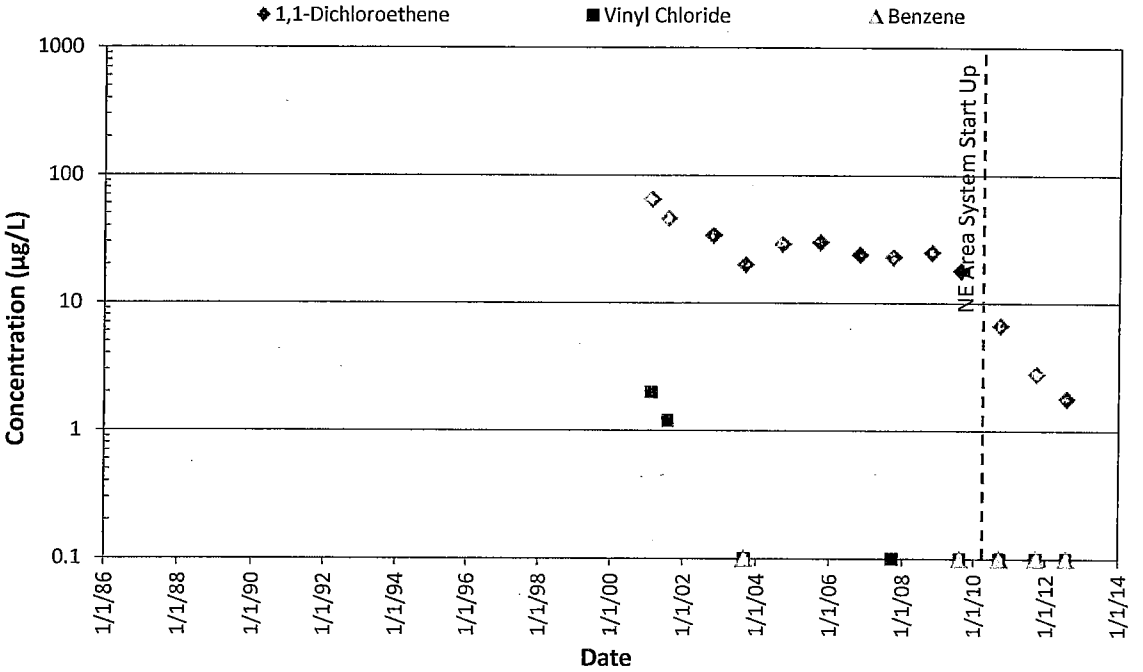
ATTACHMENT A

TIME CONCENTRATION PLOTS

AR-09A



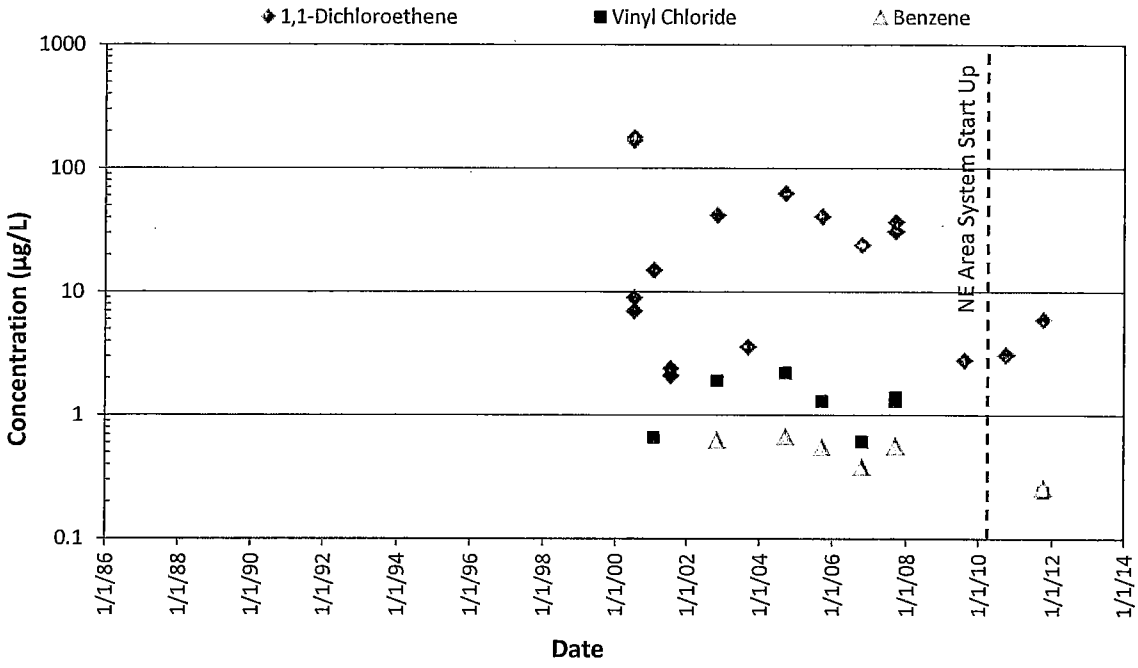
AR-27D



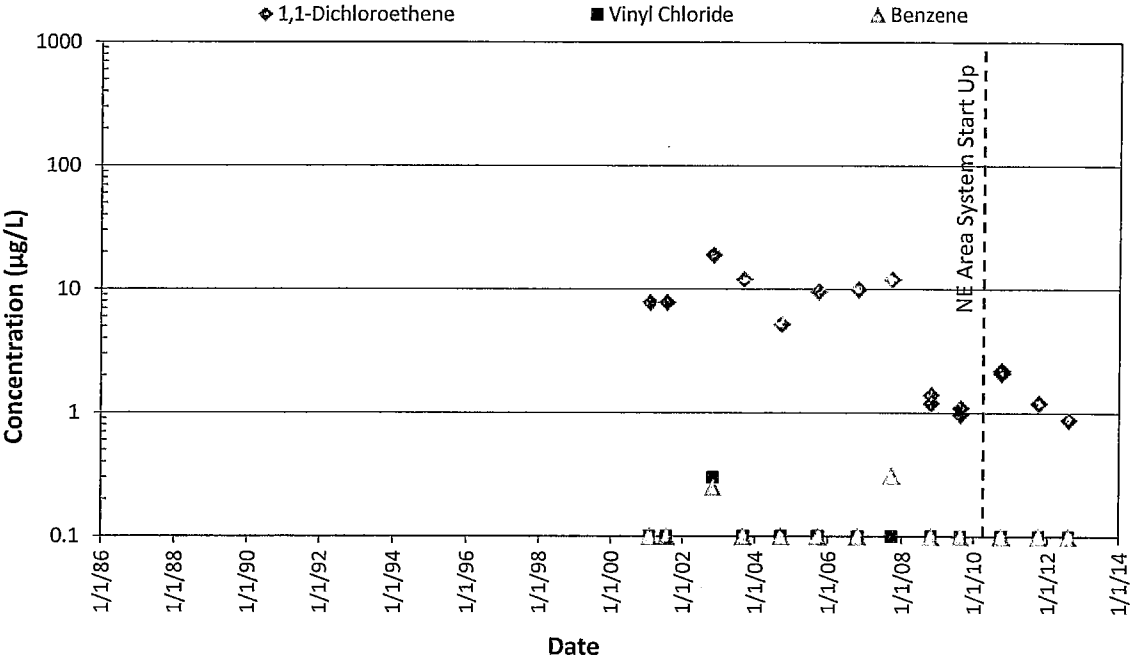
Non-detect plotted at 0.1 µg/L.

