Closure Report

Parcel C, Former Gorham Manufacturing Facility
333 Adelaide Avenue, Providence, Rhode Island

Prepared for:

Textron, Inc.
40 Westminster Street
Providence, Rhode Island

Prepared by:

Amec Foster Wheeler
Environment & Infrastructure, Inc.

271 Mill Rd, 3rd Floor
Chelmsford, MA 01824

May 2017

Project No. 3652160080

REMEDIAL ACTION CLOSURE REPORT

PARCEL C-1
PHASE II AREA – MASHAPAUG POND AND COVE, PHASE III AREA – NORTHEAST UPLAND, AND PARCEL C

FORMER GORHAM MANUFACTURING FACILITY
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PROVIDENCE, RHODE ISLAND

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Prepared and Reviewed by:

Annette McLean
Project Scientist

David Heislein
Senior Project Manager

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1.0 INTRODUCTION

On behalf of Textron, Inc. (Textron), Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) prepared this Remedial Action Closure Report (RACR) for four areas of the Former Gorham Manufacturing Facility located at 333 Adelaide Avenue, Providence, Rhode Island (the Site) (**Figure 1**):

- Parcel C-1 Phase I Area – Mashapaug Pond and Former Slag Pile
- Parcel C-1 Phase II Area – Mashapaug Pond and Cove,
- Parcel C-1 Phase III Area – Northeast Upland, and
- Parcel C (former YMCA parcel)

These four ***Areas*** are shown in **Figure 2** and are further described in Section 1.1.

This RACR summarizes the salient aspects of historic remediation and current regulatory status, and documents the closure process of the four Areas of the Site as required by the Rhode Island Department of Environmental Management (RIDEM) Remediation Regulations. Information regarding the remediation and closure of these Areas has been obtained from previously submitted documents that have been accepted and/or approved by RIDEM as cited within this report. It is not the intent of this closure report to recapture the full details of these previously submitted reports, but rather to reaffirm the main and relevant events in the remediation and closure process, and to certify that these four Areas were properly remediated and closed in accordance with approved Remedial Action Work Plans (RAWPs) and/or Short-Term Response Actions under the RIDEM Remediation Regulations. With the submittal of this RACR, Textron is requesting an Interim Letter of Compliance from RIDEM documenting the satisfactory completion of the remedies at Parcel C-1 Phase I Area, Parcel C-1 Phase II Area – Mashapaug Pond and Cove, Parcel C-1 Phase III Area – Northeast Upland, and Parcel C (former YMCA parcel) (**Figure 2**).

The Interim Closure request is based on the detection of trichloroethene (TCE) and 1,1-dichloroethene (1,1-DCE) in one monitoring well (MW-D) on Parcel C that exceed the RIDEM GB criteria. The monitoring and reporting of groundwater quality at this one location is being conducted by Textron on a semi-annual basis pending compliance with RIDEM's GB Groundwater Objectives and three rounds of decreasing concentrations (RIDEM, 2015c)

1.1 Property and Site History

The Former Gorham Manufacturing Facility is located at 333 Adelaide Avenue, Providence, Rhode Island and is comprised of four parcels (**Figures 1 and 2**). The 37-acre parcel of land was used by Gorham Silver in the manufacture of silverware, both sterling and plated, and bronze castings from approximately 1890 to 1985. Operations included casting, rolling, polishing, lacquering, forging, plating, annealing, soldering, degreasing, machining, and melting. Vapor degreasers reportedly used TCE, tetrachloroethene (PCE), and 1,1,1-trichloroethane (1,1,1-TCA).

A “slag” material was generated at the Site during the processing of ore to extract the precious metals used in the manufacturing processes. The slag material was disposed of on-site. Other manufacturing by-products (i.e casting sands) were used as backfill material in Parcels C and C-1 to level the Site for warehouse storage and parking.

More recent Site conditions from 2011 prior to the remediation work at Parcel C-1 Phases I, II and III and Parcel C are shown in the aerial photograph in Figure 2. In this figure, the Site is located immediately north of Adelaide Avenue and west of the Amtrak railroad tracks. The former manufacturing facility was razed in 2001.

The 2006 Consent Order between RIDEM and the City of Providence (RIDEM, 2006a) identified four parcels of land that required investigation and remediation to support the planned future use of each area (**Figure 3**). Note that Parcel C (formerly known as the YMCA parcel) and Parcel C-1 (formerly known as the Park Parcel or Parcel D) are combined into a single Parcel C for legal reference in the subdivision plan that divided the former 333 Adelaide Avenue Former Gorham Manufacturing Facility property into three Parcels. All three parcels are currently owned by the City of Providence. A retail development was completed on the southeastern portion of the Site (Parcel A) in 2002 (**Figure 2**). A public high school (Dr. Jorge Alvarez High School) was constructed on a Parcel B, immediately west of the retail property.

Parcel C is a relatively flat, empty lot located adjacent to the Alvarez High School. Parcel C-1 extends from the intersection of Adelaide Avenue and Crescent Street north and east along Mashapaug Pond/Inner Cove to the northeast corner of the property behind the Parcel A detention basin and Mashapaug Pond (**Figure 2**). Parcel C-1 includes both the Mashapaug Inner and Outer Coves.

Site investigation activities were conducted between 1986 and 2014 across the Site including the four Areas which are the focus of this RACR. The results of these sampling events were used to determine that contaminant concentrations exceeded ecological risk criteria within the Inner Cove sediment and exceeded RIDEM Residential Direct Exposure Criteria (RDEC) in surface soil within Parcels C and C-1. Metals, petroleum aromatic hydrocarbons (PAHs), and dioxin were found in sediment along the shore of Mashapaug Pond and/or soil along the western portion of Parcel C-1 (Phase I Area), in sediment in the Mashapaug Inner Cove (Phase II Area), and in surface soil within the Northeast Upland Area (Phase III Area) and Parcel C. All four of these Areas required remediation as described in the Site Investigation Reports (MACTEC, 2006a & 2006b and AMEC, 2014). Lead impacted slag was also found along the southern shoreline of the Mashapaug Inner Cove, within the Parcel C Phase I Area.

In accordance with the March 2006 Consent Order Textron removed the metal debris from the Phase I Area surface for off-site recycling, removed most of the slag material from the Phase I Area and transported it off-site for reuse; only small pieces of residual slag mixed with Site soil remained at the Site. For the remainder of Parcel C-1 and Parcel C, a phased approach was developed (**Figure 3**) and documented in Remedial Action Work Plans (MACTEC, 2006c; MACTEC, 2012; and Amec Foster Wheeler, 2015a). These RAWPs were subsequently approved by RIDEM in Remedial Decision Approval Letters issued June 15, 2001, May 24, 2004 and April

24, 2006 for Parcel C (RIDEM, 2001, 2004, 2006b), August 10, 2012 for Phase I Area (RIDEM, 2012), and March 27, 2015 (RIDEM, 2015b) for the Phase II and Phase III Areas (**Appendix A**).

Note that the 2006 Consent Agreement (RIDEM, 2006a) stipulated that the soils exceeding RIDEM Industrial/Commercial Direct Exposure Criteria (I/CDEC) and groundwater exceeding GB criteria should be remediated. Only later as part of the response action design of the Phase I Area in 2012 did these criteria change to be RDEC based on the proposed future recreational use of the Parcels C and C-1. The groundwater on Parcel C-1 was also revised to be Massachusetts Contingency Plan (MCP) GW-3 criteria to be protective of the environment as groundwater discharged into the Mashapaug Inner Cove.

The former slag pile, located along the southern shoreline of the Mashapaug Inner Cove was removed between June and September 2006 (**Figure 4**). This removal extended into the shallow waters of the Inner Cove. The slag material was then shipped off-site for reuse (MACTEC, 2006d). Confirmatory soil sampling and test pits were then conducted to further assess the remaining conditions. This investigation confirmed the presence of small residual pieces of slag material mixed with Site soil, elevated concentrations of metals and PAHs (**Figures 4 and 5**) and historic waste fill material used to level the Site for historic manufacturing operations. It was determined that this area would require capping to eliminate the potential exposure pathway to the residual slag and historic waste fill material ((MACTEC, 2006d). This proposed cap was then incorporated into the Parcel C-1 Phase I Area remediation.

During the removal of the former slag pile localized areas of surface soil/sediment located within two drainage channels leading from the upland area to the Inner Cove were also removed. These surface soils and sediment contained elevated copper concentrations exceeding Upper Concentration Limits (UCLs). These soils were disposed of off-site at a permitted facility (MACTEC, 2007a).

Remediation of the Phase I Area addressed the western area along Mashapaug Pond and the area north of the Alvarez High School (**Figure 2**), including the former slag pile area. A marker fabric and imported clean cover soil were used to cover the extent of historic fill material and surface soils exceeding the RIDEM RDEC for metals and PAHs. A geotextile liner and drainage liner were installed over the former slug area and covered with clean imported soil meeting RDEC. Two small areas of surface soil were also removed from the western peninsula of the Inner Cove where dioxin was found in surface soil to exceed RIDEM background concentrations. Limited soil was also removed from two locations within the former slag pile area for soils exceeding UCL concentrations of UCLs for metals. A defined area within a drainage swale in the southwest corner of the Phase I Area near Adelaide Avenue and Crescent Street will also excavated due to concentrations of lead and PAHs, and was restored with clean stone and fabric. The remediation of the Parcel C-1 Phase I Area was completed in 2012 as documented in the Remedial Action Closure Report submitted in April 2013 (AMEC, 2013b).

