

September 9, 2021

89 Crawford Street

Leominster, Massachusetts 01453

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U.S. Environmental Protection Agency Office of Ecosystem Protection EPA/OEP RGP Applications Coordinator 5 Post Office Square, Suite 100 (OEP06-4) Boston, Massachusetts 02109-3912

Reference: Notice of Intent (NOI) - Remediation General Permit (RGP)

85 Hampden Street Boston, Massachusetts

Dear Sir/Madam:

On behalf of Green Leaf Construction (GLC), Lockwood Remediation Technologies, LLC (LRT) has prepared this Notice of Intent (NOI) requesting a determination of coverage under the United States Environmental Protection Agency's (EPA's) Remediation General Permit (RGP), pursuant EPA's National Pollutant Discharge Elimination System (NPDES) program. This NOI was prepared in accordance with the general requirements of the NPDES RGP and related guidance documentation provided by EPA. The completed NOI Form is provided in **Appendix A**.

Site Information

This NOI has been prepared for the management groundwater that will be generated during dewatering activities associated with construction activities proposed at 85 Hampden Street in Boston, MA (the Site). The work is anticipated to be completed within twelve months. A Site Locus is provided as **Figure 1** and a Site Plan satisfying the requirements of RGP Appendix IV Part I.B and I.D is provided as **Figure 2**.

Regulatory Status

The subject property is regulated by the Massachusetts Contingency Plan (MCP) and is listed under Release Tracking Number (RTN) 3-2034. A RAM Plan, as a post-RAO Response Action was filed for the development on July 23, 2021, with the Massachusetts Department of Environmental Protection (MassDEP) as a disposal site.

Work Summary

The work at the Site includes the construction of a new 91,000 square foot warehouse with one 25,000 square foot below grade level. To complete portions of the building foundation and other deeper excavations in the dry, dewatering will be required to lower the groundwater table as work is being performed. To do this, filtered sumps will be placed in low spots within the excavations. Water generated

during dewatering (Source Water) will be pumped to a water treatment system prior to direct discharge to Storm Drain 84 with final outfall in the Fort Point Channel. The discharge location is depicted on **Figure 2**.

LRT collected a representative groundwater sample from onsite monitoring well VES-104(MW) on August 10, 2021 (**Figure 2**). A sample of the receiving water (Fort Point Channel) was also collected on the same day. The samples were analyzed for various parameters in accordance with the NPDES RGP Activity Category III-G.

Discharge and Receiving Surface Water Information

A summary of the analytical results is provided in the NOI Form included within **Appendix A**, and copies of the laboratory data reports are provided in **Appendix B**. Concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals including copper, and lead were detected in groundwater at concentrations above the respective NPDES RGP Effluent Limitations. To meet these standards, source water will undergo treatment that includes bag filtration prior to discharge, with activated pH adjustment, chemically aided settling, liquid phase carbon, and ion exchange resin as necessary. Details of the water treatment system are provided below.

Water Treatment System

A water treatment system schematic is provided as **Figure 3**. Cutsheets of the system components, product information and Safety Data Sheets (SDS) are included in **Appendix C**.

Source water will be pumped to a treatment system with a design flow rate of up to 100 gallons per minute (gpm); the average effluent flow of the system is estimated to be 75 gpm, and the maximum flow will not exceed 100 gpm. Source water will enter one weir tank at the head of the system from the weir tank water will be pumped to a triple-bag filter skid (consisting of three-bag filter housings) and subsequently discharged to the approved discharge point. If required, contingency treatment items will include a pH adjustment system (sulfuric acid) mixed inside both weir tanks, carbon treatment and ion exchange media.

Discharge from the water treatment system will pass through a flow/totalizer meter prior to direct discharge into Storm Drain 84, as depicted on **Figure 2**. Effluent sampling will correspond with this discharge location.

Chemical and Additive Information

The following chemicals and additives have been proposed for the treatment system as necessary to meet effluent limitations: pH adjustment and chemical aided settling system through coagulants/flocculants. Product names, chemical formulas, manufacturer information and Chemical Abstract Services (CAS) registry numbers have been provided on Safety Data Sheets (SDSs) included in **Appendix C**.

pH Adjustment

The pH adjustment system includes an automated feed system with a mix tank, chemical feed pumps and setpoint controls that maintain the pH to within discharge permit parameters. The maximum application concentration for sulfuric acid or sodium hydroxide would be 333 mg/L.

