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November 5, 2019

Mr. Joseph T. Martella II, Senior Engineer
Rhode Island Department of Environmental Management
Office of Waste Management
Site Remediation Program
235 Promenade Street
Providence, Rhode Island 02908

RE: Parcel C Groundwater Sampling – October 17, 2019
Former Gorham Manufacturing Facility
333 Adelaide Avenue, Providence, Rhode Island
Wood Project No. 3651180035

Dear Mr. Martella:

This letter summarizes the October 17, 2019 collection and analysis of groundwater samples from monitoring well MW-D within Parcel C at the Former Gorham Manufacturing Site in Providence, Rhode Island (Figure 1). This activity was performed to supplement historic periodic groundwater testing done between July 2015 and September 2017. The groundwater sampling was conducted in accordance with the Remedial Action Work Plan (RAWP) dated March 11, 2015 and the corresponding Rhode Island Department of Environmental Management (RIDEM) July 9, 2015 Order of Approval (Order of Approval).

Background

Extensive groundwater investigations were previously conducted throughout the upland portions of the Former Gorham Manufacturing Site property, including Parcel C, and within the Mashapaug Inner and Outer Coves. The groundwater investigations identified low levels of volatile organic compounds (VOCs) in groundwater immediately upgradient of and along the southern shore of the Inner Cove (Parcels C and C-1).

Based on 2006-2010 groundwater data, tetrachloroethylene and trichloroethylene (PCE/TCE) were present at low levels in groundwater from the northwestern corner of Parcel C. Groundwater and Inner Cove sediment data collected during the same period (2006-2010) demonstrated that a clear trend of decreasing contaminant concentrations within the groundwater had occurred over time.

RIDEM's Order of Approval required Textron to monitor Parcel C/C-1 groundwater following completion of the remedial action in December 2015, by sampling six wells (MW-235S, MW-236S, MW-237S, MW-D, MW-241, and MW-FS) 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. 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 (April 2016 groundwater monitoring report).

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. Since September 2016, only MW-D has been sampled; it has been sampled six times (September and December 2016, March and September 2017, and April and October 2019.

At the time of the Parcel C Closure Report submittal in May 2017, TCE and 1,1-dichloroethene (1,1-DCE) were the only analytes present above their respective GB Groundwater Objectives in MW-D. In 2016 and 2017, TCE had been detected at concentrations ranging from 1.4 milligrams per liter (mg/L) to 3.32 mg/l, above its GB Groundwater Objective of 0.54 mg/L. Concentrations of 1,1-DCE ranged from 0.002 mg/L to 0.0149 mg/l; some of these results exceeded the GB Groundwater Criteria of 0.007 mg/L. Concentration trends for both analytes were generally decreasing during 2017.

On April 11, 2019, Wood sampled the one remaining groundwater monitoring well, MW-D (Figure 2). Sample collection included a duplicate groundwater sample from MW-D. The results were presented in a letter report dated May 9, 2019. All April 2019 VOC results, including those for 1,1-DCE and TCE, were below the GB Groundwater Objectives, continuing the decreasing trend observed in 2017.

October 2019 Activities

On October 17, 2019, Wood sampled the one remaining groundwater monitoring well, MW-D (Figure 2), using the U.S. Environmental Protection Agency (USEPA) low-flow methodology. Sample collection included a duplicate groundwater sample from MW-D. The two samples were submitted under chain-of-custody control to an off-site laboratory for VOC analysis by USEPA Method 8260B. Field data records for this groundwater sampling event are included in **Appendix A**.

Groundwater Sampling Results

Table 1 summarizes the historic VOC concentrations detected in MW-D including the October 2019 groundwater sampling event. VOC concentrations detected in Parcel C (including MW-D) are compared to the GB Groundwater Objectives, as well as the MassDEP GW-3 Standards. The analytical laboratory report for the October 2019 groundwater sampling event is included in **Appendix B**.

As shown in **Table 1**, October 2019 VOC results for 1,1-DCE and TCE increased to slightly above their respective RI GB standard, but remained below their MassDEP GW-3 standard. The results for the two compounds continued to show a gradual continued downward trend since 2016. All other analytes remained below their respective RI GB and MassDEP GW-3 standards.

Groundwater Monitoring Approach

Based on the extensive groundwater data collected, VOC concentrations within the northwestern area of Parcel C have been reduced. In 2016 and 2017, only MW-D continued to exhibit exceedances of GB Groundwater Objectives, in particular TCE and 1,1-DCE. Concentrations of those analytes had reduced to below their respective criteria by April 2019, likely as a result of continued biodegradation and natural attenuation in the groundwater. The concentrations rebounded to slightly above the criteria in October 2019, perhaps reflecting seasonal variability. The results continued to show an overall downward trend since 2016.

The Parcel C/C-1 area is currently being used by the City of Providence School Department as a soccer field. No buildings are planned in the area of MW-D and it is currently located within the woods on the downhill side of a detention basin. The final Environmental Land Use Restrictions (ELUR) and Soil

Management Plan (SMP) has been signed by the City of Providence and filed in the Providence Land Evidence Records. A copy of this signed ELUR and SMP was submitted to RIDEM for their records. The ELUR includes the provision preventing 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 proposes to continue monitoring the groundwater quality at MW-D on a semi-annual basis, pending continued compliance with RIDEM's GB Groundwater Objectives. The next scheduled sampling event is scheduled for April/May 2019. A report will be prepared and submitted to the RIDEM in May 2020 to update the status of this one monitoring well.