Remediation of the Parcel C-1 Phase II Area, (Mashapaug Inner Cove) and Phase III Area (northern portion of Parcel C-1), and Parcel C were completed in 2015 as documented in the Remedial Action Completion Report submitted in February 2016 (Amec Foster Wheeler, 2016a). The Inner Cove sediments were removed, stabilized and consolidated in the Phase III Area, the remaining sediment was capped with organic material and the fringe and buffer wetlands restored. The Phase III Area was graded and capped with marker fabric and imported clean soil meeting RDEC. Parcel C was also graded and stormwater management features constructed and the surface covered with marker fabric and clean imported soil meeting RDEC.

This RACR documents the closure of the Remedial Actions and confirms compliance with the Remedial Action Approvals (**Appendix A**) for the four Areas (Parcel C-1 Phase I, Phase II and Phase III Areas, and Parcel C).

1.2 Physical Setting

A description of the physical setting for the Phase I, Phase II and Phase III Areas of Parcel C-1 and Parcel C as they existed *prior* to the 2006, 2012 and 2015 remediation is provided below. The *post-remediation* physical setting of these areas is described in Section 2.0 of this RACR.

Phase I Area of Parcel C-1

The first of the areas in the Phase I Area extends from the southwestern property boundary (Adelaide Avenue/Crescent Street) to the tip of the western peninsula that bends into Mashapaug Pond. This area is heavily wooded with moderate to steep slopes that descend to the Pond. Limited areas along the western shoreline contain industrial fill material (**Figure 3**). There are structures present which based on historic maps, were used for water extraction purposes associated with the former facility's fire suppression system and/or process water.

The second (central) section of the Phase I Area borders the southern shore of Mashapaug Inner Cove. This area includes a steep wooded embankment that leads down to wooded lowland that is adjacent to the Inner Cove. The former slag pile was located in this central portion of the Phase I Area and was removed by Textron in July 2006 (**Figure 3**). Post-excavation confirmatory soil sampling was conducted, indicating isolated exceedances of the RDEC. The embankments along the southern end of the Inner Cove are underlain by heterogeneous fill, consisting of granular reworked soils with varying amounts of casting sands and construction, demolition, and miscellaneous debris such as fire brick, old wood beams, and metal debris. The fill varies in thickness from one-foot at the northern edge of the former West Parking area (former facility area) to approximately 20-feet along the embankment north of the high school parking lot (**Figure 3**). Several historic groundwater well structures that were formerly used for industrial and/or fire suppression purposes are present near the southwestern shore of the Inner Cove.

Phase II Area of Parcel C-1 - Mashapaug Cove

Mashapaug Cove consists of both the Inner and Outer Coves (**Figure 2**). The Inner Cove abuts the Phase I and Phase III Areas while the Outer Cove is located between the Inner Cove and Mashapaug Pond to the north. The Inner Cove consists of a soft organic (peaty) silt or silty clay sediment and has a shallow flat bottom with water depths that varied between 2.4 and 3.5 feet at locations greater than 20 feet from the shore. Inner Cove sediments were generally a very dark, organic silt layer in the top two to eight feet underlain by sandy strata. Sandy/gravel material is present to a depth of approximately 38 feet. The south shore of the Inner Cove, near the former slag pile, contained silt and sand layers. Slag debris that was previously present in upper parts of the sediment was removed in 2006 (MACTEC, 2006d) with follow-up removal occurring during the implementation of the Parcel C-1 Phase I Area remediation and capping.

During the summer months, aquatic vegetation was abundant within the Inner Cove and in recent years contained a large amount of blue green algae. Most of the Outer Cove consists of sandy strata with organic silt located within the minor channel extending from the Inner Cove into Mashapaug Pond. The eastern and western shorelines of the Outer Cove generally consist of sand and very little organics. Sandy/gravel material is present to a depth of approximately 45 feet. Water depths within the Outer Cove range from four to eleven feet. In 2006, RIDEM classified Mashapaug Pond (including Mashapaug Cove) as Class B surface water, which are waters designated for fish and wildlife habitat and primary and secondary contact recreational activities. These waters are suitable for compatible industrial process and cooling, hydropower, aqua-culture uses, navigation, and irrigation and other agricultural uses. The area surrounding Mashapaug Pond is entirely urban and the pond experiences blue green algae growth due to phosphorous loadings within storm water discharge points and surface water runoff.

Phase III Area of Parcel C-1

The Phase III Area of Parcel C-1 is located in the northeast corner of the Property (**Figure 2**). This area borders both the eastern shore of the Inner and Outer Coves, and shoreline of Mashapaug Pond. A steep slope exists along the eastern shore of the Inner and Outer Coves and the eastern peninsula separating these coves. To the east of Mashapaug Outer Cove is a flat upland area that formerly housed an employee recreational building (known as the ‘Casino’) and associated parking lots. There are no visible building foundations or debris within this former Casino area. Also, in the northeast corner of the Phase III Area is a separate plot of land that contains an active Amtrak High Speed railroad maintenance area. Remnants of the former brick Carriage House were present in the area adjacent to the Amtrak railroad behind the existing retail building (**Figure 2**). A City sewer easement is located in the southeast corner of the Phase III Area between the Amtrak access road and the railroad right of way (ROW). The eastern peninsula separating the Inner and Outer Coves has trees and ground vegetation. An approximate 20-foot difference in elevation exists between the former “Casino” and parking lots upland parcel and the lower shoreline of Mashapaug Cove and Pond. Parcel C-1 is fully enclosed by a chain-link fence installed and maintained by the City in accordance with the 2006 Consent Order. A locking gate for Amtrak access to their high-speed rail maintenance area is located behind the retail building (Parcel A).

Parcel C (west of High School)

As shown on **Figure 2**, Parcel C (formerly known as the YMCA parcel) is an undeveloped, relatively flat 6-acre portion of the Site located in the western area of the property, adjacent to the Dr. Jorge Alvarez High School (Parcel B). Buildings formerly located on Parcel C were associated with historic operations at Gorham Silver and were used for storage. In 2001, these buildings and structures were demolished and some remnants remained in a pile in the center of Parcel C. A locking gate which allows access to Parcel C and the western portions of Parcel C-1 is located in the southeast corner of Parcel C nearest the high school.

1.3 Regulatory Background and Previous Investigations

To reduce confusion, we have provided a list of the companies that developed the historical reports cited within this RACR. The names of these predecessor companies have all been incorporated under Amec Foster Wheeler. Please note that when citing a report/document, we use the appropriate company name as listed on the document/report at the time it was published/submitted.

- ABB Environmental Services, Inc. (ABB-ES)
- Harding Lawson Associates (HLA)
- Harding ESE
- MACTEC Engineering and Consulting, Inc. (MACTEC)
- AMEC Environment & Infrastructure, Inc. (AMEC)
- Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler)

In addition, when this RACR discusses activities conducted by Amec Foster Wheeler or its predecessors listed above (i.e., submittal of work plans, reports, response to comments, or conducting investigation activities), it is inferred that Amec Foster Wheeler submitted the document or conducted the activities on behalf of Textron.

Site investigations of Parcels C and C-1 were conducted between 1994 and 2004. Supplemental Site investigation (SSI) activities were then conducted between December 2005 and February 2007 to define the nature and extent of contamination and to complete a human health and ecological risk assessment for Parcel C-1, including the Phase I Area, Mashapaug Cove and the Phase III Area (MACTEC, 2006a & 2006b and 2007a & 2007b). This data collection included the confirmatory soil sampling following the removal of the former slag pile area on the southern shoreline of the Inner Cove (MACTEC, 2006d). These environmental investigations demonstrated that soil across much of the 333 Adelaide Avenue Property, particularly in the areas of the former manufacturing facility, was impacted by historical industrial operations. Constituents of potential concern (COPC) in soils at the Site included volatile organic compounds (VOCs - principally the chlorinated hydrocarbons TCE, PCE, and 1,1,1-TCA and their degradation products 1,2-dichloroethene [1,2-DCE] and vinyl chloride), semi-volatile organic compounds (SVOCs, principally polynuclear aromatic hydrocarbons [PAHs]), metals (primarily arsenic, copper, and lead), dioxin, and total petroleum hydrocarbons (TPH). The 2006 Supplemental Site Investigation Report (SSIR) (MACTEC, 2006a) and 2007 SSIR Addendum (MACTEC, 2007b), recommended the construction of a soil cap in the Phase I and Phase III Areas to support a passive recreational use of Parcel C-1. Additional investigations were conducted in November 2011 (AMEC, 2011) to delineate the nature and extent of contaminated Mashapaug Cove sediments (Phase II Area), specifically for metals and dioxin, and to support an ecological risk assessment of the Outer Cove (**Figure 6**). The 2006 Human Health Risk Administration (HHRA)was updated to include November 2011 data, but did not identify any unacceptable risk from the Inner Cove surface water or sediment for the worker; however, the trespasser scenario and ecological risk assessment identified that the Inner Cove sediment needed to be remediated. Surface water and sediment in the Outer Cove did not pose an unacceptable risk to human health or the environment, and did not require remediation (AMEC, 2014).