The addition of pH conditioners will 1) not add any pollutants in concentrations which exceed permit effluent limitations; 2) not result in the exceedance of any applicable water quality standard; and 3) not add any pollutants that would justify the application of permit conditions that are different from or absent in this permit. The addition of sulfuric acid or sodium hydroxide to control pH is a standard treatment for temporary construction dewatering and is not expected to exceed applicable permit limitations and water quality standards or alter conditions in the receiving water. No additional testing is considered necessary for use of this product or to demonstrate that use of this product will not adversely affect the receiving water.

Chemical Aided Settling

The chemical aided settling system will be added in two parts, the coagulating (LRT-E-50) will be injected into the influent stream prior to entering the frac tanks while the flocculant (LRT-823) will be added directly into the frac tanks. The coagulant and flocculant continually dose as dewatering activities occur at the maximum dosage rate of 25 parts per million (ppm). Although dosage rate for the coagulant and flocculant will be 25ppm, the detected concentration in the post bag filter (carryover) has been recorded in the parts per trillion (ppt) range, (about 6 orders of magnitude less than the dosing concentration). This is because nearly all the chemical becomes incorporated in the sludge and removed from the waste stream as solids from the frac and weir tanks.

The addition of chemical aided settling system chemicals will not add any pollutant in contractions which exceed permit effluent limitations, will not exceed any applicable water quality standard, and will not add any pollutants that would be justify the application of permit conditions that different from or absent in this permit.

Consultation with Federal Services

LRT reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS), the Massachusetts Division of Fisheries and Wildlife (MassWildlife; Natural Heritage and Endangered Species Program), and the U.S. National Parks Service Natural Historic Places (NPS). Based on this review, the Site, and the point where the proposed discharge reaches the receiving surface water body are not located within an Area of Critical Environmental Concern (ACEC). The Site and the proposed discharge point are not located within Habitats of Rare Wetland Wildlife, Habitats of Rare Species, Estimated Habitats of Rare Wildlife, or listed as a National Historic Place. Documentation is included in **Appendix E**.

Coverage under NPDES RGP

It is our opinion that the proposed discharge is eligible for coverage under the NPDES RGP. On behalf of GLC, LRT is requesting coverage under the NPDES RGP for the discharge of treated wastewater to the

Fort Point Channel in support of construction dewatering activities that are to take place at 85 Hampden Street.

The enclosed NOI form provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services. For this project, GLC is considered the operator and has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications.

Please feel free to contact us at 774-450-7177 if you have any questions or if you require additional information.

Sincerely,

Lockwood Remediation Technologies, LLC

Carlo Lombardo

Carlo Lombardo Staff Scientist Kim Gravelle

Kim Gravelle P.G. Senior Project Manager

Encl: Figure 1 - Locus Plan

Figure 2 - Site Plan

Figure 3 - Water Treatment System Schematic Appendix A - NOI Form and WM-15 Application

Appendix B – Laboratory Reports

Appendix C – Water Treatment System Cutsheets and SDSs

Appendix D – Supplementary Information

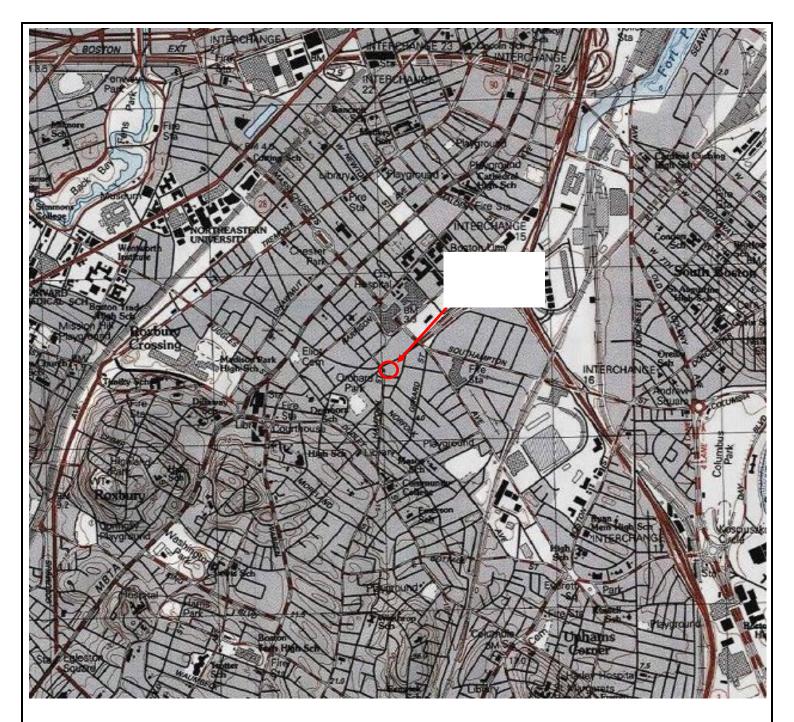
Appendix E – Boston Water and Sewer Commission (BWSC) Discharge Permit