M:\DOCs\WRGrace\Acton\2013\NE Eval\VDC_VC_BenzGraphs.xlsxAR-09A_AR-27D Graph

AR-29SBR



AR-30D



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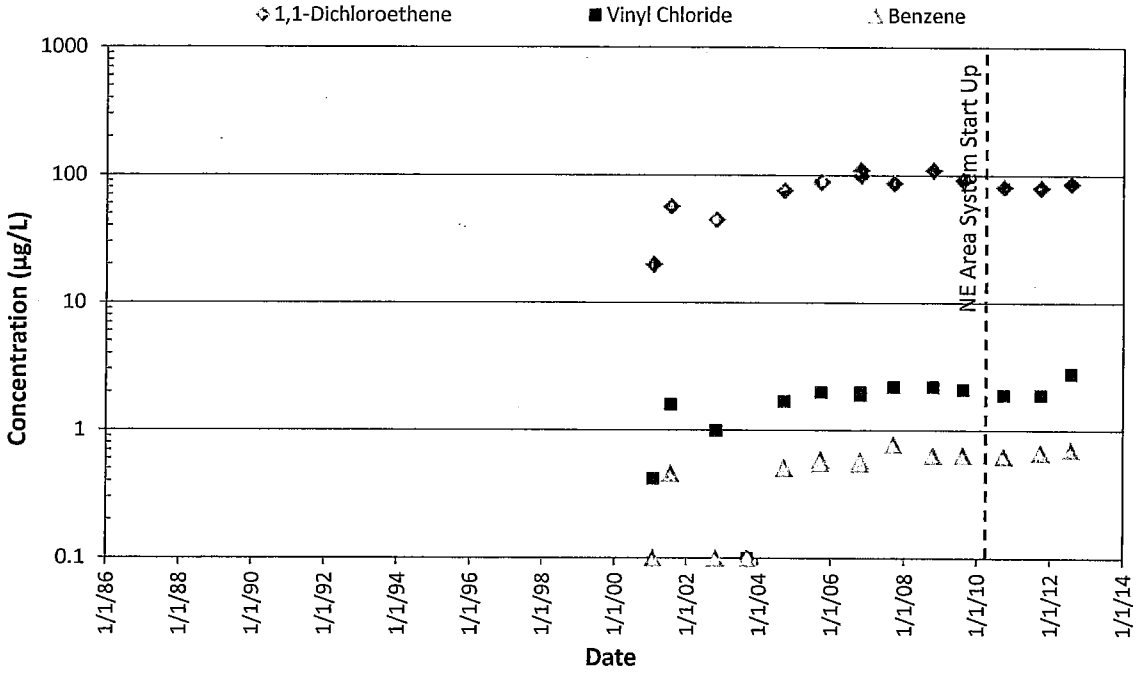
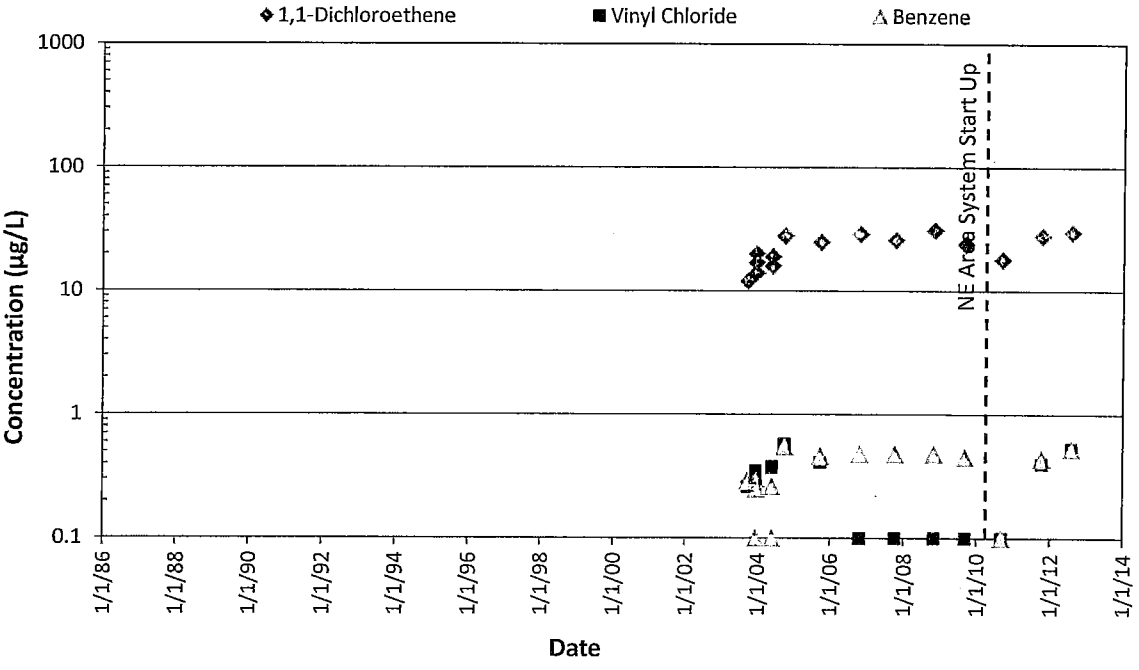
AR-31D