In 2014, Amec Foster Wheeler conducted pre-design sediment sampling of the Inner Cove to supplement existing data for the implementation of the final remedy for the Parcel C-1 Phase II and Phase III Areas (AMEC, 2013c). Results of the sampling were incorporated into the *Site Investigation Report - Phase II Area - Mashapaug Pond & Cove, Phase III Area - Northeast Upland & Parcel C* submitted to RIDEM in December 2014 (AMEC, 2014). Through an agreement between the City of Providence, RIDEM and Textron, the 2014 SIR also served as the framework to formally document the final remedy selected for Parcel C (former YMCA parcel). Construction of the Parcel C remedy was incorporated into the remedial action selected for the Parcel C-1 Phase II and Phase III Areas (Amec Foster Wheeler, 2015a). RIDEM approved the remedial action as described in the 2014 SIR for the three Areas, including the capping of Parcel C and removing approximately two feet of sediment from the Inner Cove (Phase II Area), and then placing and capping the dewatered sediment within a defined location of the Phase III Area Northeast Upland.

1.4 Source Areas and Response Actions

Source areas encountered during the previous investigations of the four Areas and response actions implemented to address the sources are described below.

1.4.1 Former Slag Pile

Gorham Silver manufactured silver flatware and bronze statues and other products at the Facility from 1890 to 1986. Slag material from a former smelting operation operated in Building V was identified at the Site and sampled as part of site investigations. The slag material had unique physical properties that made it readily distinguishable from surrounding fill and native soils. The slag was black to brown, blocky, vitreous and was mainly made up of chunks from two (2) to eight (8) inches in size. Analytical results from slag samples exceeded the UCLs (Rule 8.07 of the Remediation Regulations) for lead. The March 29, 2006 Consent Order between RIDEM and the City of Providence (RIDEM, 2006a) required the removal of the slag pile and metal debris from upland portions of the Site. Based on a 1994 agreement between the City of Providence and Textron, Textron agreed to remove the slag pile and metal debris for off-site disposal. The remedial activities completed are described in Section 2.1.

1.4.2 Parcel C-1 Phase I Area

Limited manufacturing activities (were conducted within the Parcel C-1 Phase I Area. A portion of Building V, the former smelting building, was within Parcel C-1 and the former slag pile was located adjacent to former Building V extending down into the Inner Cove. Historic fill material from the former manufacturing facility was found in the westerly and southerly portions of Parcel C-1 (Phase I Area). Three isolated areas were identified within the western shoreline that showed RDEC exceedances of PAHs, lead, and risk-based dioxin levels in soil. These areas included the southwestern corner of Parcel C-1 within a storm water drainage ditch and two locations on the western peninsula (**Figure 3**). The selected remedial action included limited removal of surface soil, and post-removal confirmatory sampling at locations within the western shoreline areas, additional soil removal at two locations within the former slag pile area, and capping of soil that did not meet RDEC. The remedy also included the implementation of an Environmental Land Use Restriction (ELUR) and Soil Management Plan (SMP) to maintain the integrity of the cap and restrict access to Site groundwater. The Phase I remediation was completed in 2012, and the remedial objectives were met as proposed in the RAWP (AMEC, 2012) and approved in the Remedial Approval Letter (RIDEM, 2012). The remedial activities associated with the Phase I cap are discussed in Section 2.2.

1.4.3 Parcel C-1 Phase II Area & Phase III Area

The Site consists of both the Inner and Outer Coves (**Figure 2**). The Phase II Area of Parcel C-1 is the Mashapaug Inner Cove. The Inner Cove abuts the Phase I and Phase III Areas while the Outer Cove is located between the Inner Cove and Mashapaug Pond to the north. No manufacturing activities were conducted within the Phase II Area. Results of the updated HHRA and ecological assessment (AMEC, 2014) showed that the Outer Cove did not pose a risk to human health or the environment, but the Inner Cove sediments posed an unacceptable risk to the environment from dioxin, PAHs, and metals, and needed to be remediated. The selected remedy was the damming and dewatering of the Inner Cove, removal of up to two feet of impacted sediment and placement of one foot of imported, clean organic fill. As part of the remediation of the Inner Cove, the delineated fringe wetland and perimeter wetlands along the shore line of the Inner and Outer Cove were also capped and restored.

The Phase III Area of Parcel C-1 is located on the northeast corner of the Property and borders the eastern shore of the Inner and Outer Coves and shoreline of Mashapaug Pond. The flat, upland area of the Phase III Area east of the Mashapaug Outer Cove formerly contained the Casino, the Carriage House and associated parking lots. No manufacturing activities were conducted on the Phase III Area. Investigations confirmed that metals and dioxin detected in surface soil within the Phase III Area exceeded RDEC and required remediation. AMEC conducted pre-design soil sampling in June 2013 (AMEC, 2013b) to close those data gaps and complete the delineation of surface soils exceeding RDEC that required capping. The former Carriage House area was not sampled in June 2013 since the fire that previously destroyed the building would likely have resulted in detections of metals and PAHs above the RDEC in surface soil. The 2014 Final SIR (AMEC, 2014) presented the final delineation of areas where concentrations of contaminants exceeded the RDEC that required capping for a future passive recreational use. Remediation and capping of the Phase II and Phase III Areas are discussed in Section 2.3 and 2.4 respectively.

1.4.4 Parcel C

In 2001, the historic buildings and structures located on Parcel C were demolished and some remnants remained in a pile in the center of Parcel C. This pile of construction debris and soil was previously tested in 2005 by GZA GeoEnvironmental, Inc. and showed elevated concentrations of PAHs and TPH exceeding RDEC. In August 2010, Vanasse Hangen Brustlin, Inc. (VHB), on behalf of the City, submitted a draft RAWP (VHB, 2010) for Parcel C proposing the construction of an engineered cap consisting of roadways, walkways, paved parking areas, vegetative cover to address potential direct contact concerns to soils, and construction of a proposed sub-slab ventilation system for the proposed building. Institutional controls were also part of the remedy. RIDEM reviewed the draft 2010 RAWP and issued a comment letter (RIDEM, 2011a). The remedial action proposed for Parcel C (soil capping) and RIDEM responses to that remedy were addressed and incorporated into the RAWP for the three Areas (Amec Foster Wheeler, 2015a). Since the City did not plan to construct any structures or buildings on Parcel C, the proposed sub-slab ventilation system was no longer required. The remedial activities associated with the Parcel C cap are discussed in Section 2.4 of this RACR.

1.4.5 Groundwater

Extensive groundwater investigations were previously conducted throughout the Site including the upland portions of the property (including Parcel C) and within the Mashapaug Inner and Outer Coves (Parcel C-1) (MACTEC, 2006a and AMEC, 2011). Based on the data collected over the years, three VOC groundwater plumes were delineated: (1) a PCE plume that originates from the former Building W area (Parcel A); (2) a 1,1,1-TCA and TCE plume that originates immediately south of the retail building (Parcel A), and (3) an historic low-level PCE/TCE plume that originates from the fill material in the northwestern corner of Parcel C. All three plumes extended beneath, and with upward gradients, through the sediment and into the surface water interface of Mashapaug Inner Cove. A detailed summary of the groundwater pump and treatment system installed to address the two Parcel A groundwater plumes is provided within the Parcel A Remedial Action Closure Report.

RIDEM's Order of Approval for the Parcel C/C-1 selected remedy (RIDEM, 2015c Condition #10) requires Textron to monitor Parcel C/C-1 groundwater following completion of the remedial action, by sampling six wells (MW-235S, MW-236S, MW-237S, MW-D, MW-241, and MW-FS) (**Figure 7**). Sampling is required until data from three consecutive sampling rounds demonstrate that Parcel C groundwater is compliant with RIDEM's GB Groundwater Objectives with no increasing concentrations of VOCs, and that Parcel C-1 groundwater is compliant with the Massachusetts Department of Environmental Protection (MassDEP) GW-3 Standards with no increasing concentrations of VOCs. Discussion of the post-remediation groundwater sampling activities is provided in Section 2.5 of this RACR. Section 2.5 also provides a summary of the groundwater monitoring results on Parcels C and C-1 through March 2017.

The ELUR, signed on April 18, 2017 and recorded by the City of Providence in the Providence Land Evidence Records (**Appendix B**) includes provisions to restrict the use of the Parcel C and C-1 groundwater for potable and non-potable use, and requires prior approval from RIDEM to construct any subsurface structures on-site over the groundwater.

1.4.6 Surface Water and Sediment

The Site investigations conducted in 2006, included extensive sampling and characterization of the surface water and sediment within the Mashapaug Inner and Outer Coves (MACTEC, 2006a). Additional investigations were conducted in 2011 (AMEC, 2011) to further assess the conditions in the Inner Cove, Outer Cove and Mashapaug Pond (background) and update the human health and ecological risk assessments for the Mashapaug Inner and Outer Cove. The 2006 and 2011 investigations evaluated the presence of VOCs, SVOCs, metals, dioxins/furans and polychlorinated biphenyls (PCBs)/pesticides found in the surface water and sediment within the Mashapaug Inner and Outer Cove and Mashapaug Pond. Trace concentrations of VOCs found at the interface of the sediment and surface water within the Inner Cove were attributed to groundwater discharge into the Inner Cove (AMEC, 2014). The detected VOCs confirm their biodegradation as they pass through the sediment and into the surface water. As presented within the 2014 Final SIR (AMEC, 2014), the updated HHRA to include the 2011 data did not identify any unacceptable risk from the Inner Cove surface water or sediment for the worker; however, the trespasser scenario and ecological risk assessment identified that the Inner Cove sediment needed to be remediated due to metals. Surface water and sediment within the Outer Cove did not pose an unacceptable risk to human health or the environment, and did not require remediation (AMEC, 2014).