cc: Cathy Vakalopoulos – Massachusetts Department of Environmental Protection

Jami Anderson – Green Leaf Construction

Jodi Dobay – Boston Water and Sewer Commission





Source: ArcGIS Map Viewer

Notes:

1. Figure is not to scale.

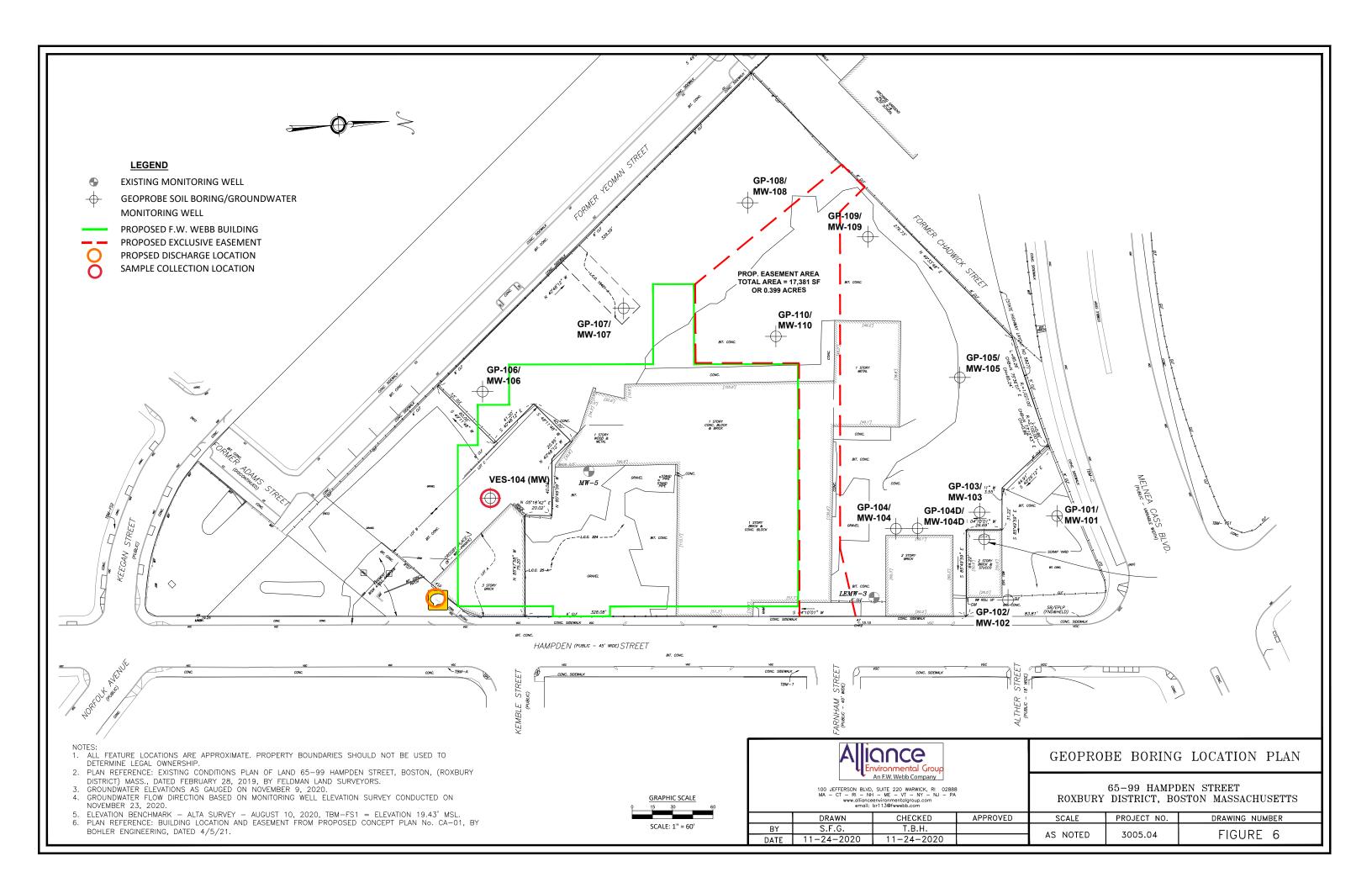


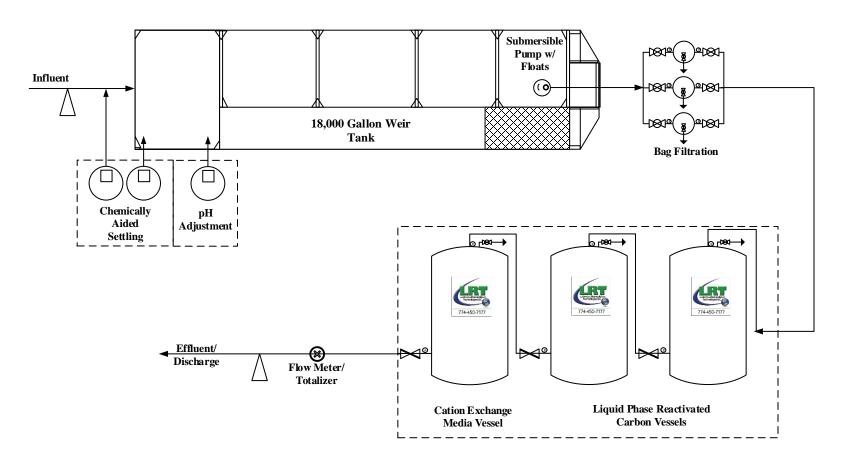


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Figure 1 – Locus Plan 85 Hampden Street Boston, MA





Notes:

- 1.) Figure is not to scale
- 2.) System rated for 100 GPM

Contingency — — — —



Lockwood Remediation Technologies, LLC 89 Crawford Street Leominster, MA 01453

Office: 774-450-7177

DESIGNED BY: LRT DRAWN BY: JHJ

CHECKED BY: DATE: **Water Treatment System Schematic**

85 Hampden Street Boston, MA



II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

1. Name of site:	Site address:						
	Street:						
	City:		State:	Zip:			
2. Site owner	Contact Person:						
	Telephone:	Email:					
	Mailing address:						
	Street:						
Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private ☐ Other; if so, specify:	City:		State:	Zip:			
3. Site operator, if different than owner	Contact Person:						
	Telephone:	Email:					
	Mailing address:						
	Street:						
	City:		State:	Zip:			
4. NPDES permit number assigned by EPA:	at apply):						
	☐ MA Chapter 21e; list RTN(s):	□ CERCL	LA				
NPDES permit is (check all that apply: \square RGP \square DGP \square CGP	☐ NH Groundwater Management Permit or	☐ UIC Program					
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Groundwater Release Detection Permit:	☐ POTW Pretreatment☐ CWA Section 404					
		ection 404					

В.	Receiving water information:	:
1 N	lame of receiving water(s).	