AR-35MBR



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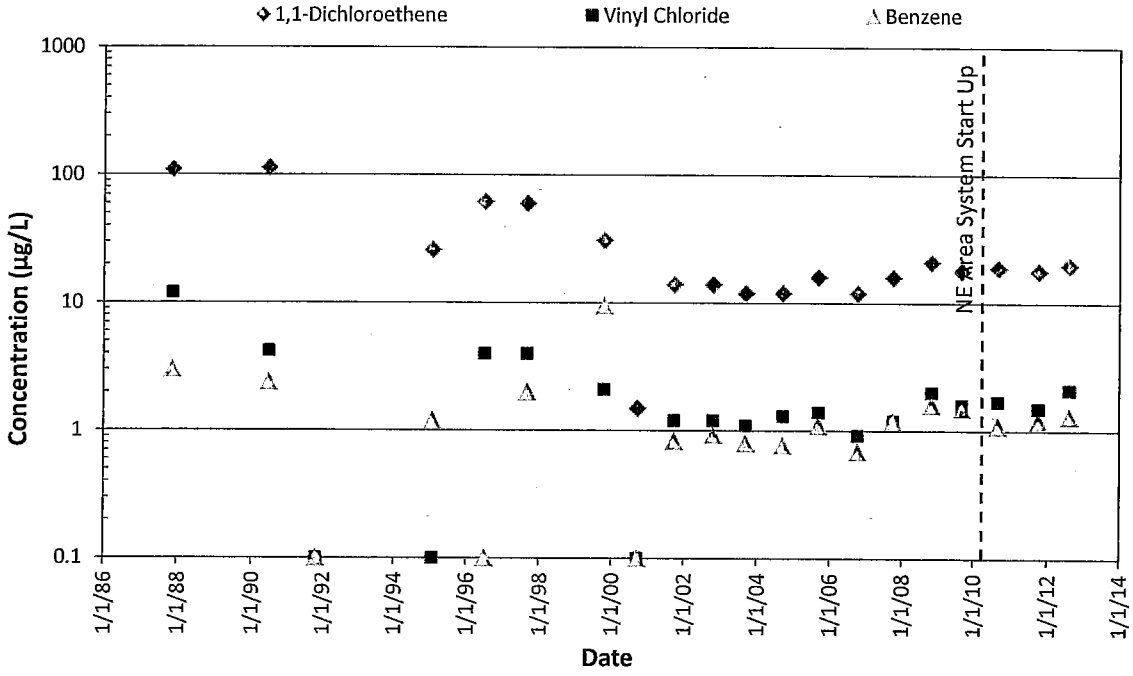
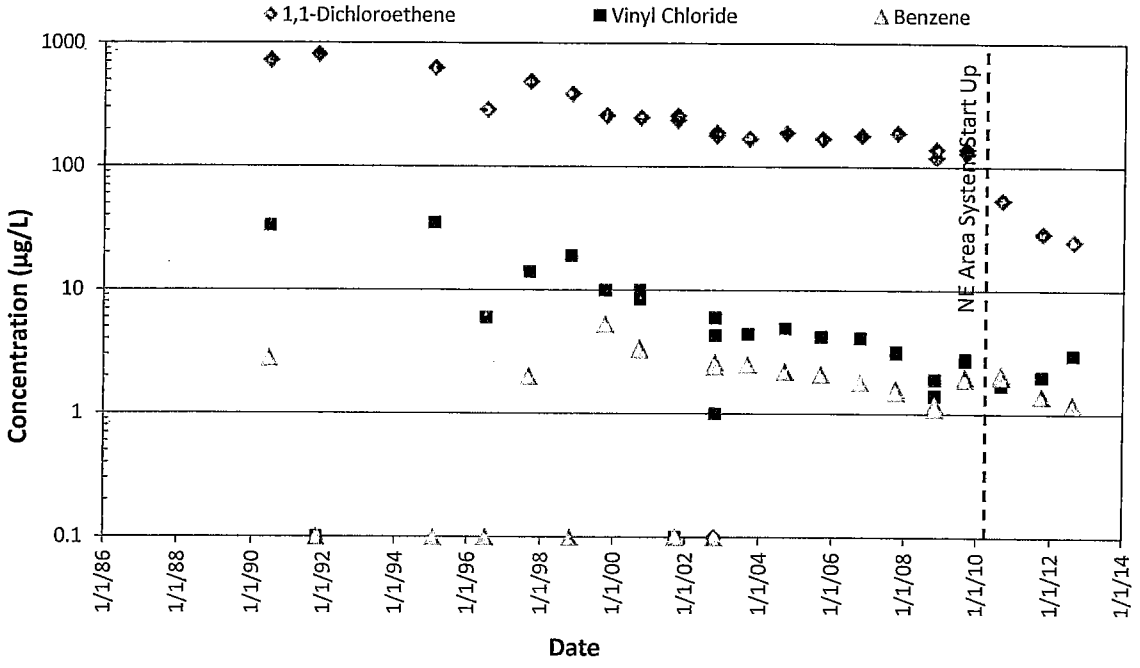
MW-04B