In order to determine the effectiveness of the Phase II Area (Inner Cove) sediment remediation, RIDEM (RIDEM, 2015c Condition #11) required Textron to collect five surface water samples from the Inner and Outer Coves and Mashapaug Pond following the completion of the remedial action and restoration of the Phase II Area. The five locations to be sampled included SED/SW27 and SED28 (Inner Cove), SED/SW36 and SED/SW39 (Outer Cove), and SED/SW11 (Mashapaug Pond) (highlighted in **Figure 6**). Surface water samples were analyzed for PAHs, total and dissolved metals and dioxins. Discussion of the post-remediation surface water sampling results is provided in Section 2.6.

2.0 REMEDIAL ACTIVITIES

2.1 Parcel C-1 Phase I Area - Slag Removal (2006)

As required by the March 2006 Consent Order (RIDEM, 2006a), between July and August 2006 Textron removed the slag pile from the Phase I Area. Excavation to the visible extents of slag and soil in contact with slag was conducted along the Inner Cove upland area. Based on the field observations the excavation was extended approximately 50 feet into the Inner Cove (**Figure 4**) where slag mixed with sediment and subsurface soil was removed. Approximately 1,300 cubic yards (cy) of slag was removed and transported off-site for recycling (MACTEC, 2006d). A total of 51 confirmatory soil samples were submitted for laboratory analysis (SVOCs, priority pollutant [PP-13] metals, and TPH). Since some of these confirmatory soil samples exceeded the RIDEM I/CDEC for one or more of the metals (lead, arsenic and beryllium) and SVOCs in soil (**Figures 4 and 5**), Textron proposed and received approval to incorporate the final remediation of the remaining former slag area into the proposed Phase I Area capping and closure process (AMEC, 2012 & 2013b) as described in Section 2.2 below.

As a result of surface soil sampling conducted across Parcel C-1 (Park Parcel) in 2006, lead impacted soil was identified in a drainage swale, located immediately east of the slag pile, that discharged into the Inner Cove (**Figure 8**). Due to elevated concentrations of copper exceeding the UCL, approximately 10 cy of soil from the swale was also removed and disposed of off-site during the 2006 slag removal response action (MACTEC, 2007a). Confirmatory soil samples were collected to further assess the Site soil conditions in and around the former slag pile. As part of this post removal assessment, additional lead contaminated soil was found that exceeded the UCL within the former slag pile area. Textron agreed to remove this soil for off-site disposal during the Phase I cap construction (Section 2.2).

Under the 2006 Consent Order (RIDEM, 2006a), RIDEM also required Textron to remove metal debris that was identified at various locations on Parcel C-1 (Park Parcel) and along the property boundary with Parcels B and C. Amec Foster Wheeler catalogued the type of material (e.g., car door, chain link fence, etc.), photographed the metal debris, and documented the pre- and post-removal location of all the debris using global positioning system coordinates. The collected metal debris was loaded into a container and removed for off-site recycling. Details of the metal debris identification and removal activities are summarized in the Slag Removal Summary Report (MACTEC, 2006d).

2.2 Parcel C-1 Phase I – Soil Cap Construction (2012)

The selected remedy for the Phase I Area required removal and consolidation of impacted soil, prevention of direct-contact human exposure to impacted materials with a soil cap, and minimizing the potential for leaching of metals to the groundwater in the former slag pile area. The Phase I Area capping activities began in September 2012 and were completed in November 2012. The Phase I work did not include the capping and restoration of the fringe wetlands along the southern shoreline of the Inner Cove. The capping of wetlands was deferred to the Phase II Area scope of work to provide a better transition zone from the upland into the Inner Cove. Also, note that the 2006 Consent Order stipulated that the soils exceeding RIDEM I/CDEC should be remediated.

Later as part of the design of the response action within the 2012 RAWP did these criteria change to be RDEC based on the proposed future passive recreational use of Parcel C-1.

As discussed in Section 2.1, lead impacted soil exceeding the UCL was excavated from the former slag pile area and sent off-site for disposal. In the presence of a RIDEM representative, eleven test pits (TP01 – TP11) were excavated to native soil or groundwater (3 -10 feet bgs) at the perimeter of and within the former slag pile removal area to determine if additional slag material was present. Only a few small pieces of slag were observed and no large pockets or veins of additional slag material was discovered. Results of confirmatory soil samples showed that the leaching potential of the industrial fill within the test pits was limited. Even though the leaching potential was confirmed to be limited, Textron proceeded to cap the former slag pile area with an impermeable liner as planned to further reduce the potential for leaching.

During the test pitting activities, a volcanic rock-like material was observed to be mixed with the industrial fill, and was present widespread east of the area to be capped with the impermeable liner. This material appeared to be produced from the same process that produced the slag material. The onsite RIDEM representative requested additional test pits be conducted outside of the area to be capped with the impermeable liner, to determine the extent of a volcanic rock-like material. RIDEM required that the volcanic rock-like material be analyzed to confirm its characteristics, be consolidated within the impermeable cap limits, or the impermeable cap extended to cover it. Results of the metals analysis showed that the volcanic rock-like material did not contain elevated concentrations of metals and did not exhibit slag-like material properties. RIDEM acknowledged that the material did not require capping with an impermeable cap and allowed the material to be covered with the Phase I Area soil cap.

The three isolated areas (**Figure 3**) within the western shoreline that had PAHs, lead, and risk-based dioxin levels exceeding the RDEC, were excavated, confirmatory soil samples collected and the excavation area backfilled. An additional 18 cy of impacted soil was removed from the three areas and consolidated under the Phase I Area cap. The post excavation soil samples confirmed the remaining soil complied with RDEC. The two areas on the western peninsula were backfilled with clean soil meeting RDEC while the southern-most area in the drainage swale was backfilled with stone to avoid any washout at the toe of the drainage swale during a storm event.

The Phase I Area cap contained three distinct capping systems including an upland soil cap, a wetland buffer zone cap, and an impermeable cap on the former slag pile area (AMEC, 2013b). As shown in **Figure 3,** the upland soil cap consisted of 18-inches of clean cover soil and 6-inches of clean topsoil meeting RDEC placed over a marker fabric. The wetland buffer zone cap, located within 50-feet of the delineated wetland, consisted of 12-inches of clean imported topsoil, meeting RDEC, placed over the marker fabric. Limited clearing was conducted within the wetland buffer zone to preserve existing wetland vegetation where possible. The cap over the former slag pile area consisted of a sand layer, 40-mil impermeable geomembrane and a geocomposite drainage layer. This was all covered by 12-inches of clean imported soil and 6-inches of topsoil meeting RDEC. The liner edges were heat sealed together and the outside edges of the membrane keyed into the Site soil. The final grade of the upland soil cap matched the existing grade at the Site boundary with the high school parking lot and retail stores. All of the Phase I Area capping areas and disturbed areas were seeded, fertilized, mulched, and provided with a bonded fiber mat to stabilize soils and provide structural integrity for surface stabilization.

A Notice of Termination for the Phase I Area capping activities was filed with the RIDEM Office of Water Resources on November 16, 2012, confirming the final stabilization of the Phase I area. Monitoring of the Phase I cap was continued through the winter of 2012-2013. Due to the volume of surface water runoff from Parcel C to the Phase I area some small sections of the soil cap did wash out along the slope down to the Inner Cove. A temporary storm water diversion feature was constructed on Parcel C to reduce the volume and flow rate of the runoff, and the soil cover and seeding was repaired between the temporary Parcel C fence line down to the Inner Cove shoreline. The erosion control measures installed to support the Phase I construction activities were retained in place pending construction of the Phase II/Phase III Areas and Parcel C in 2015.

In accordance with RIDEM's approval of the 2012 RAWP and following the cap construction, a groundwater monitoring well, MW-244S, was installed on the east side of the impermeable cap to provide a groundwater monitoring location, if needed in the future, to assess the operation of the liner over the former slag pile.

The construction of the Phase I Area cap was completed on November 16, 2012 in accordance with the May 2011 RIDEM Program Letter (RIDEM, 2011b) and December 2011 Remedial Decision letter (RIDEM, 2011c). This is based on the successful removal of soil from the three isolated locations along the western side of Parcel C-1 and confirmatory soil sampling, installation of a soil cap meeting RDEC and impermeable liner, over the impacted soil and former slag pile area, respectively. Amec Foster Wheeler submitted a Remedial Action Closure Report for the Phase I Area cap in April 2013 (AMEC, 2013). The as-built plans for the Site that include the Phase I cap areas can be found in **Appendix C**.

2.3 Parcel C-1 Phase II - Sediment Removal and Cap (2015)

The selected remedy for the Phase II Area focused on limiting access to impacted surface sediment by removing up to two feet of sediment from the Mashapaug Inner Cove. The remedy also involved restoration of the abutting wetlands to limit human access to the shoreline of the Inner Cove, which supported the existing Rhode Island Department of Health (RIDOH) restriction on swimming in and catching fish from Mashapaug Pond.

The removal of sediment from the Inner Cove (Phase II Area) resulted in unavoidable, but temporary impacts to two wetland areas along Mashapaug Inner Cove (Parcel C-1, southern and eastern shoreline) and Mashapaug Pond (Parcel C-1 Phase III Area north-slope) (Amec Foster Wheeler, 2015b). These activities were regulated by the RIDEM Office of Waste Management as a remediation project, under the Remediation Regulations, in consultation with the RIDEM Freshwater Wetland Program and Water Resources. Under the State Water Quality Regulations, the RIDEM Office of Water Resources issued Textron Water Quality Certification (WQC) File No. 15-007 for the remediation work which also authorized the Site to discharge storm water associated with the remediation construction under the Rhode Island Pollutant Discharge Elimination System (RIPDES) General Permit for Stormwater Discharge Associated with Construction Activity (RIPDES Construction General Permit (CGP)) (RIPDES File No.