Please contact Greg Simpson, Textron, (401-457-2635) or Herb Colby, Wood, (978-392-5312) if we can provide additional information or answer any questions concerning these groundwater monitoring data and planned future sampling of MW-D.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

Herb Colby, PG
Senior Project Manager

Tim Regan, PE
Client Manager

Enclosures: Table 1 – Summary of Parcel C/C-1 Groundwater Results 1989 – 2019
Figure 1 – Site Location Map
Figure 2 – Parcel C/C-1 Site Map
Appendix A – Field Data Record October 2019 Sampling Event
Appendix B – Laboratory Report October 2019 Sampling Event

cc: Robert Azar, Deputy Director - Providence Planning & Development
G. Simpson, Textron, Inc. (Electronic)
Knight Memorial Library Repository
Wood Project File

Tables

Table 1
MW-D/B-4
Groundwater Results 1989 - 2019
Former Gorham Manufacturing Site
Providence, RI

			Location:	MW-D/B-4																																																			
			Sample Date:	4/13/1989		9/21/1994		10/15/1997		12/9/1998		2/19/2010		7/15/2015				12/17/2015		2/10/2016				4/28/2016				7/6/2016				9/26/2016				12/9/2016				3/27/2017				9/7/2017				4/11/2019				10/17/2019			
			Sample ID:	MW-D		GMMWXX		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		MW-D		Dup-01		MW-D		DUP-1		MW-D		DUP-1	
Analyte	Units	RI GB	GW 3	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
1,1,1,2-Tetrachloroethane	MG/L	NA	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	0.01	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	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	NA	50							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	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U
1,1,2-Trichloroethane	MG/L	NA	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-Dichloroethane	MG/L	NA	20	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	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	0.01	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		0.0071	J	0.0064	J	0.0018		0.0016		0.0086		0.0081	
1,1-Dichloropropene	MG/L	NA	NA							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	NA	NA					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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2,3-Trichloropropane	MG/L	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	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	NA	NA					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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dibromo-3-chloropropane	MG/L	0.002	NA							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	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2-Dibromoethane (EDB)	MG/L	NA	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	NA	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	0.01	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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichloroethene (total)	MG/L	NA	NA	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	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	NA	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	NA	NA									0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	50			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	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
2-Chlorotoluene	MG/L	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA							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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	50							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	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
Acetone	MG/L	NA	50	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	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Benzene	MG/L	0.14	10	0.01	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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Bromobenzene	MG/L	NA	NA							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	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U
Bromochloromethane	MG/L	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	50							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	0.0006	U	0.0006	U	0.0006	U	0.0006	U	0.0006	U	0.0006	U
Bromoform	MG/L	NA	50							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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Bromomethane	MG/L	NA	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA							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	NA	20	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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Chloromethane	MG/L	NA	NA							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			0.088		0.101		0.07		0.0392		0.0506		0.0466		0.136		0.0742		0.0791		0.0294		0.0258		0.0827		0.0858		0.132		0.166		0.099		0.0965		0.188	J	0.111	J	0.0988		0.0984		0.0268		0.0251		0.0974		0.0946	
cis-1,3-Dichloropropene	MG/L	NA	NA							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	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U
Dibromochloromethane	MG/L	NA	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA							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	NA	NA									0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA									0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA									0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	0.01	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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Hexachlorobutadiene	MG/L	NA	3					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	0.0006	U	0.0006	U	0.0006	U	0.0006	U	0.0006	U
Hexachloroethane	MG/L	NA	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	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	NA	50	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	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	NA	20					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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
n-Butylbenzene	MG/L	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA							0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	NA	NA									0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	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	0.013		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		0.0035		0.0038		0.0016		0.0016		0.0034		0.0031	
Tetrahydrofuran	MG/L	NA	NA							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	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Toluene	MG/L	1.7	40	0.01	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	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			0.01	U	0.005	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		0.0029		0.0032		0.001	U	0.001	U	0.0046		0.0045	
trans-1,2-Dichloroethene	MG/L	2.8	50							0.001	U																																								
trans-1,3-Dichloropropene	MG/L	NA	NA							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	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U	0.0004	U
Trichloroethene	MG/L	0.54	5	0.28		0.298		0.37		0.272		0.761		0.826		0.851		3.06		1.73		1.71		0.499		0.514		1.36		1.68		2.81		3.32		2.19		2.2		2.6		2.55		1.71		1.66		0.464		0.473		2.1		1.98	
Trichlorofluoromethane	MG/L	NA	NA							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	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Trihalomethanes, Total	MG/L	NA	NA									0.0036	U	0.001	U	0.001	U																																						

Table 1
MW-D/B-4
Groundwater Results 1989 - 2019
Former Gorham Manufacturing Site
Providence, RI