1. Name of receiving water(s):	Waterbody identification of receiving water	(s): Classific	cation of receiving water(s):						
Receiving water is (check any that apply): \Box Outstar	nding Resource Water □ Ocean Sanctuary □ territor	rial sea □ Wild and Scenic R	iver						
2. Has the operator attached a location map in accord	lance with the instructions in B, above? (check one)	: □ Yes □ No							
Are sensitive receptors present near the site? (check of If yes, specify:	one): □ Yes □ No								
3. Indicate if the receiving water(s) is listed in the Stapollutants indicated. Also, indicate if a final TMDL i 4.6 of the RGP.									
	ndicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in pendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.								
	5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.								
6. Has the operator received confirmation from the a If yes, indicate date confirmation received:	ppropriate State for the 7Q10and dilution factor indi	cated? (check one): ☐ Yes ☐	l No						
7. Has the operator attached a summary of receiving	water sampling results as required in Part 4.2 of the	RGP in accordance with the	instruction in Appendix VIII?						
(check one): ☐ Yes ☐ No									
C. Source water information:									
1. Source water(s) is (check any that apply):									
☐ Contaminated groundwater	roundwater Contaminated surface water The receiving water Potable water; if s municipality or origin								
Has the operator attached a summary of influent	Has the operator attached a summary of influent	☐ A surface water other							
sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one):	sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one):	than the receiving water; if so, indicate waterbody:	☐ Other; if so, specify:						
□ Yes □ No	□ Yes □ No								

2. Source water contaminants:	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance
the RGP? (check one): ☐ Yes ☐ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	with the instructions in Appendix VIII? (check one): □ Yes □ No
3. Has the source water been previously chlorinated or otherwise contains resid	dual chlorine? (check one): □ Yes □ No
D. Discharge information	
1.The discharge(s) is a(n) (check any that apply): \Box Existing discharge \Box New	w discharge □ New source
Outfall(s):	Outfall location(s): (Latitude, Longitude)
Discharges enter the receiving water(s) via (check any that apply): □ Direct di	scharge to the receiving water \Box Indirect discharge, if so, specify:
☐ A private storm sewer system ☐ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sew	ver system:
Has notification been provided to the owner of this system? (check one): ☐ Ye	•
Has the operator has received permission from the owner to use such system for obtaining permission:	or discharges? (check one): \square Yes \square No, if so, explain, with an estimated timeframe for
Has the operator attached a summary of any additional requirements the owner	of this system has specified? (check one): \square Yes \square No
Provide the expected start and end dates of discharge(s) (month/year):	
Indicate if the discharge is expected to occur over a duration of: \Box less than 1	2 months □ 12 months or more □ is an emergency discharge
Has the operator attached a site plan in accordance with the instructions in D, a	above? (check one): Yes No

2. Activity Category: (check all that apply)	3. Contamination Type Category: (check all that apply)					
	a. If Activity Category I or II: (check all that apply)					
	 □ A. Inorganics □ B. Non-Halogenated Volatile Organic Compounds □ C. Halogenated Volatile Organic Compounds □ D. Non-Halogenated Semi-Volatile Organic Compounds □ E. Halogenated Semi-Volatile Organic Compounds □ F. Fuels Parameters 					
 □ I – Petroleum-Related Site Remediation □ II – Non-Petroleum-Related Site Remediation 	b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)					
 □ III – Non-Petroleum-Related Site Remediation □ III – Contaminated Site Dewatering □ IV – Dewatering of Pipelines and Tanks □ V – Aquifer Pump Testing □ VI – Well Development/Rehabilitation □ VII – Collection Structure Dewatering/Remediation □ VIII – Dredge-Related Dewatering 	□ G. Sites with Known Contamination c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply) □ A. Inorganics □ B. Non-Halogenated Volatile Organic Compounds □ C. Halogenated Volatile Organic Compounds □ D. Non-Halogenated Semi-Volatile Organic Compounds □ E. Halogenated Semi-Volatile Organic Compounds □ F. Fuels Parameters	□ H. Sites with Unknown Contamination d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply				

4. Influent and Effluent Characteristics

	Known	Known		75 5 4	5	Influent		Effluent Limitations	
Parameter	or believed absent	or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia								Report mg/L	
Chloride								Report µg/l	
Total Residual Chlorine								0.2 mg/L	
Total Suspended Solids								30 mg/L	
Antimony								206 μg/L	
Arsenic								104 μg/L	
Cadmium								10.2 μg/L	
Chromium III								323 μg/L	
Chromium VI								323 μg/L	
Copper								242 μg/L	
Iron								5,000 μg/L	
Lead								160 μg/L	
Mercury								0.739 μg/L	
Nickel								1,450 μg/L	
Selenium								235.8 μg/L	
Silver								35.1 μg/L	
Zinc								420 μg/L	
Cyanide								178 mg/L	
B. Non-Halogenated VOCs	3								
Total BTEX								100 μg/L	
Benzene								5.0 μg/L	
1,4 Dioxane								200 μg/L	
Acetone								7.97 mg/L	
Phenol								1,080 µg/L	