RI101253)). As required by the Water Quality Regulations, Textron submitted a Notice of Intent to RIDEM on March 27, 2015 for the Phase II, Phase III, and Parcel C cap construction activities, and developed and implemented a Soil Erosion and Sediment Control (SESC) Plan for the remediation activities. The SESC Plan required controls be maintained throughout the construction period until the Site stabilized, and required weekly and storm event inspections and record keeping.

The remedial activities also required coverage under the Department of the Army General Permit for the State of Rhode Island, Category 2 – Reporting/Application Required. The United States Army Corps of Engineers (USACE) issued Permit No. NAE-2013-2359 to Textron on June 3, 2015 for the sediment remediation conducted in the Mashapaug Inner Cove and the associated wetland restoration activities. As part of the General Permitting process, the Rhode Island Historical Preservation and Heritage Commission (RIHPHC) issued an approval in accordance with Section 106 of the National Historic Preservation Act to conduct the sediment removal.

The Phase II Area sediment removal and capping activities began in July 2015 with the installation of soil erosion controls around the perimeter of the Site along the limits of disturbance, and marking and surveying of existing Site features (e.g., groundwater monitoring wells and drainage structures) for protection. Clearing and grubbing of trees and brush within the Phase II Area was completed with an effort to save as many trees and wetland plantings as possible around the Inner Cove. A turbidity curtain was installed across the Outer Cove prior to the start of excavation of the Inner Cove. A temporary Port-A-Dam was installed to hold back water from the Outer Cove, and the Inner Cove was dewatered to a depth of approximately one-foot of water. The water was discharged to the Outer Cove between the Port-A-Dam and turbidity curtain. When the water reached a depth of one-foot, the Wildlife Mitigation Plan was implemented to remove viable wildlife from the Inner Cove and transport it to the Outer Cove. Twelve different species totaling over 200 fish and turtles were tracked and relocated to the Outer Cove, as reported to RIDEM in the 2016 Completion Report. Remaining water within the Inner Cove was pumped to a frac tank, and then discharged to an infiltration gallery in the northern end of the Phase III Area allowing the water to naturally recharge through the upland soils. This pumping continued until the sediment removal and capping work was complete to manage the ongoing discharge of groundwater and surface water back pressure from the Mashapaug Pond into the Inner Cove.

Sediment within the Inner Cove was then excavated to depths ranging from one to two feet and transferred to the sediment drying area in the southern end of the Phase III Upland Area. The depths of sediment removal were completed to the grades provided in the June 2015 construction drawings (Amec Foster Wheeler, 2015b). Clean, organic soil meeting RDEC was imported and applied in a minimum 12-inch layer over the exposed sediment surface to the required finish grades. Excavated sediment was placed on the ground in long piles and aerated, and then stockpiled for the mixing in of imported lime-kiln dust. The stabilized sediment was transported to the Former Carriage House area for placement, compaction and soil cover as described below in Section 2.4. Sediment excavation activities started on August 18, 2015 and continued until October 23, 2015.

Following the sediment removal, the Wetland Restoration Plan (Amec Foster Wheeler, 2015a) was implemented to restore the Inner Cove and surrounding buffer zone and fringe wetlands (Phase I and Phase III Areas). The intent of the wetland restoration was to stimulate the re-growth of native plants supported by the planting of over 1200 wetland plants native to the area. The restored wetlands now provide a natural green barrier limiting human access to the shoreline of the Inner Cove. This limited access supports the existing RIDOH restriction on swimming due to blue-green algae and the fishing restriction for catch and release (no consumption) of fish from Mashapaug Pond. Wetland planting activities were completed November 6, 2015. The monitoring results of the wetland growth is discussed below in Section 2.7. Further details of the Phase II Area remediation and capping activities are included in the Remedial Action Completion Report (Amec Foster Wheeler, 2016). The as-built plans for the Site that include the Phase II Inner Cove restoration can be found in **Appendix C**.

Although construction activities were completed within the Phase II Area in October 2015, post-remediation surface water sampling and wetland inspections were conducted in 2016 to support the closure of the Site (Sections 2.6 and 2.7).

2.4 Parcel C-1 Phase III Area - Sediment Consolidation and Soil Cap (2015)

The Phase III Area continued to be used for the equipment staging, Inner Cove dewatering and stabilization of sediment removed from the Inner Cove. The northwest corner of the Phase III Area was used for the infiltration of surface water by scraping the top two-feet of existing Site soil into an approximately 1-acre bermed pond. Water was transferred from the frac tank onto a stone spillway where it entered the pond and infiltrated through the existing Site sand and gravel. This contained any residual sediment from the Inner Cove dewatering operation to be under the Phase III Area soil cap. Once the Inner Cove sediment removal and restoration was completed, the Phase III Area soil was graded according to the design plans (Amec Foster Wheeler, 2015b). The buffer zone and fringe wetland areas along the western shorelines and the buffer zone wetland along the north slope were covered with marker fabric and one-foot of topsoil. Wetland plantings as specified in the Wetland Restoration Plan (Amec Foster Wheeler, 2015a) were installed and a wetland seed mix was applied.

Marker fabric was then placed over the subgrade soil across the remaining portion of the Phase III Area and covered with 6-inches of clean, imported soil and 6-inches of clean, imported topsoil. All imported soil met RDEC. The finished surface was then hydroseeded in November 2015.

Prior to the placement of the stabilized sediment within the former Carriage House, the burnt wood timbers were segregated from other debris and disposed of off-site. Asphalt debris within the former Carriage House foot print was broken up into smaller pieces and graded to restrict ponding within the sediment disposal area. Excavated sediments were mixed with an imported lime kiln dust and stockpiled where it could "set". The stabilized sediment was then spread within the former Carriage House area in one-foot lifts and compacted to finished subgrade. The sediment was then covered with marker fabric and 6-inches of imported clean soil and 6-inches of imported clean topsoil was spread over the marker fabric. Drainage swales were constructed around the edges of the Phase III Area to retain surface water runoff within the Site. The finished grade was hydroseeded to achieve surface stabilization. The access road Right of Way from the Amtrak gate to the Amtrak parcel was maintained throughout construction and is still available for use by Amtrak personnel. The as-built plans for the Site that include the Phase III Area and sediment consolidated within the former Carriage House Area can be found in **Appendix C**.

The Parcel C-1 Phase III Area remediation activities were completed in December 2015, and Amec Foster Wheeler submitted a Remedial Action Completion Report in February 2016 (Amec Foster Wheeler, 2016) documenting the remedial action closure in accordance with the RAWP (Amec Foster Wheeler, 2015a) and the Order of Approval (RIDEM, 2015c). Although construction activities were completed in December 2015, post-remediation cap inspections continued into October 2016 and when additional slice seeding was conducted in the southern portion of the Phase III Area to help establish the stabilized surface conditions for transfer of Site maintenance from Textron, Inc. to the City of Providence in November 2016, one year following the remedial construction activities.

2.5 Parcel C - Soil Cap (2015)

The selected remedy for Parcel C focused on preventing and eliminating direct-contact human exposure to impacted soil exceeding RDEC and monitoring the Parcel C groundwater plume to confirm its continued biodegradation (Section 2.8).

Parcel C was capped in accordance with the July 9, 2015 RIDEM Order of Approval (RIDEM, 2015c). Existing Site soil was graded to pitch from the center of the Parcel outwards towards the north, east, west and south directions into drainage features that were designed by the City of Providence to support the planned future use of Parcel C. Soil was removed from the drainage features and replaced with clean material to provide a four-foot depth of clean soil for infiltration of surface water runoff into the groundwater. Excavated material from the drainage features was combined and graded with sub-grade material throughout Parcel C. The debris pile, consisting of historic building debris and contaminated soils located in the middle of Parcel C, was incorporated into the sub-grade elevations of Parcel C. An orange marker fabric was then placed over the sub-grade as a physical warning barrier between contaminated soils and clean fill. Six-inches of imported clean soil and 6-inches of imported topsoil meeting RDEC were placed on top of the orange marker fabric. The exposed surface was then seeded with a bonded fiber matrix (BFM) mixed in with the hydroseed mix. Construction work was scheduled around the operating high school hours of operation using a traffic management plan, close coordination with the high school administration and neighborhood. Parcel C work was completed on October 19, 2015 and the gates secured to restrict access to the Site during the establishment of the grassed surface. Post-remediation cap inspections continued into September 2016 with two rounds of repairs made in March and June 2016 to the soil cover within the drainage features and further stabilization with plastic mesh to hold the soil in place until the grass surface could fully stabilize and handle the surface water runoff generated on Parcel C. The surface conditions were well stabilized in June 2016 supporting the transfer of Site maintenance from Textron, Inc. to the City of Providence in November 2016, one year following the remedial construction activities.

A Notice of Termination for the Phase II and Phase III Areas and Parcel C capping activities was filed with the RIDEM Office of Water Resources on August 1, 2016, confirming the final stabilization of the Site.

2.6 Post Remediation Surface Water Sampling (2016)

The final remedy for Parcel C and Parcel C-1, required Textron to conduct surface water sampling at five locations within Mashapaug Inner Cove, Outer Cove and Pond to confirm the effectiveness of the remedy (RIDEM, 2015c Condition #11).