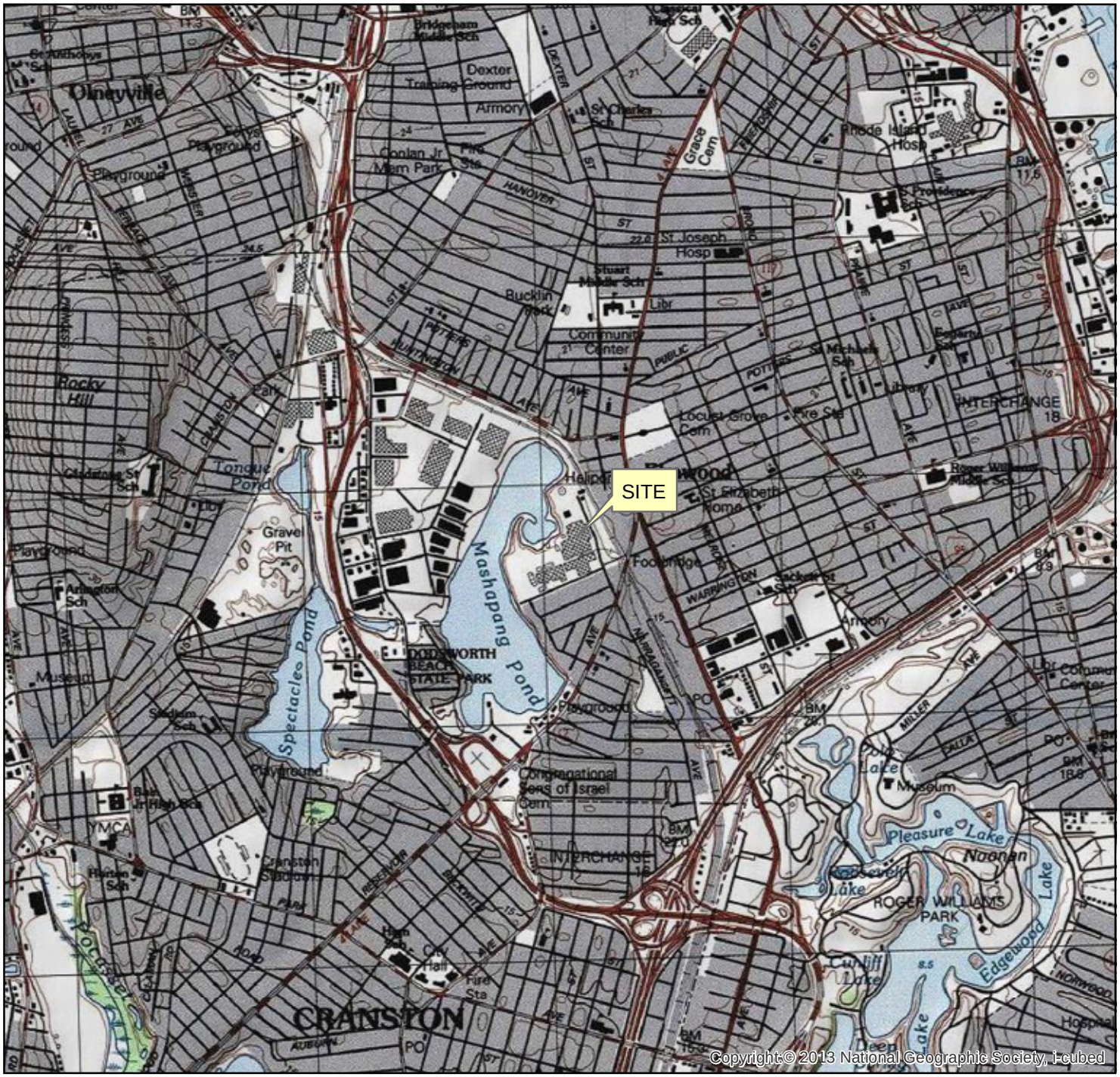
			Location:	MW-D/B-4																							
			Sample Date:	4/13/1989		9/21/1994		10/15/1997		12/9/1998		2/19/2010		7/15/2015				12/17/2015		2/10/2016				4/28/2016			
			Sample ID:	MW-D		GMMWXX		MW-D		MW-D		GWMWD		MW-D		DUP-01		MW-D		MW-D		DUP-1		MW-D		Dup-01	
Analyte	**Units**	**RI GB**	**GW 3**	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Vinyl acetate	MG/L	NA	NA									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	NA	50	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	
Xylenes, Total	MG/L	NA	5	0.01	U	0.02	U	0.005	U	0.001	U	0.003	U	0.002	U	0.002	U										

			Location:	MW-D/B-4																											
			Sample Date:	7/6/2016				9/26/2016				12/9/2016				3/27/2017				9/7/2017				4/11/2019				10/17/2019			
			Sample ID:	MW-D		Dup-01		MW-D		Dup-01		MW-D		DUP-01		MW-D		DUP-1		MW-D		Dup-01		MW-D		DUP-1		MW-D		DUP-1	
Analyte	**Units**	**RI GB**	**GW 3**	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Vinyl acetate	MG/L	NA	NA	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	NA	50	0.0045		0.0045		0.0062		0.006		0.0043		0.0041		0.0046		0.0037		0.0054		0.0057		0.0015		0.0014		0.0038		0.0037	
Xylenes, Total	MG/L	NA	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

Notes:
mg/L - milligrams per liter
NS - No Standard Established
U - Not detected
J - Estimated Value
D - Dilution
Yellow highlighted cells exceed the applicable GB Criteria