MW-06B



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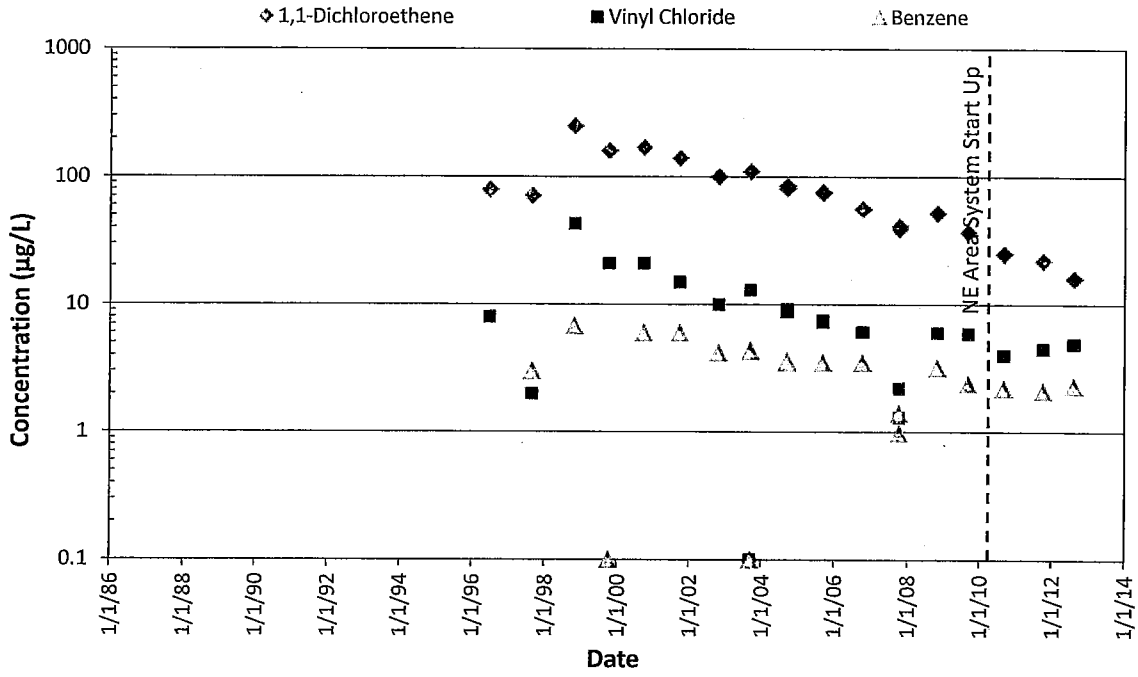
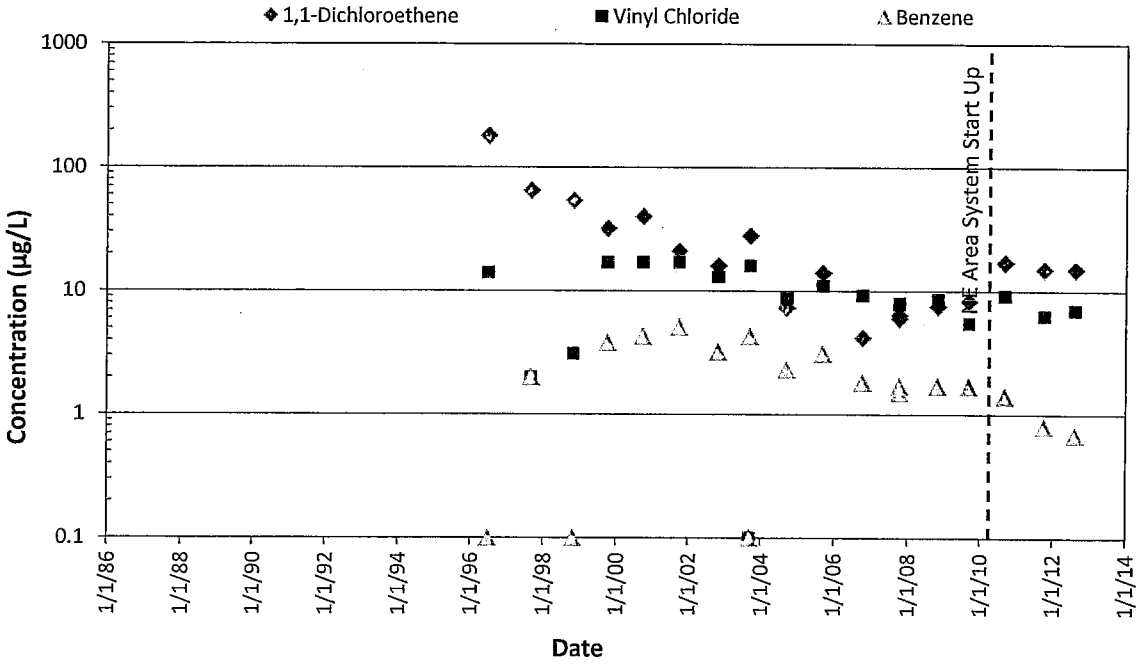
MW-07B