Following completion of the Phase II Area remedial activities, surface stabilization of the soil cover and removal of the turbidity curtain from the Inner Cove in June 2016, Amec Foster Wheeler collected surface water samples from the five RIDEM-approved locations: SED/SW27 and SED28 (Inner Cove), SED/SW36 and SED/SW39 (Outer Cove), and SED/SW11 (Mashapaug Pond) (**highlighted in Figure 6**). Surface water samples were collected one-foot above the sediment surface water interface to be consistent with the historic surface water sampling data set. Water and sample depth, and water quality parameters were measure and recorded at the time of sampling. Surface water samples were analyzed for PAHs, total and dissolved metals and dioxins. The results of surface water sampling of the Inner Cove, Outer Cove and Mashapaug Pond showed no exceedances of the RIDEM surface water criteria. These results confirmed the effectiveness of the remedy, and completed Condition #11 under the RIDEM July 9, 2015 Order of Approval (RIDEM, 2015c). Details of the surface water sampling event are summarized in the Surface Water Sampling letter report dated August 10, 2016 (Amec Foster Wheeler, 2016e) previously submitted to RIDEM.

2.7 Post Remediation Wetland Restoration Monitoring (2016)

As required by the Order of Approval (RIDEM, 2015c), follow-up inspections were conducted of the restored wetlands along Mashapaug Inner Cove (Parcel C-1, southern and eastern shoreline) and Mashapaug Pond (Parcel C-1 Phase III Area north-slope). The first inspection was conducted in May/June 2016 (Amec Foster Wheeler, 2016d) and the second and final inspection conducted in September 2016 (Amec Foster Wheeler, 2016g) confirmed that the restored wetlands were healthy and wetland vegetation was well-established. Consistent with the approved RAWP (Amec Foster Wheeler, 2015a) and Order of Approval (RIDEM, 2015c), these restored fringe and perimeter wetland areas (Parcel C-1 Phase I and Phase III Areas) are designated as “no cut” zones in the ELUR (**Appendix B**).

2.8 Post-Remediation Parcels C and C-1 Groundwater Monitoring (2015-2017)

A total of 17 groundwater monitoring wells that were located throughout the Site and that no longer support active groundwater monitoring or had historical groundwater results that met applicable RIDEM criteria were properly abandoned during the Parcel C, Phase II Area and Phase III Area cap installation (Amec Foster Wheeler, 2016a). The final remedy for Parcel C and Parcel C-1, also required Textron to conduct groundwater sampling to confirm the effectiveness of the remedy and to confirm that the Parcel C groundwater plume continues to biodegrade to below RIDEM groundwater criteria.

In accordance with RIDEM’s Order of Approval (RIDEM, 2015c Condition #10), six groundwater monitoring wells (MW-235S, MW-236S, MW-237S, MW-D, MW-241, and MW-FS) were maintained and sampled to monitor the effectiveness of the remedy. The 2015 Order of Approval stated that the monitoring could be discontinued once the data from three consecutive sampling rounds demonstrate that Parcel C groundwater is compliant with RIDEM's GB Groundwater Objectives with no increasing concentrations of VOCs, and that Parcel C-1 groundwater is compliant with the MassDEP GW-3 Standards with no increasing concentrations of VOCs. Textron sampled MW-235S, MW-236S, MW-237S, MW-D, MW-241, and MW-FS monitoring wells in July and December, 2015 immediately before and after the construction activity as baseline measurements. These groundwater monitoring results were presented within the February 2016 Completion Report (Amec Foster Wheeler, 2016a). Based on the groundwater monitoring results, groundwater sampling was then continued in February, April, July, September, and December 2016 (Amec Foster Wheeler, 2016b, 2016c, 2016f, 2016h and 2017a) and March 2017 (Amec Foster Wheeler, 2017b).

The April 2016 sampling event confirmed that both MW-FS and MW-237S met the required criteria of three consecutive decreasing rounds of groundwater data and data below the MassDEP GW-3 Standards. These two wells were eliminated from the groundwater monitoring program (Amec Foster Wheeler, 2016c). Three more wells were eliminated from monitoring following the July 2016 sampling round, including MW-235S, MW-236S, and MW-241, in accordance with the Order of Approval (Amec Foster Wheeler, 2016f). The September and December 2016, and March 2017 rounds of groundwater sampling were exclusive to the one remaining groundwater monitoring well MW-D located on Parcel C (Amec Foster Wheeler, 2016h, 2017a and 2017b).

Based on the extensive groundwater data collected during the seven consecutive sampling rounds, VOC concentrations within the northwestern area of Parcel C have been reduced. Only MW-D exceeds the RIDEM GB criteria for TCE, while the 1,1-DCE concentration is just above the GB criteria (0.0078 vs 0.007 mg/L). As shown in **Table 1**, continued biodegradation of VOCs via natural attenuation is occurring in the groundwater. Planned reuse of the Parcel C/C-1 area by the City of Providence School Department is a soccer field. No buildings are planned in the wooded area of MW-D which is located on the downhill side of a detention basin. The ELUR and SMP was signed by the City of Providence and recorded in the Providence Land Evidence Records. A copy of this signed ELUR and SMP has been included in **Appendix B** of this report. This ELUR includes the provision restricting the use of the groundwater for potable and non-potable use, and that no subsurface structures can be constructed over the groundwater without prior approval from RIDEM.

Textron will continue to monitor the groundwater quality at MW-D on a semi-annual basis, pending compliance with RIDEM's GB Groundwater Objectives and three rounds of decreasing concentrations of VOCs (RIDEM, 2015c). The next scheduled sampling event is set for September 2017. A report will be prepared and submitted to the RIDEM in October 2017 to update the status of this one monitoring well.

Discussion of the proposed post-remediation and the Site-wide groundwater sampling program going forward is discussed in Section 3.1.

3.0 QUALITY CONTROL / MONITORING AND COMPLIANCE POINTS

This RACR summarizes the completion of the response actions at the former Gorham Site, Parcels C and C-1 and the post-construction monitoring of the Site related wetlands, surface water and groundwater. These response actions and post construction monitoring activities have been completed in accordance with approved RAWPs and/or Short-Term Response Actions under the RIDEM Remediation Regulations. Proceeding forward, the soil cap will require annual inspection while only one isolated location of the Site groundwater on the Parcels C and C-1 (MW-D) requires further monitoring and reporting as a compliance point.

3.1 Parcels C and C-1 Cap Inspection

Textron completed the last phase of the response action construction in December 2015. In accordance with the Consent Agreement between Textron, Inc. and the City of Providence, Textron maintained Parcels C and C-1 through December 2016 when the maintenance of the Site was officially turned over to the City of Providence. The City of Providence will be responsible going forward for the annual inspection and repair, if needed, of the Parcels C and C-1 soil cap, wetlands and Mashapaug Inner Cove. **Appendix D** includes a draft cap Inspection form for review and coordination between RIDEM and the City of Providence.

3.2 Groundwater Monitoring (Post-Remediation and Parcels C and C-1 Closure)

As stated in Section 2.8, only the groundwater monitoring well MW-D exceeds the RIDEM GB criteria for TCE and 1,1-DCE. Since the Order of Approval (RIDEM, 2015c Condition #10) requires data from three consecutive rounds to demonstrate that Parcel C groundwater is decreasing in concentration and is below GB criteria, Textron will continue to monitor the groundwater at this one monitoring well on a semi-annual basis until the requirements of the Order of Approval (RIDEM, 2015c Condition #10) are met.

Prior to the groundwater sampling, Textron will have the depth to water gauged in 7 monitoring wells located along the southern shoreline of the Inner Cove. These well locations are shown in **Figure 7** and include MW-235S, MW-236S, MW-237S, MW-238S, MW-244, MW-D and MW-FS, GZA-3 and MW-109D. The groundwater in MW-D will then be sampled using the USEPA low-flow methodology. Sample collection will include a duplicate groundwater sample from MW-D. Groundwater samples will be submitted under chain-of-custody control to an off-site laboratory for VOC analysis by USEPA Method 8260B. Quality control will also include a matrix spike and matrix spike duplicate (MS/MSD) analysis. Field data records will be prepared for the groundwater sampling events.

4.0 REPORTING

4.1 Engineered Cap Inspection and Reporting

The City of Providence (or future holder of interest in Parcel C (Owner)), will perform annual inspections and associated record keeping and reporting to RIDEM to confirm that the soil cap constructed on Parcel C (including Parcel C-1) meets the requirements specified in the Remedial Approval Letter, dated August 10, 2012 (RIDEM, 2012), the Order of Approval, dated July 9, 2015 (RIDEM, 2015c), and the ELUR/SMP signed April 18. 2017 and recorded in the Providence Land Evidence Records (**Appendix B**).

These inspections will be conducted once a year each spring to confirm that the cap is being properly maintained to prevent exposure to the impacted fill beneath Parcel C and that water does not infiltrate the fill material. No subsurface structures will be constructed on Parcel C without prior coordination with RIDEM and no groundwater will be used for potable or non-potable purposes. No sediment will be disturbed within the Inner Cove and the fringe and perimeter wetlands will be left to grow naturally and will be a no-cut zone during regular maintenance of the cap surface.

The City of Providence will prepare and submit to RIDEM an evaluation letter report detailing the site inspection findings and noting any compliance violations on Parcel C. This report will include the completed inspection form (**Appendix D**) and applicable photo documentation. If the Parcel C cap is not in compliance, the City of Providence will work with RIDEM to prepare and implement a corrective action plan. These repairs must be completed within 90 days of the corrective action plan submittal.