Prepared By: AKN 10/28/19
Reviewed By: HWC 10/30/19

Figures



Location of Site

SITE LOCATION MAP

Former Gorham
Manufacturing Site

333 Adelaide Avenue
Providence, Rhode Island

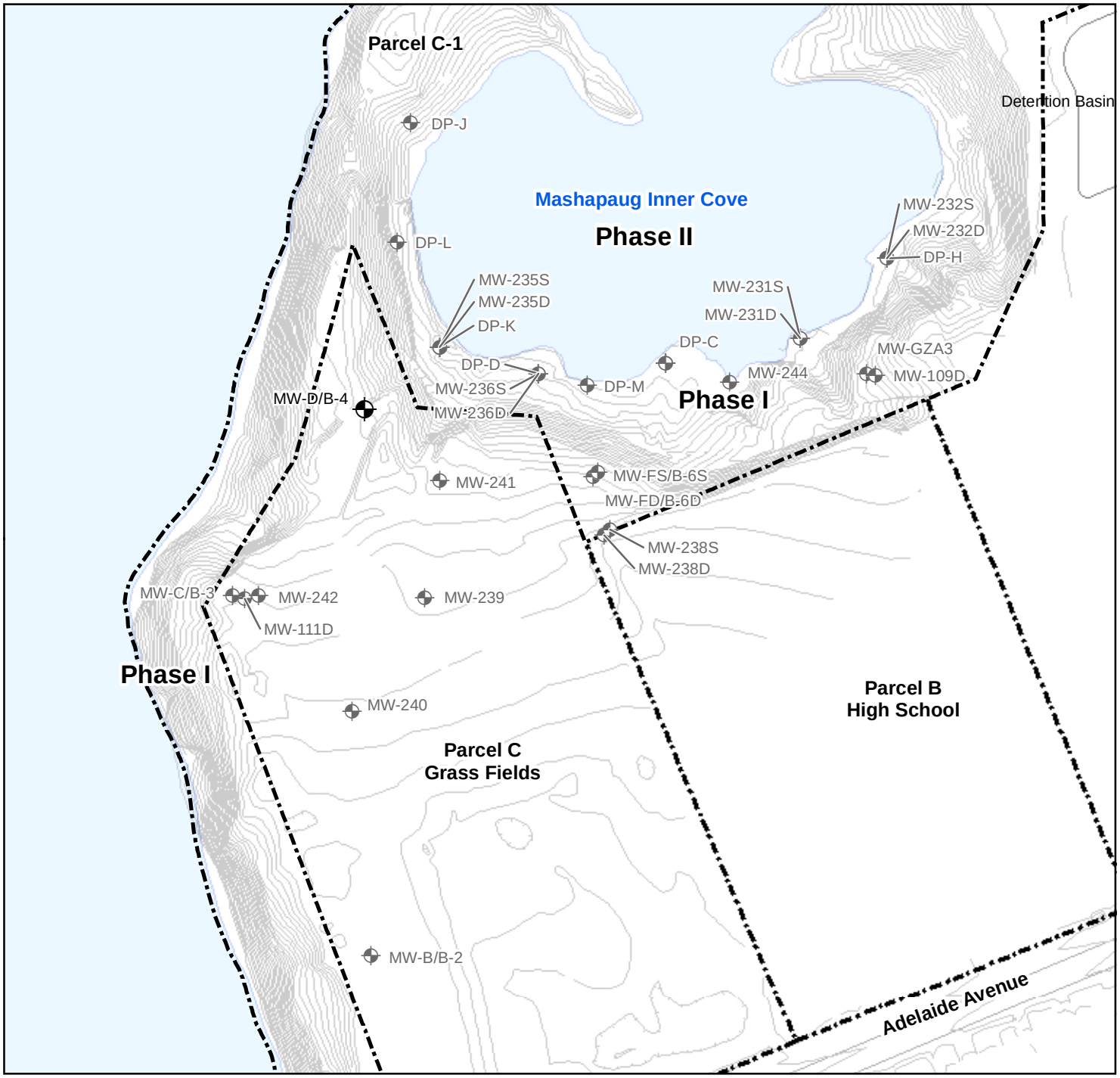
Notes & Sources

0 1,000 2,000
Feet

N

wood.
Wood Environment &
Infrastructure Solutions, Inc.
271 Mill Road
Chelmsford, MA 01824
(978) 692-9090

FIGURE
1



PARCEL C: MW-D

Former Gorham Manufacturing Site

333 Adelaide Avenue
Providence, Rhode Island

Legend

- Existing Monitoring Well
- Abandoned Monitoring Well
- Approximate Site Boundary
- Mashapaug Pond
- Elevation Contour

Location of Site

Notes & Sources

0 140 Feet

N

wood.

Wood Environment & Infrastructure Solutions, Inc.
271 Mill Road
Chelmsford, MA 01824
(978) 692-9090

FIGURE 2

H:\Textron-Gorham\Providence_RI\Task7\MXD\Fig1_ParcelC_MW-D.mxd May 08, 2019 DWN: emily.gardiner CHKD: HWC

Appendix A

Field Data Record October 2019 Sampling Event

WOOD.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT: Textron Cranston | WELL ID: MW-10 | DATE: 12/17/19
SAMPLE ID: MW-10 | SITE TYPE: RIDEM | BOTTLE TIME: 945
TIME START: 845 END: | JOB NUMBER:

WATER LEVEL / PUMP SETTINGS

QC SAMPLE COLLECTED: Dup-1
MEASUREMENT POINT: [x] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING [ ] OTHER
PROTECTIVE CASING STICKUP (FROM GROUND): / FT.
PROTECTIVE CASING / WELL DIFFERENCE: 2 FT.
INITIAL DEPTH TO WATER: 21.60 FT.
WELL DEPTH (TOR): 38.80 FT.
PID AMBIENT AIR: / PPMV
WELL DIAMETER: 2 IN.
FINAL DEPTH TO WATER: 21.00 FT.
SCREEN LENGTH: FT.
PID WELL MOUTH: / PPMV
WELL INTEGRITY: CAP YES / NO / N/A; CASING; LOCKED NO; COLLAR NO
DRAWDOWN VOLUME: 0 GAL. (initial - final x 0.16 {2-inch} or x 0.65 {4-inch})
RATIO OF DRAWDOWN VOLUME TO TOTAL VOLUME PURGED: 0.00
PRESSURE TO PUMP: / PSI
TOTAL VOL. PURGED: GAL. (purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/ml)
REFILL TIMER SETTING: / SEC.
DISCHARGE TIMER SETTING: SEC.