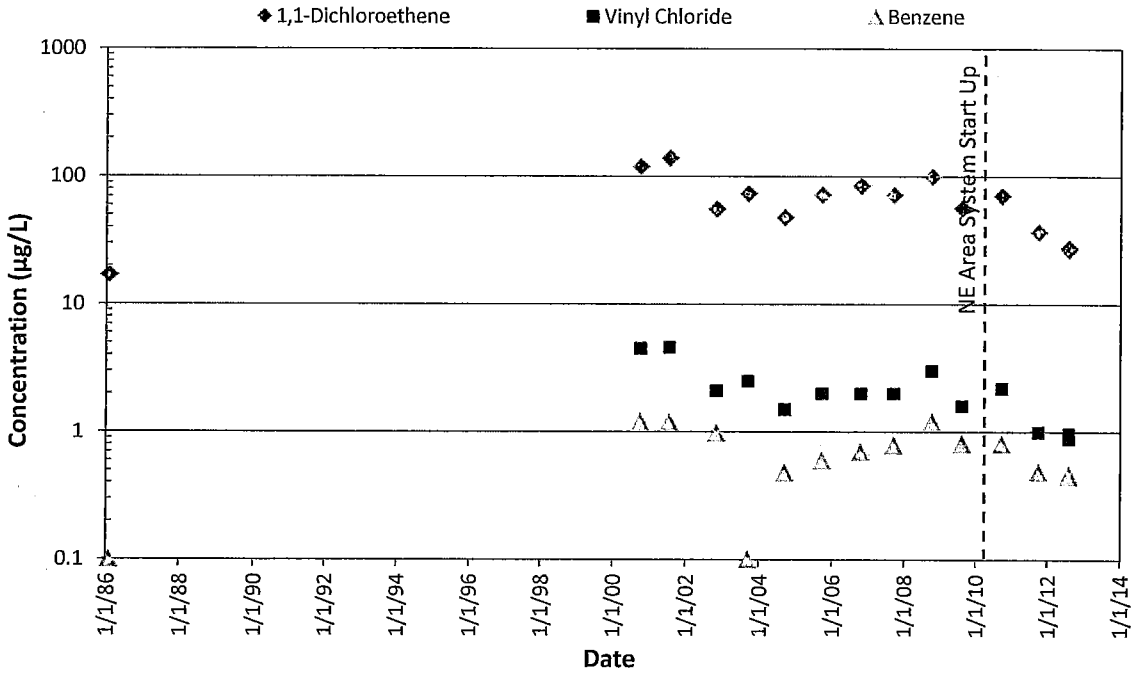


MW-13B

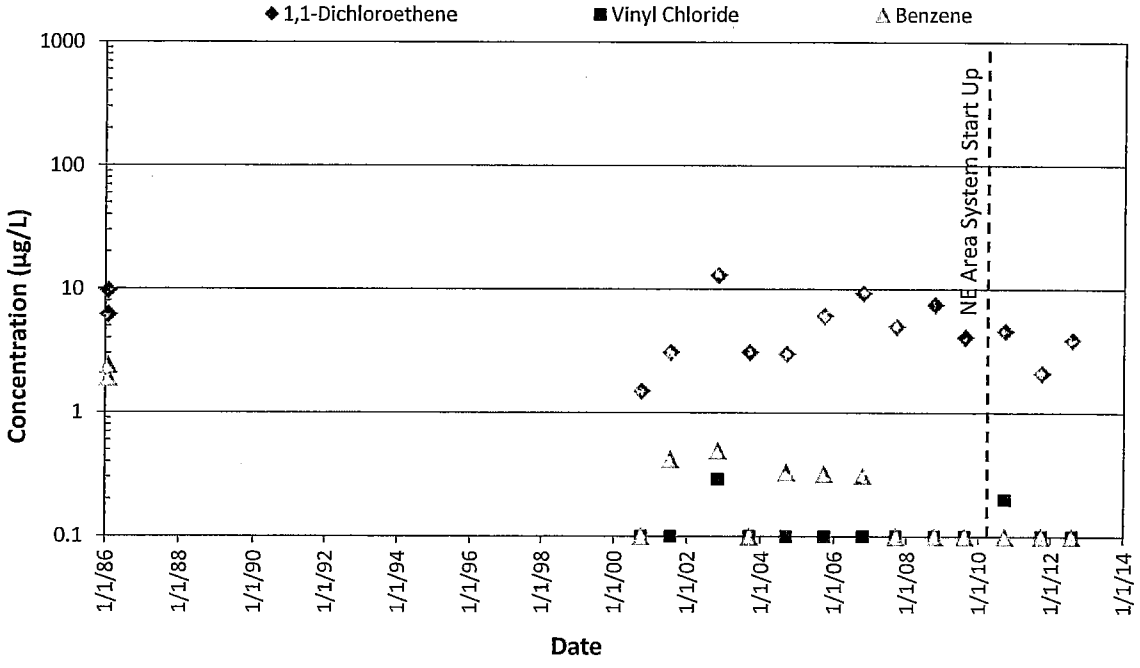


Non-detect plotted at 0.1 µg/L.

PS-22B



PS-29B



Non-detect plotted at 0.1 µg/L.