4.2 Parcel C Groundwater Monitoring and Reporting

As summarized in Section 3.1 the monitoring of the groundwater quality at MW-D will continue on a semi-annual basis, beginning in September 2017, until the VOC concentrations decrease for three consecutive rounds and the concentrations are below GB criteria. Textron will submit a letter report approximately one month following the groundwater sampling event. This letter report will include a summary of the historic sampling results, current groundwater sampling efforts, groundwater contours and recent VOC analytical results in comparison to the July 2015 Order of Approval requirements (RIDEM, 2015c).

5.0 ENVIRONMENTAL LAND USE RESTRICTION

An ELUR and SMP were signed by the City of Providence and recorded in the Providence Land Evidence Records (**Appendix B**). The SMP describes the requirements for future activities on Parcel C-1 (the Phase I, II, and III Areas) and Parcel C that have the potential for soil disturbance or groundwater use. The ELUR provides further guidance on the limited cutting of wetland vegetation within the fringe and perimeter wetlands, disturbance of sediment within the Inner Cove and construction of subsurface structures.

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Tables

Table 1
Parcels C and C-1
Groundwater Results 1989 - 2017
Former Gorham Manufacturing Site
Providence, RI

Parcel C-1

			Location:	MW-235S	MW-235S	MW-235S	MW-235S	MW-235S	MW-235S	MW-236S	MW-236S	MW-236S	MW-236S	MW-236S	MW-236S	MW-236S	MW-236S
			Sample ID:	GWMW235S	MW-235S	MW-235S	MW-235S	MW-235S	MW-235	GWMW236S	GWMW236S	GWMW236S DUP	MW-236S	MW-236S	MW236S	MW-236S	MW-236
			Sample Date:	11/30/2009	7/15/2015	12/16/2015	2/10/2016	4/28/2016	7/6/2016	11/30/2009	8/9/2010	8/9/2010	7/15/2015	12/16/2015	2/10/2016	4/28/2016	7/6/2016
Parameter Name	Units	GB	GW-3														
1,1,1,2-Tetrachloroethane	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,1-Trichloroethane	MG/L	3.1	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	MG/L	NS	50	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
1,1,2-Trichloroethane	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0026	0.0029	0.0031	0.0055	0.0029	0.0042	0.0054	0.0044
1,1-Dichloroethane	MG/L	NS	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	MG/L	0.007	30	0.0011	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0059	0.0061	0.0061	0.0035	0.0017	0.0022	0.0028	0.0022
1,1-Dichloropropene	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
1,2,3-Trichlorobenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,3-Trichloropropane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,4-Trimethylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane	MG/L	0.002	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dibromoethane (EDB)	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	MG/L	NS	2	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	MG/L	0.11	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0015	0.0017	0.002	0.0018	0.0031	0.0024	0.0032	0.0032	0.0028
1,2-Dichloroethene (total)	MG/L	NS	NS														
1,2-Dichloropropane	MG/L	3	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3,5-Trimethylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichloropropane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,4-Dichlorobenzene	MG/L	NS	8	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,4-Dioxane	MG/L	NS	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1-Chlorohexane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2,2-Dichloropropane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Butanone	MG/L	NS	50	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chlorotoluene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Hexanone	MG/L	NS	NS	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chlorotoluene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
4-Isopropyltoluene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
4-Methyl-2-pentanone	MG/L	NS	50	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Acetone	MG/L	NS	50	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzene	MG/L	0.14	10	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0006 J	0.0006 J	0.0007 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromobenzene	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Bromochloromethane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	MG/L	NS	50	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U
Bromoform	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromomethane	MG/L	NS	0.8	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 UJ	0.002 UJ	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Carbon disulfide	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0064	0.001 U	0.001 U	0.001 U	0.001 U
Carbon tetrachloride	MG/L	0.07	5	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chlorobenzene	MG/L	3.2	1	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0007 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroethane	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chloroform	MG/L	NS	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloromethane	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
cis-1,2-Dichloroethene	MG/L	2.4	50	0.0332	0.012	0.0093	0.0086	0.009	0.0638	0.0886	0.098	0.0948 D	0.0977	0.0755	0.0759	0.0817	0.0764
cis-1,3-Dichloropropene	MG/L	NS	NS	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Dibromochloromethane	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibromomethane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Diethyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Diisopropyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethyl tertiary-butyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	MG/L	1.6	5	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Hexachlorobutadiene	MG/L	NS	3	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U
Hexachloroethane	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Isopropylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
m,p-Xylene	MG/L	NS	5	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methylene chloride	MG/L	NS	50	0.004 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.004 U	0.004 U	0.004 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methyl-t-butyl ether	MG/L	5	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Naphthalene	MG/L	NS	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Butylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Propyl Benzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
o-Xylene	MG/L	NS	5	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
sec-Butylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Styrene	MG/L	2.2	6	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
tert-Butylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tertiary-amyl methyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	MG/L	0.15	30	0.0069	0.0036	0.0029	0.0029	0.002	0.0058	0.0153	0.0095	0.0096	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tetrahydrofuran	MG/L	NS	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	MG/L	1.7	40	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	MG/L	2.8	50	0.0003 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0007 J	0.0006 J	0.0007 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	MG/L	NS	NS	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Trichloroethene	MG/L	0.54	5	0.0672	0.0169	0.0126	0.0132	0.0117	0.0357	1.07 D	0.793 D	0.821 D	0.191 D	0.144 D	0.11 D	0.167 D	0.141 D
Trichlorofluoromethane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trihalomethanes, Total	MG/L	NS	NS	0.0036 U	0.001 U					0.0036 U	0.0036 U	0.0036 U	0.001 U				
Vinyl acetate	MG/L	NS	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl chloride	MG/L	NS	50	0.0021	0.001 U	0.001 U	0.001 U	0.001 U	0.0011	0.0017	0.0014	0.0014	0.0018	0.001 U	0.001 U	0.0015	0.0017
Xylenes, Total	MG/L	NS	5	0.003 U	0.002 U					0.003 U	0.003 U	0.003 U	0.002 U				
Aluminum	MG/L	NS	NS														
Antimony	MG/L	NS	8														
Arsenic	MG/L	NS	0.9														
Barium	MG/L	NS	50														
Beryllium	MG/L	NS	0.2														
Cadmium	MG/L	NS	0.004														
Calcium	MG/L	NS	NS														
Chromium	MG/L	NS	0.3														
Cobalt	MG/L	NS	NS														
Copper	MG/L	NS	NS														
Iron	MG/L	NS	NS														
Lead	MG/L	NS	0.01														
Magnesium	MG/L	NS	NS														
Manganese	MG/L	NS	NS														
Mercury	MG/L	NS	0.02														
Nickel	MG/L	NS	0.2														
Potassium	MG/L	NS	NS														
Selenium	MG/L	NS	0.1														
Silver	MG/L	NS	0.007														
Sodium	MG/L	NS	NS														
Thallium	MG/L	NS	3														
Vanadium	MG/L	NS	4														
Zinc	MG/L	NS	0.9														
Total Cyanide	MG/L	NS	0.03														

Location:	MW-237S	MW-237S	MW-237S	MW-237S	MW-237S	MW-237S	MW-FS/B-6S	MW-FS/B-6S	MW-FS/B-6S	MW-FS/B-6S	MW-FS/B-6S	MW-FS/B-6S	MW-FS/B-6S
Sample ID:	GWMW237S Dup	GWMW237S	MW-237S	MW-237S	MW-237S	MW-237S	MW-FS	MW-FS	MW-FS	MW-FS	DUP-01	MW-FS	MW-FS
Sample Date:	11/30/2009	11/30/2009	7/15/2015	12/17/2015	2/10/2016	4/28/2016	4/13/1989	12/9/1998	7/15/2015	12/16/2015	12/16/2015	2/10/2016	4/28/2016
Parameter Name													
1,1,1,2-Tetrachloroethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,1-Trichloroethane	0.001 U	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U		0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
1,1,2-Trichloroethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U	0.002	0.0025	0.0015	0.0031	0.005 U	0.001 U	0.0012	0.0013	0.0013	0.001 U	0.001 U
1,1-Dichloropropene	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
1,2,3-Trichlorobenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,3-Trichloropropane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,4-Trimethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dibromoethane (EDB)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	0.001 U	0.0002 J	0.002	0.0013	0.0015	0.0022	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethene (total)							0.018						
1,2-Dichloropropane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3,5-Trimethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichloropropane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,4-Dichlorobenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,4-Dioxane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1-Chlorohexane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2,2-Dichloropropane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Butanone	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U		0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chlorotoluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Hexanone	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chlorotoluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
4-Isopropyltoluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
4-Methyl-2-pentanone	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U		0.01 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Acetone	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromobenzene	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Bromochloromethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U		0.001 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U
Bromoform	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromomethane	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Carbon disulfide	0.001 U	0.001 U	0.0038	0.001 U	0.0019	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Carbon tetrachloride	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chlorobenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.0014	0.001 U
Chloroethane	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chloroform	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloromethane	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
cis-1,2-Dichloroethene	0.0012	0.0012	0.0912	0.0577	0.0489	0.0834		0.029	0.0269	0.0346	0.0363	0.0208	0.0165
cis-1,3-Dichloropropene	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U		0.0005 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Dibromochloromethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibromomethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Diethyl ether	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Diisopropyl ether	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethyl tertiary-butyl ether	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Hexachlorobutadiene	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U		0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U
Hexachloroethane	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Isopropylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
m,p-Xylene	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U			0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methylene chloride	0.004 U	0.004 U	0.002 U	0.002 U	0.002 U	0.002 U	0.005 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methyl-t-butyl ether	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Naphthalene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Butylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Propyl Benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
o-Xylene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
sec-Butylbenzene	0.0002 J	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Styrene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
tert-Butylbenzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tertiary-amyl methyl ether	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	0.0049	0.005	0.0212	0.0413	0.0312	0.0438	0.006	0.041	0.0148	0.0228	0.0237	0.0175	0.0151
Tetrahydrofuran	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.001 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U	0.0028	0.002	0.0014	0.0027		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U		0.0005 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Trichloroethene	0.0499	0.0511	0.118 D	0.269 D	0.404	0.375 D	0.02	0.1	0.129 D	0.27 D	0.289 D	0.168 D	0.0746
Trichlorofluoromethane	0.0063	0.0075	0.001 U	0.001 U	0.001 U	0.001 U		0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trihalomethanes, Total	0.0036 U	0.0036 U	0.001 U						0.001 U				
Vinyl acetate	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U			0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0015	0.01 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylenes, Total	0.003 U	0.003 U	0.002 U				0.005 U	0.001 U	0.002 U				
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead								0.005 U					
Magnesium													
Manganese													
Mercury													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Vanadium													
Zinc													
Total Cyanide							0.01 U						