PURGE DATA

TIME (5 min.)	DEPTH TO WATER (ft.) (0.3 ft.)	PURGE RATE (ml/min) (100-400)	TEMP. (deg. C) (3%)	SPEC. COND. (uS/cm) (3%)	pH (units) (+/- 0.1)	DISS. O2 (mg/L) (10%) (>0.5)	TURBIDITY (NTU) (10%) (>5)	ORP (mV) (+/- 10 mV)	SAMPLE DEPTH	COMMENTS
845	21.00	150	- start purge						37	
850	21.00	150	12.15	659	6.10	1.71	50.0	110		
905	21.00	150	12.10	652	6.07	1.20	22.4	105		
915	21.00	150	12.10	651	6.07	0.90	13.1	103		
922	21.00	150	12.10	649	6.08	0.73	7.70	102		
930	21.00	150	12.10	646	6.11	0.50	6.25	100		
935	21.00	150	12.12	645	6.12	0.49	6.30	99		
940	21.00	150	12.13	644	6.12	0.47	6.20	99		
945	collect	sample	and	dup						

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] QED BLADDER [ ] SIMCO BLADDER [x] GEOPUMP
TYPE OF TUBING: [ ] TEFLON OR TEFLON LINED [ ] HIGH DENSITY POLYETHYLENE [x] LDPE
TYPE OF PUMP MATERIAL: [ ] POLYVINYL CHLORIDE [ ] STAINLESS STEEL [x] SILICON (Dedicated)
TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

To Be Collected		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED
[x]	VOC	8260	HCl/4deg	3x40ml	[x]

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES / NO
NUMBER OF GALLONS GENERATED:

SIGNATURE:

NOTES: collect Dup-1

wood.

Prepared by:
Checked by:

Appendix B

Laboratory Report, October 2019 Sampling Event

CERTIFICATE OF ANALYSIS

Denise King
Wood Environment and Infrastructure Solutions, Inc
271 Mill Road
Chelmsford, MA 01824

RE: Textron Gorham - Groundwater (3651170068)
ESS Laboratory Work Order Number: 19J0566

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:01 pm, Oct 24, 2019

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

SAMPLE RECEIPT

The following samples were received on October 17, 2019 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
19J0566-01	MW-D	Ground Water	8260B
19J0566-02	DUP-1	Ground Water	8260B

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater ESS Laboratory Work Order: 19J0566