M:\DOCs\WRGrace\Acton\2013\NE Evai\VDC_VC_BenzGraphs.xlsxPS-29B Graph

EXHIBIT D

TOWN OF ACTON
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Steven Ledoux
Town Manager

April 29, 2013

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Anne B. Sheehan
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Subject: **Town of Acton Comments on February 25, 2013 Tetra Tech Letter Recommending Shutdown of the Northeast Plume Treatment System WR Grace Chemical Plant Site, Acton MA**

Dear Mr. Golden, Ms. McWeeney and Ms. Sheehan:

On behalf of the Town of Acton, I am responding to the February 25, 2013 TetraTech letter recommending shutdown, decommissioning and removal of the Northeast Plume Treatment System installed and operated pursuant to EPA's Record of Decision for Operable Unit Three, W.R. Grace & Co. (Acton Plant) Superfund Site (September 2005) (the "ROD").[1] For the reasons set forth below, the Town objects to the proposed shutdown, decommissioning and removal of the Northeast Plume Treatment System at this time.

The Tetra Tech Report (at page 3) states that, "There has been a significant reduction

[1] The ROD post-dates W.R. Grace's filing chapter 11 bankruptcy proceedings in the United States bankruptcy Court for the District of Delaware, Case No. 01-01139 (JKF) (Jointly Administered). The ROD followed upon the Consent Decree in the matter *U.S. v. W. R. Grace & Co.*, U.S. District Court for the District of Massachusetts, Civil Action No. 80-748-C ("Consent Decree"), and the parallel administrative order issued by the predecessor to the Massachusetts Department of Environmental Protection ("Order").

in VOC concentrations in the Northeast Area as well as some shrinkage of the areal extent of contamination. These reductions are the combined result of natural attenuation and operation of the Northeast Area Remedial Action."[2] Tetra Tech states that "Grace proposes to shut down the Northeast Area Remedial Action," "decommission the system," and "[r]emove the treatment system building and associated underground piping and electrical lines from the Linde-property" (at pages 6-7).

For the following reasons, Grace's proposal is both irresponsible and inconsistent with the requirements of the ROD:

1. The ROD (at page 69) summarized the objectives of the Active Remediation Alternative for the Northeast Area as follows: "to protect the municipal water supply by reducing the areal extent of contamination; reduce the mass of contamination in the most concentrated part of the plume; minimize impacts to the School Street wellfield and Fort Pond Brook; and minimize impacts to residential property owners in the Northeast Area by locating remedial system components on industrial property or public lands where technically and administratively feasible."

2. Continued operation of the Northeast Area Remedial Action advances these objectives. Dismantling and removal of the system does not.

3. The ROD (at page 76) determined that, "Because the aquifer under the Site is classified as a high-yield aquifer within an approved Zone 2 (i.e., a GW-1 aquifer), which is a source of drinking water, MCLs and non-zero MCLGs, established under the Safe Drinking Water Act and MMCLs established by MADEP are ARARs. Groundwater at the Site contributes to an aquifer that is presently used as a community drinking water supply and it is probable that the aquifer will continue to be used as a drinking water supply in the future. **Thus, attainment of federal and state drinking water standards shall be a requirement of the groundwater remedy**" (emphasis added).

4. The federal and state drinking water standards (MCL and MCLG) for Grace's contaminant VDC (1,1-dichloroethylene) are both 7 ppb.[3] The federal and state drinking water standards for other volatile organic chemicals that are contaminants of concern for the Grace Site range from 2 ppb (vinyl chloride MCL) to 5 ppb (e.g. benzene MCL). In Table L-4 (at page 191), the ROD specifically established these federal and state drinking water standards as Interim Groundwater Cleanup Levels for the Grace Site.

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[2] The Tetra Tech report does not quantify the extent to which contaminant reduction is due to natural attenuation on the one hand or operation of the Northeast Area Remedial Action on the other.

[3] See http://water.epa.gov/drink/contaminants/basicinformation/1-1-dichloroethylene.cfm; http://www.mass.gov/dep/water/drinking/standards/12cisdce.htm.

5. At Figure 4, Tetra Tech provides a "Northeast Area Site Map with Distribution of VDC in Groundwater, 2012." This figure confirms that concentrations of VDC exceed 7 ppb in a continuous plume extending from the Grace site to the Lawsbrook and Scribner public drinking water supply wells. The plume appears to be about a mile long and about 1200 feet wide. Within the plume there are zones of VDC concentrations of 30-60 ppb and 60-86 ppb. These concentrations are between 4 to more than 12 times the MCL and MCLGs. The highest concentrations are proximate to the Lawsbrook and Scribner wells, and a substantial area of elevated concentrations exists beneath the residential Lisa Lane area.

6. Tetra Tech's report does not address the presence of an additional contaminant, 1,4-dioxane. Dating back to the May 5, 2008 Pre-design Result Report, the Acton Water District has raised concerns regarding the impact of the remedial action on the 1,4-dioxane in this area. Evaluation of the remedial action is incomplete without addressing this contaminant.

7. The presence of this extensive plume confirms that the Northeast Area Remedial Action required by the ROD has not restored groundwater within and contributing to the current drinking water supply high-yield aquifer to a "fully usable condition" within the meaning of the ROD, the Consent Decree and the Order. Specifically, the ROD indicates (at pages 90-91) that "the cleanup required in the Consent Decree and presented in this ROD is expected to restore groundwater to meet ARARs as well as meet protectiveness requirements. This means that groundwater will be restored to a level that is protective in accordance with state and federal regulations such as Safe Drinking Water Act, taking into account site-specific conditions." It is beyond dispute that the ARARs set forth in the state and federal drinking water regulations have not been met anywhere within the plume depicted in Figure 4 of the Tetra Tech report. Accordingly, the aquifer has not been restored to a fully usable condition as required.