Notes:
mg/L - milligrams per liter
NS - No Standard Established
U - Not detected
J - Estimated Value
D - Dilution
Ambient Water Quality Criteria (AWQC) does not apply to the above
volatile organic compounds.
Yellow highlighted cells exceed the applicable GB Criteria

Table 1
Parcels C and C-1
Groundwater Results 1989 - 2017
Former Gorham Manufacturing Site
Providence, RI

																Parcel C													
			Location:	MW-241	MW-241	MW-241	MW-241	MW-241	MW-241	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4	MW-D/B-4
			Sample ID:	GWMW241	MW-241	MW-241	MW-241	MW-241	MW-241	MW-D	GMMWXXDXXX01XX	MW-D	MW-D	GWMWD	MW-D	DUP-01	MW-D	MW-D	DUP-1	MW-D	Dup-01	MW-D	Dup-01	MW-D	Dup-01	MW-D	Dup-01	MW-D	DUP-1
			Sample Date:	8/10/2010	7/15/2015	12/16/2015	2/10/2016	4/28/2016	7/6/2016	4/13/1989	9/21/1994	10/15/1997	12/9/1998	2/19/2010	7/15/2015	7/15/2015	12/17/2015	2/10/2016	2/10/2016	4/28/2016	4/28/2016	7/6/2016	7/6/2016	9/26/2016	9/26/2016	12/9/2016	12/9/2016	3/27/2017	3/27/2017
Parameter Name	Units	GB	GW-3																										
1,1,1,2-Tetrachloroethane	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,1-Trichloroethane	MG/L	3.1	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	MG/L	NS	50	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U				0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
1,1,2-Trichloroethane	MG/L	NS	50	0.0006 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	MG/L	NS	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	MG/L	0.007	30	0.0023	0.0026	0.001 U	0.001 U	0.0019	0.002	0.01 U	0.01 U	0.005 U	0.001 U	0.0011	0.0026	0.0025	0.0114	0.0065	0.0069	0.002	0.0019	0.0049	0.0048	0.0148	0.0149	0.0093	0.0089	0.0078	0.0079
1,1-Dichloropropene	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U				0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
1,2,3-Trichlorobenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,3-Trichloropropane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,4-Trimethylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane	MG/L	0.002	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U				0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dibromoethane (EDB)	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	MG/L	NS	2	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	MG/L	0.11	20	0.0003 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethene (total)	MG/L	NS	NS							0.057																			
1,2-Dichloropropane	MG/L	3	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3,5-Trimethylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,3-Dichloropropane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,4-Dichlorobenzene	MG/L	NS	8	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,4-Dioxane	MG/L	NS	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U					0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1-Chlorohexane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U					0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2,2-Dichloropropane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Butanone	MG/L	NS	50	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		0.1 U		0.02 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chlorotoluene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2-Hexanone	MG/L	NS	NS	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U				0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chlorotoluene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
4-Isopropyltoluene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
4-Methyl-2-pentanone	MG/L	NS	50	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U				0.01 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Acetone	MG/L	NS	50	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.1 U	0.1 U	0.02 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzene	MG/L	0.14	10	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromobenzene	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U				0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Bromochloromethane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	MG/L	NS	50	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U				0.001 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U
Bromoform	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromomethane	MG/L	NS	0.8	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U				0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Carbon disulfide	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Carbon tetrachloride	MG/L	0.07	5	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chlorobenzene	MG/L	3.2	1	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloroethane	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U				0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chloroform	MG/L	NS	20	0.0008 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	0.005 U	0.002	0.0002 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloromethane	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U				0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
cis-1,2-Dichloroethene	MG/L	2.4	50	0.0278	0.0301	0.0025	0.0029	0.0209	0.0232		0.088	0.101	0.07	0.0392	0.0506	0.0466	0.136 D	0.0742	0.0791	0.0294	0.0258	0.0827	0.0858	0.132 D	0.166 D	0.099 D	0.0965 D	0.188 J	0.111 J
cis-1,3-Dichloropropene	MG/L	NS	NS	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U				0.0005 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Dibromochloromethane	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibromomethane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane	MG/L	NS	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U				0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Diethyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U					0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Diisopropyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U					0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethyl tertiary-butyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U					0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethylbenzene	MG/L	1.6	5	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Hexachlorobutadiene	MG/L	NS	3	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U			0.005 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U
Hexachloroethane	MG/L	NS	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U					0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Isopropylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
m,p-Xylene	MG/L	NS	5	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U					0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methylene chloride	MG/L	NS	50	0.004 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.01 U	0.01 U	0.005 U	0.001 U	0.004 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Methyl-t-butyl ether	MG/L	5	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Naphthalene	MG/L	NS	20	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U			0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Butylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
n-Propyl Benzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
o-Xylene	MG/L	NS	5	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U					0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
sec-Butylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Styrene	MG/L	2.2	6	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
tert-Butylbenzene	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tertiary-amyl methyl ether	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U					0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	MG/L	0.15	30	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.013	0.016	0.012	0.008	0.0044	0.0017	0.0016	0.0037	0.0023	0.0024	0.001 U	0.001 U	0.0035	0.0034	0.0068	0.0067	0.0051	0.0047	0.0046	0.0046
Tetrahydrofuran	MG/L	NS	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U				0.001 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	MG/L	1.7	40	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	MG/L	2.8	50	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.01 U	0.005 U	0.001 U	0.0004 J	0.0015	0.0013	0.004	0.0027	0.0031	0.0011	0.001 U	0.0019	0.0023	0.0058	0.0056	0.0046	0.0043	0.0037	0.0035
trans-1,3-Dichloropropene	MG/L	NS	NS	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U				0.0005 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Trichloroethene	MG/L	0.54	5	0.245 D	0.39 D	0.0527	0.072	0.21 D	0.266 D	0.28	0.298	0.37	0.272	0.761 D	0.826 D	0.851 D	3.06 D	1.73 D	1.71 D	0.499 D	0.514 D	1.36 D	1.68 D	2.81 D	3.32 D	2.19 D	2.2 D	2.6 D	2.55 D
Trichlorofluoromethane	MG/L	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U				0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trihalomethanes, Total	MG/L	NS	NS	0.0036 U	0.001 U									0.0036 U	0.001 U	0.001 U													
Vinyl acetate	MG/L	NS	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U					0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl chloride	MG/L	NS	50	0.0005 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.02 U	0.02 U	0.01 U	0.003	0.003	0.0033	0.003	0.0034	0.0024	0.001 U	0.001	0.001	0.0045	0.0045	0.0062	0.006	0.0043	0.0041	0.0046	0.0037
Xylenes, Total	MG/L	NS	5	0.003 U	0.002 U					0.01 U	0.02 U	0.005 U	0.001 U	0.003 U	0.002 U	0.002 U								0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Aluminum	MG/L	NS	NS								0.3																		
Antimony	MG/L	NS	8								0.1 U																		
Arsenic	MG/L	NS	0.9								0.01 U																		
Barium	MG/L	NS	50								0.2 U																		
Beryllium	MG/L	NS	0.2								0.01 U																		
Cadmium	MG/L	NS	0.004								0.005 U																		
Calcium	MG/L	NS	NS								49.3																		
Chromium	MG/L	NS	0.3								0.05 U																		
Cobalt	MG/L	NS	NS								0.05 U																		
Copper	MG/L	NS	NS								0.02 U																		
Iron	MG/L	NS	NS								0.1 U																		
Lead	MG/L	NS	0.01								0.016		0.005 U																
Magnesium	MG/L	NS	NS								15.7																		
Manganese	MG/L	NS	NS								0.47																		
Mercury	MG/L	NS	0.02								0.0005 U																		
Nickel	MG/L	NS	0.2								0.04 U																		
Potassium	MG/L	NS	NS								1.8																		
Selenium	MG/L	NS	0.1								0.01 U																		
Silver	MG/L	NS	0.007								0.01 U																		
Sodium	MG/L	NS	NS								25.1																		
Thallium	MG/L	NS	3								0.01 U																		
Vanadium	MG/L	NS	4								0.05 U																		
Zinc	MG/L	NS	0.9								0.05																		
Total Cyanide	MG/L	NS	0.03								0.01 U																		

Notes:
mg/L - milligrams per liter
NS - No Standard Established
U - Not detected
J - Estimated Value
D - Dilution
Ambient Water Quality Criteria (AWQC) does not apply to the abo
volatile organic compounds.
Yellow highlighted cells exceed the applicable GB Criteria