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater
Client Sample ID: MW-D
Date Sampled: 10/17/19 09:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19J0566
ESS Laboratory Sample ID: 19J0566-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,1-Dichloroethene	**0.0086** (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
1-Chlorohexane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
2-Butanone	ND (0.0100)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
2-Chlorotoluene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
2-Hexanone	ND (0.0100)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
4-Chlorotoluene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Acetone	ND (0.0100)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Benzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Bromobenzene	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater
Client Sample ID: MW-D
Date Sampled: 10/17/19 09:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19J0566
ESS Laboratory Sample ID: 19J0566-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Bromodichloromethane	ND (0.0006)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Bromoform	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Bromomethane	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Carbon Disulfide	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Chlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Chloroethane	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Chloroform	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Chloromethane	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
cis-1,2-Dichloroethene	**0.0974** (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Dibromochloromethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Dibromomethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Diethyl Ether	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Di-isopropyl ether	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Ethylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Hexachloroethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Isopropylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Methylene Chloride	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Naphthalene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
n-Butylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
n-Propylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
sec-Butylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Styrene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
tert-Butylbenzene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Tetrachloroethene	**0.0034** (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater
Client Sample ID: MW-D
Date Sampled: 10/17/19 09:45
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19J0566
ESS Laboratory Sample ID: 19J0566-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Toluene	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
trans-1,2-Dichloroethene	**0.0046** (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Trichloroethene	**2.10** (0.100)		8260B		100	10/18/19 22:26	C9J0350	CJ91825
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Vinyl Acetate	ND (0.0050)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Vinyl Chloride	**0.0038** (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Xylene O	ND (0.0010)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Xylene P,M	ND (0.0020)		8260B		1	10/17/19 21:08	C9J0350	CJ91825
Xylenes (Total)	ND (0.00200)		8260B		1	10/17/19 21:08		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*98 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater
Client Sample ID: DUP-1
Date Sampled: 10/17/19 09:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19J0566
ESS Laboratory Sample ID: 19J0566-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,1-Dichloroethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,1-Dichloroethene	**0.0081** (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,1-Dichloropropene	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2-Dibromoethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2-Dichloroethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,2-Dichloropropane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,3-Dichloropropane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1,4-Dioxane - Screen	ND (0.500)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
1-Chlorohexane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
2,2-Dichloropropane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
2-Butanone	ND (0.0100)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
2-Chlorotoluene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
2-Hexanone	ND (0.0100)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
4-Chlorotoluene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
4-Isopropyltoluene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Acetone	ND (0.0100)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Benzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Bromobenzene	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater
Client Sample ID: DUP-1
Date Sampled: 10/17/19 09:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19J0566
ESS Laboratory Sample ID: 19J0566-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Bromodichloromethane	ND (0.0006)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Bromoform	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Bromomethane	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Carbon Disulfide	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Carbon Tetrachloride	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Chlorobenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Chloroethane	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Chloroform	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Chloromethane	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
cis-1,2-Dichloroethene	**0.0946** (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Dibromochloromethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Dibromomethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Dichlorodifluoromethane	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Diethyl Ether	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Di-isopropyl ether	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Ethylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Hexachlorobutadiene	ND (0.0006)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Hexachloroethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Isopropylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Methylene Chloride	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Naphthalene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
n-Butylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
n-Propylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
sec-Butylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Styrene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
tert-Butylbenzene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Tetrachloroethene	**0.0031** (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater
Client Sample ID: DUP-1
Date Sampled: 10/17/19 09:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 19J0566
ESS Laboratory Sample ID: 19J0566-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0050)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Toluene	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
trans-1,2-Dichloroethene	**0.0045** (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Trichloroethene	**1.98** (0.100)		8260B		100	10/18/19 22:00	C9J0350	CJ91825
Trichlorofluoromethane	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Vinyl Acetate	ND (0.0050)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Vinyl Chloride	**0.0037** (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Xylene O	ND (0.0010)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Xylene P,M	ND (0.0020)		8260B		1	10/17/19 21:33	C9J0350	CJ91825
Xylenes (Total)	ND (0.00200)		8260B		1	10/17/19 21:33		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*98 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ91825 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ91825 - 5030B										
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	*0.0251*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0238*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0237*		mg/L	*0.02500*		*95*	*70-130*			
Surrogate: Toluene-d8	*0.0251*		mg/L	*0.02500*		*100*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	10.0		ug/L	10.00		100	70-130			
1,1,1-Trichloroethane	9.98		ug/L	10.00		100	70-130			
1,1,2,2-Tetrachloroethane	9.95		ug/L	10.00		100	70-130			
1,1,2-Trichloroethane	9.51		ug/L	10.00		95	70-130			
1,1-Dichloroethane	9.93		ug/L	10.00		99	70-130			
1,1-Dichloroethene	10.2		ug/L	10.00		102	70-130			
1,1-Dichloropropene	9.95		ug/L	10.00		100	70-130			
1,2,3-Trichlorobenzene	10.0		ug/L	10.00		100	70-130			
1,2,3-Trichloropropane	10.1		ug/L	10.00		101	70-130			
1,2,4-Trichlorobenzene	9.97		ug/L	10.00		100	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ91825 - 5030B										
1,2,4-Trimethylbenzene	10.5		ug/L	10.00		105	70-130			
1,2-Dibromo-3-Chloropropane	8.77		ug/L	10.00		88	70-130			
1,2-Dibromoethane	10.2		ug/L	10.00		102	70-130			
1,2-Dichlorobenzene	9.95		ug/L	10.00		100	70-130			
1,2-Dichloroethane	9.47		ug/L	10.00		95	70-130			
1,2-Dichloropropane	9.75		ug/L	10.00		98	70-130			
1,3,5-Trimethylbenzene	10.4		ug/L	10.00		104	70-130			
1,3-Dichlorobenzene	9.81		ug/L	10.00		98	70-130			
1,3-Dichloropropane	10.1		ug/L	10.00		101	70-130			
1,4-Dichlorobenzene	9.90		ug/L	10.00		99	70-130			
1,4-Dioxane - Screen	196		ug/L	200.0		98	0-332			
1-Chlorohexane	10.4		ug/L	10.00		104	70-130			
2,2-Dichloropropane	9.94		ug/L	10.00		99	70-130			
2-Butanone	49.8		ug/L	50.00		100	70-130			
2-Chlorotoluene	9.98		ug/L	10.00		100	70-130			
2-Hexanone	51.9		ug/L	50.00		104	70-130			
4-Chlorotoluene	10.0		ug/L	10.00		100	70-130			
4-Isopropyltoluene	10.1		ug/L	10.00		101	70-130			
4-Methyl-2-Pentanone	51.5		ug/L	50.00		103	70-130			
Acetone	46.3		ug/L	50.00		93	70-130			
Benzene	9.76		ug/L	10.00		98	70-130			
Bromobenzene	9.94		ug/L	10.00		99	70-130			
Bromochloromethane	9.51		ug/L	10.00		95	70-130			
Bromodichloromethane	9.69		ug/L	10.00		97	70-130			
Bromoform	10.1		ug/L	10.00		101	70-130			
Bromomethane	10.1		ug/L	10.00		101	70-130			
Carbon Disulfide	10.6		ug/L	10.00		106	70-130			
Carbon Tetrachloride	10.1		ug/L	10.00		101	70-130			
Chlorobenzene	9.78		ug/L	10.00		98	70-130			
Chloroethane	8.80		ug/L	10.00		88	70-130			
Chloroform	9.96		ug/L	10.00		100	70-130			
Chloromethane	7.99		ug/L	10.00		80	70-130			
cis-1,2-Dichloroethene	9.21		ug/L	10.00		92	70-130			
cis-1,3-Dichloropropene	9.98		ug/L	10.00		100	70-130			
Dibromochloromethane	8.78		ug/L	10.00		88	70-130			
Dibromomethane	9.75		ug/L	10.00		98	70-130			
Dichlorodifluoromethane	7.06		ug/L	10.00		71	70-130			
Diethyl Ether	10.6		ug/L	10.00		106	70-130			
Di-isopropyl ether	9.75		ug/L	10.00		98	70-130			
Ethyl tertiary-butyl ether	9.36		ug/L	10.00		94	70-130			
Ethylbenzene	10.1		ug/L	10.00		101	70-130			
Hexachlorobutadiene	9.98		ug/L	10.00		100	70-130			
Hexachloroethane	10.3		ug/L	10.00		103	70-130			
Isopropylbenzene	10.1		ug/L	10.00		101	70-130			
Methyl tert-Butyl Ether	10.4		ug/L	10.00		104	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ91825 - 5030B										
Methylene Chloride	10.2		ug/L	10.00		102	70-130			
Naphthalene	9.19		ug/L	10.00		92	70-130			
n-Butylbenzene	10.3		ug/L	10.00		103	70-130			
n-Propylbenzene	10.1		ug/L	10.00		101	70-130			
sec-Butylbenzene	10.1		ug/L	10.00		101	70-130			
Styrene	9.96		ug/L	10.00		100	70-130			
tert-Butylbenzene	10.1		ug/L	10.00		101	70-130			
Tertiary-amyl methyl ether	9.97		ug/L	10.00		100	70-130			
Tetrachloroethene	9.08		ug/L	10.00		91	70-130			
Tetrahydrofuran	10.2		ug/L	10.00		102	70-130			
Toluene	9.89		ug/L	10.00		99	70-130			
trans-1,2-Dichloroethene	9.80		ug/L	10.00		98	70-130			
trans-1,3-Dichloropropene	8.55		ug/L	10.00		86	70-130			
Trichloroethene	9.79		ug/L	10.00		98	70-130			
Trichlorofluoromethane	9.66		ug/L	10.00		97	70-130			
Vinyl Acetate	9.72		ug/L	10.00		97	70-130			
Vinyl Chloride	8.97		ug/L	10.00		90	70-130			
Xylene O	10.1		ug/L	10.00		101	70-130			
Xylene P,M	20.5		ug/L	20.00		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0244*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0251*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0249*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.0253*		mg/L	*0.02500*		*101*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.82		ug/L	10.00		98	70-130	2	25	
1,1,1-Trichloroethane	9.95		ug/L	10.00		100	70-130	0.3	25	
1,1,2,2-Tetrachloroethane	9.48		ug/L	10.00		95	70-130	5	25	
1,1,2-Trichloroethane	9.49		ug/L	10.00		95	70-130	0.2	25	
1,1-Dichloroethane	10.0		ug/L	10.00		100	70-130	1	25	
1,1-Dichloroethene	10.6		ug/L	10.00		106	70-130	3	25	
1,1-Dichloropropene	9.94		ug/L	10.00		99	70-130	0.1	25	
1,2,3-Trichlorobenzene	9.57		ug/L	10.00		96	70-130	4	25	
1,2,3-Trichloropropane	9.30		ug/L	10.00		93	70-130	8	25	
1,2,4-Trichlorobenzene	9.66		ug/L	10.00		97	70-130	3	25	
1,2,4-Trimethylbenzene	10.3		ug/L	10.00		103	70-130	2	25	
1,2-Dibromo-3-Chloropropane	8.58		ug/L	10.00		86	70-130	2	25	
1,2-Dibromoethane	9.52		ug/L	10.00		95	70-130	7	25	
1,2-Dichlorobenzene	9.87		ug/L	10.00		99	70-130	0.8	25	
1,2-Dichloroethane	9.47		ug/L	10.00		95	70-130	0	25	
1,2-Dichloropropane	9.93		ug/L	10.00		99	70-130	2	25	
1,3,5-Trimethylbenzene	10.3		ug/L	10.00		103	70-130	0.7	25	
1,3-Dichlorobenzene	9.81		ug/L	10.00		98	70-130	0	25	
1,3-Dichloropropane	9.86		ug/L	10.00		99	70-130	2	25	
1,4-Dichlorobenzene	9.59		ug/L	10.00		96	70-130	3	25	
1,4-Dioxane - Screen	190		ug/L	200.0		95	0-332	3	200	