8. The ROD also specifically provides (at page 76) that, "At the time that Interim Ground Water Cleanup Levels identified in the ROD, ARARs, and newly promulgated ARARs and modified ARARs which call into question the protectiveness of the remedy have been achieved **and have not been exceeded for a period of three consecutive years, a risk assessment shall be performed on all residual ground water contamination to determine whether the remedial action is protective.** This risk assessment of the residual ground water contamination shall follow EPA procedures and will assess the cumulative carcinogenic and non-carcinogenic risks posed by all chemicals of concern (including but not limited to the chemicals of concern identified in this section of the ROD) via ingestion, dermal contact, and inhalation of VOCs from domestic water use. **If, after review of the risk assessment, the remedial action is not determined to be protective by EPA, the remedial action shall continue until either protective levels are**

achieved, and are not exceeded for a period of three consecutive years, or until the remedy is otherwise deemed protective or is modified. These protective residual levels shall constitute the final cleanup levels for this ROD and shall be considered performance standards for this remedial action" (emphasis added).

9. At this time, the Interim Ground Water Cleanup Levels identified in the ROD are being exceeded and have been exceeded continuously at all times since the ROD was issued and the Northeast Area Remedial Action was undertaken. There has not been "a period of three consecutive years" during which these Interim Ground Water Cleanup Levels have not been exceeded. Nor has there been a risk assessment performed on all residual ground water contamination to determine whether the remedial action is protective.[4] As such discontinuance of the Northeast Area Remedial Action is premature and violates the ROD. Rather, the remedial action must "continue until either protective levels are achieved, and are not exceeded for a period of three consecutive years, or until the remedy is otherwise deemed protective or is modified" (ROD at page 76).

10. The ROD (at page 69) did anticipate that, "Given the relatively low estimated volume of contamination that remains in the aquifer, EPA assumes that this aggressive targeted pumping would continue for approximately three years. At the end of this three-year timeframe, **and, if necessary, every two years thereafter,** an evaluation will be conducted to determine if pumping can be discontinued. This evaluation will include the following factors: 1.) input from the AWD regarding yield and drawdown; 2.) contaminant concentrations at each of the three School Street Wells and whether they are meeting, and are expected to continue to meet, MCLs; and 3.) the effectiveness of the extraction and treatment system." (Emphasis added.)

11. Under the ROD, the Northeast Area Remedial Action must continue and must be further evaluated every two years:

    a. Tetra Tech admits (at page 5) that, "Water level and extraction rate data collected by the Acton Water District for the three public water supply wells do not show any obvious impacts to yield or drawdown from operation of the Northeast Area remedial system."

[4] In the ROD (at page 121), EPA indicates that it "is aware that some MCLs and MCLGs do not meet CERCLA expectations regarding acceptable cancer risk (10^{-4}-10^{-6}) or might contribute to a non-cancer hazard index in excess of unity. For this reason, EPA has referred to the cleanup levels in ROD Table L-4, including those characterized by the MCL or MCLG value, as "interim". It is EPA's expectation that after the groundwater remedial action has been implemented, a risk assessment on all residual groundwater contamination will be performed according to EPA risk assessment procedures, for the purpose of evaluating cumulative risk. At that time, if the cumulative risk posed by the remaining compounds in groundwater does not meet EPA's expectation of protectiveness, then the remedy will continue until protective levels have been met or until the remedy is otherwise deemed protective of public health." No such risk assessment has yet been performed.

b. Tetra Tech Figure 4 confirms that a VOC-contaminated plume about a mile in length continues to extend towards the Lawsbrook and Scribner wells. In the immediate vicinity of the Northeast Area Remedial Action wells (beneath the Lisa Lane area), a concentrated portion of the plume exists with VDC levels between 30-60 ppb (more than 4-8 times the ARAR); and closer to the public water supply wells a concentrated portion of the plume exists with VDC levels between 30-86 ppb (more than 4-12 times the ARAR). The presence of this plume continues to threaten the public water supply wells.

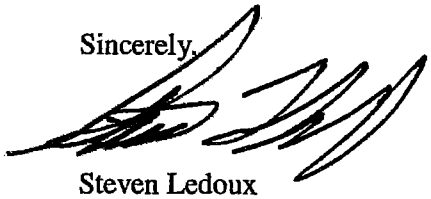
c. Tetra Tech Figure 5 graphs treatment system performance and groundwater quality since April 1, 2010. An initial 8-month period of rapid change has been followed by a relatively constant but lower rate of change. On average, the initial rapid period of change recovered approximately 6 pounds of contaminant removal (equal to an annualized rate of 9 pounds per year) and the subsequent 24 month period resulted in the recovery of approximately 10 additional pounds (equal to an annualized rate of 5 pounds per year). Figure 5 shows little drop-off in the rate of contaminant recovery since early 2011. Given the inherent variability in the sampling and analysis results for VOCs, Tetra Tech relies too heavily on the 10/2012 and 12/2012 results. Simply put, the extraction and treatment system has been and continues to be effective in removing VOC contamination from the Northeast Area aquifer.