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ91825 - 5030B										
1-Chlorohexane	10.3		ug/L	10.00		103	70-130	0.8	25	
2,2-Dichloropropane	9.99		ug/L	10.00		100	70-130	0.5	25	
2-Butanone	48.2		ug/L	50.00		96	70-130	3	25	
2-Chlorotoluene	9.96		ug/L	10.00		100	70-130	0.2	25	
2-Hexanone	48.2		ug/L	50.00		96	70-130	7	25	
4-Chlorotoluene	10.0		ug/L	10.00		100	70-130	0	25	
4-Isopropyltoluene	9.94		ug/L	10.00		99	70-130	1	25	
4-Methyl-2-Pentanone	49.2		ug/L	50.00		98	70-130	5	25	
Acetone	46.3		ug/L	50.00		93	70-130	0.04	25	
Benzene	9.98		ug/L	10.00		100	70-130	2	25	
Bromobenzene	10.1		ug/L	10.00		101	70-130	2	25	
Bromochloromethane	9.57		ug/L	10.00		96	70-130	0.6	25	
Bromodichloromethane	9.88		ug/L	10.00		99	70-130	2	25	
Bromoform	9.46		ug/L	10.00		95	70-130	6	25	
Bromomethane	9.93		ug/L	10.00		99	70-130	1	25	
Carbon Disulfide	10.7		ug/L	10.00		107	70-130	1	25	
Carbon Tetrachloride	10.2		ug/L	10.00		102	70-130	1	25	
Chlorobenzene	9.63		ug/L	10.00		96	70-130	2	25	
Chloroethane	8.73		ug/L	10.00		87	70-130	0.8	25	
Chloroform	9.84		ug/L	10.00		98	70-130	1	25	
Chloromethane	7.93		ug/L	10.00		79	70-130	0.8	25	
cis-1,2-Dichloroethene	9.66		ug/L	10.00		97	70-130	5	25	
cis-1,3-Dichloropropene	10.2		ug/L	10.00		102	70-130	2	25	
Dibromochloromethane	8.58		ug/L	10.00		86	70-130	2	25	
Dibromomethane	9.85		ug/L	10.00		98	70-130	1	25	
Dichlorodifluoromethane	6.95		ug/L	10.00		70	70-130	2	25	
Diethyl Ether	10.2		ug/L	10.00		102	70-130	5	25	
Di-isopropyl ether	9.80		ug/L	10.00		98	70-130	0.5	25	
Ethyl tertiary-butyl ether	9.21		ug/L	10.00		92	70-130	2	25	
Ethylbenzene	9.85		ug/L	10.00		98	70-130	2	25	
Hexachlorobutadiene	9.74		ug/L	10.00		97	70-130	2	25	
Hexachloroethane	10.1		ug/L	10.00		101	70-130	2	25	
Isopropylbenzene	10.2		ug/L	10.00		102	70-130	0.6	25	
Methyl tert-Butyl Ether	10.1		ug/L	10.00		101	70-130	2	25	
Methylene Chloride	10.2		ug/L	10.00		102	70-130	0.4	25	
Naphthalene	8.72		ug/L	10.00		87	70-130	5	25	
n-Butylbenzene	10.3		ug/L	10.00		103	70-130	0.3	25	
n-Propylbenzene	10.0		ug/L	10.00		100	70-130	0.3	25	
sec-Butylbenzene	10.1		ug/L	10.00		101	70-130	0	25	
Styrene	9.70		ug/L	10.00		97	70-130	3	25	
tert-Butylbenzene	10.0		ug/L	10.00		100	70-130	0.7	25	
Tertiary-amyl methyl ether	9.99		ug/L	10.00		100	70-130	0.2	25	
Tetrachloroethene	9.03		ug/L	10.00		90	70-130	0.6	25	
Tetrahydrofuran	9.39		ug/L	10.00		94	70-130	8	25	
Toluene	9.95		ug/L	10.00		100	70-130	0.6	25	

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater

ESS Laboratory Work Order: 19J0566

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch CJ91825 - 5030B										
trans-1,2-Dichloroethene	9.88		ug/L	10.00		99	70-130	0.8	25	
trans-1,3-Dichloropropene	8.42		ug/L	10.00		84	70-130	2	25	
Trichloroethene	9.81		ug/L	10.00		98	70-130	0.2	25	
Trichlorofluoromethane	9.70		ug/L	10.00		97	70-130	0.4	25	
Vinyl Acetate	9.40		ug/L	10.00		94	70-130	3	25	
Vinyl Chloride	8.90		ug/L	10.00		89	70-130	0.8	25	
Xylene O	9.85		ug/L	10.00		98	70-130	2	25	
Xylene P,M	19.9		ug/L	20.00		99	70-130	3	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0246*		mg/L	*0.02500*		*98*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0251*		mg/L	*0.02500*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0253*		mg/L	*0.02500*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.0250*		mg/L	*0.02500*		*100*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
Client Project ID: Textron Gorham - Groundwater ESS Laboratory Work Order: 19J0566

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Wood Environment and Infrastructure Solutions, In
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ESS Laboratory Work Order: 19J0566

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: WOOD - KPB/HDM

Shipped/Delivered Via: ESS Courier

ESS Project ID: 19J0566
Date Received: 10/17/2019
Project Due Date: 10/24/2019
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 1.3 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / (NA)
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / (No)
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / (No)
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	399468	Yes	No	Yes	VOA Vial - HCl	HCl	
01	399469	Yes	No	Yes	VOA Vial - HCl	HCl	
01	399470	Yes	No	Yes	VOA Vial - HCl	HCl	
02	399465	Yes	No	Yes	VOA Vial - HCl	HCl	
02	399466	Yes	No	Yes	VOA Vial - HCl	HCl	
02	399467	Yes	No	Yes	VOA Vial - HCl	HCl	

2nd Review

Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? (Yes) / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 10/17/19 11:04
Reviewed By: Date & Time: 10/17/19 1407
Delivered By: 10/17/19 1407

CHAIN OF CUSTODY

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

ESS Lab #	19J0566
Reporting Limits	RI
Electonic Deliverables	☐ Data Checker ☐ Excel ☐ Other (Please Specify →)
Turn Time	5 Days
Regulatory State	
Is this project for any of the following?:	○ CT RCP ○ MA MCP ○ RGP
Project #	
Project Name	Textron Gorham
Company Name	Wood E+I
Contact Person	Herb Colby
Address	
City	Chelmsford
State	MA
Zip Code	01824
PO #	
Telephone Number	978-692-9090
FAX Number	
Email Address	Herb.Colby@woodplc.com

Analysis: VOCs 8260

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs 8260
1	10/17/19	945	water	GW	MW-1D	X
2	10/17/19	950	water	GW	Dup-1	X

	VOCs 8260
Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial	V
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*	7
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*	3
Number of Containers per Sample:	3

Sampled by : Mark Mayer

Please specify "Other" preservative and containers types in this space

Comments:

Laboratory Use Only

Cooler Present: ✓ ○ Drop Off

Seals Intact: — ○ Pickup

Cooler Temperature: Ice -1.3 °C

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
[signature] 10/17/19 1030	[signature] 10/17/19 10:38		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)