For these reasons, it is premature to terminate operation of the Northeast Area treatment system and remove it completely from the site. The system has contributed and continues to contribute to the decline in Northeast Area contaminant concentrations. The Town of Acton strongly recommends that the system not be removed from the site or in any way discontinued or decommissioned at this time.[5]

[5] Discontinuance and removal of Northeast Area Remedial Action would also violate the Town's Ground Water Cleanup Standards Bylaw, Chapter R, which provides that, "Any Cleanup performed in the Town of Acton by a person potentially liable under Section 5(a) of General Laws Chapter 21E on, in, at, of or affecting any Resource Area(s) shall on a permanent basis meet or surpass in cleanness the Ground Water Clean Up Standards established by this Bylaw throughout the Resource Area for each and every Contaminant for which the Cleanup is or has been undertaken." The Bylaw defines "Ground Water Cleanup Standards" to mean "Maximum Contaminant Level Goals ("MCLGs") established under the Safe Drinking Water Act for each Contaminant for which an MCLG has been established, see 40 CFR § § 141.50 - 141.52 ...." Under Bylaw section 7, "it shall constitute a breach of this Bylaw to discontinue for more than thirty (30) days or to abandon a Cleanup of a Resource Area without meeting the Groundwater Cleanup Standards of this Bylaw ...."

Please let me know if you have questions on these comments.

Sincerely,



Steven Ledoux
Acton Town Manager

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Matt Mostoller, Acton Water District (By email)
Chris Allen, Acton Water District (By email)
James D. Okun, LSP (By email)
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EXHIBIT E

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND – REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

September 20, 2013

Mr. Thor Helgason
De Maximis
135 Beaver Street
Waltham, MA 02452

Re: Review of the *Evaluation of the Northeast Area Remedial Action*, prepared by Tetra Tech, dated February 25, 2013, W. R. Grace (Acton Plant) Superfund site, Acton & Concord, Massachusetts

Dear Thor,

EPA, in consultation with MassDEP, has reviewed the above referenced report and is providing conditional approval for shutdown of the Northeast treatment system. Our evaluation and conditional approval considered written comments we received from both the Town of Acton and the Acton Water District in April of 2013. We also took into account discussions that occurred in a meeting with the Town of Acton and others at our office, on August Aug 12th, 2013.

The 2005 Record of Decision (ROD) and the 2006 Remedial Design/Remedial Action Statement of Work required that a Northeast Area treatment system be constructed and operated to reduce the contaminant mass in the most concentrated portion of the Northeast Area plume. The ROD also anticipated that the treatment system would need to operate for three years or more in order to obtain the objectives described in the ROD. The ROD required the following objectives to be evaluated at the end of the three year period, to determine if the treatment system should continue to operate or be shut down.

The ROD objectives are as follows:

1. to protect the municipal water supply by reducing the areal extent of contamination;
2. reduce the mass of contamination in the most concentrated part of the plume;
3. minimize impacts to the School Street well field and Fort Pond Brook;
4. minimize impacts to residential property owners in the Northeast Area by locating remedial system components on industrial property or public lands where technically and administratively feasible.

We have reviewed these ROD-required objectives and supporting information and believe that shutdown of the system is appropriate. The following information supports that these conditions have been met:

- Concentrations of vinylidene chloride (VDC)(the main site-related contaminant) in the School Street Town Wells are currently below the Maximum Contaminant Level of 7 ppb, and have been since before the Northeast Area remedial system became operational;

- Approximately 1.4 pounds of total Volatile Organic Compounds (VOCs) was removed during the first month of system operation. After three years of operation, the VOC removal rate has decreased to only 0.3 pounds (removed during December 2012);

- A comparison of 2001 and 2012 data indicates that the residual mass of VDC in the most concentrated part of the plume since has significantly reduced since the system became operational. For example, in 2001, prior to start-up of the Northeast Area remedial system, VDC was detected in MW-06B at a concentration of 260 ug/L. After three years of operation, VDC concentrations in MW-06B decreased to 25 ug/L.

- Water level and extraction rate data collected by the Acton Water District for the three School Street public wells do not show any obvious impacts to yield or drawdown from operation of the Northeast Area remedial system, indicating that impacts to the School Street well field and Fort Pond Brook were minimal. *Tetra Tech, 2013*

- The Northeast Area treatment system was located and operated on an industrial property, the Linde Company, thereby minimizing impacts to residential property owners in the Northeast Area.

A copy of the original April 2013 comments from both the Town of Acton and the Acton Water District are included as an attachment to this letter. In order to address the remaining concerns from the Acton Water District and the Town of Acton, EPA is providing a **conditional approval** to shut down the Northeast Area System based on the following conditions:

1. The Northeast Area treatment system cannot be dismantled or removed until EPA and MassDEP review and provide comments on the 2014 annual groundwater monitoring report for the site. This would allow the system to easily re-started, in the unlikely event EPA and MassDEP determine that it becomes necessary to restart the system;

2. The 2013 annual groundwater sampling and elevation measurements must be completed prior to shutdown (it is our understanding from recent discussions that the annual groundwater event has already been completed);

3. The four individual wells that make up the Scribner town well must be sampled quarterly for at least a one-year period and analyzed for 1,4 dioxane. This is required in order to address 1,4 dioxane concerns from both the MassDEP Waste Site Cleanup and Drinking Water Programs, the Acton Water District, and the Town of Acton.

4. The results of these sampling events (i.e., the laboratory data sheets) must be provided to the Acton Water District and to the MassDEP Drinking Water Program as soon as the results are available or, at a minimum, within 10 days of the end of the quarterly monitoring period, in accordance with USEPA drinking water regulatory requirements. For example, for the samples collected from the Scribner wells on September 19, 2013, results

should be provided to the AWD and the MassDEP Drinking Water Program by October 10, 2013.

5. We understand that W. R. Grace has sampled the four individual Scriber wells on September 19, 2013. Once W. R. Grace confirms that they will perform three additional rounds of quarterly sampling for the Scribner well, the Northeast Area treatment system may be shut down.

If you have any questions, you may contact me at 617-918-1448.

Sincerely,

Derrick Golden
Remedial Project Manager
Office of Remediation and Restoration
Environmental Protection Agency

cc: Bob Cianciarulo – EPA
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