	Known	Known		_	_	Inf	luent	Effluent Lin	nitations
Parameter	or believed absent	or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride								4.4 μg/L	
1,2 Dichlorobenzene								600 μg/L	
1,3 Dichlorobenzene								320 μg/L	
1,4 Dichlorobenzene								5.0 μg/L	
Total dichlorobenzene								763 µg/L in NH	
1,1 Dichloroethane								70 μg/L	
1,2 Dichloroethane								5.0 μg/L	
1,1 Dichloroethylene								3.2 µg/L	
Ethylene Dibromide								0.05 μg/L	
Methylene Chloride								4.6 μg/L	
1,1,1 Trichloroethane								200 μg/L	
1,1,2 Trichloroethane								5.0 μg/L	
Trichloroethylene								5.0 μg/L	
Tetrachloroethylene								5.0 μg/L	
cis-1,2 Dichloroethylene								70 μg/L	
Vinyl Chloride								2.0 μg/L	
D. Non-Halogenated SVO	Cs								
Total Phthalates								190 μg/L	
Diethylhexyl phthalate								101 μg/L	
Total Group I PAHs								1.0 μg/L	
Benzo(a)anthracene								_	
Benzo(a)pyrene								_	
Benzo(b)fluoranthene								_	
Benzo(k)fluoranthene								As Total PAHs	
Chrysene								_	
Dibenzo(a,h)anthracene								_	
Indeno(1,2,3-cd)pyrene									

	Known	Known				Inf	luent	Effluent Limitations	
Parameter	or believed absent	or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs								100 μg/L	
Naphthalene								20 μg/L	
E. Halogenated SVOCs									
Total PCBs								0.000064 µg/L	
Pentachlorophenol								1.0 μg/L	
	1			•					
F. Fuels Parameters Total Petroleum		1	1	1		1 1			
Hydrocarbons								5.0 mg/L	
Ethanol								Report mg/L	
Methyl-tert-Butyl Ether								70 μg/L	
tert-Butyl Alcohol								120 μg/L in MA 40 μg/L in NH	
tert-Amyl Methyl Ether								90 μg/L in MA 140 μg/L in NH	
Other (i.e., pH, temperatur	re, hardness,	salinity, LC	50, addition	al pollutar	ats present);	if so, specify:			

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)	
☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ☐ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption	
☐ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ☐ Separation/Filtration ☐ Other; if so, specify:	
2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.	
Identify each major treatment component (check any that apply):	
☐ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter	
☐ Chemical feed tank ☐ Air stripping unit ☐ Bag filter ☐ Other; if so, specify:	
Indicate if either of the following will occur (check any that apply):	
□ Chlorination □ De-chlorination	
3. Provide the design flow capacity in gallons per minute (gpm) of the most limiting component.	
Indicate the most limiting component:	
Is use of a flow meter feasible? (check one): \square Yes \square No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm.	
Trovide the proposed maximum errident now in gpin.	
Provide the average effluent flow in gpm.	
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	
4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ☐ Yes ☐ No	

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)
□ Algaecides/biocides □ Antifoams □ Coagulants □ Corrosion/scale inhibitors □ Disinfectants □ Flocculants □ Neutralizing agents □ Oxidants □ Oxygen □
scavengers □ pH conditioners □ Bioremedial agents, including microbes □ Chlorine or chemicals containing chlorine □ Other; if so, specify:
2. Provide the following information for each chemical/additive, using attachments, if necessary:
a. Product name, chemical formula, and manufacturer of the chemical/additive; b. Purpose or use of the chemical/additive or remedial agent; c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive; d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive; e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).
3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance
with the instructions in F, above? (check one): \square Yes \square No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive?
(check one): ☐ Yes ☐ No
G. Endangered Species Act eligibility determination
1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:
□ FWS Criterion A : No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".
□ FWS Criterion B : Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat
(informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐
Yes □ No
□ FWS Criterion C : Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) □ the operator □ EPA □ Other; if so, specify:
1 11.5. This determination was made by, (effect one) in the operator in the A in Other, it so, specify.

□ NMFS Criterion : A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of
listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ☐ No
2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): \square Yes \square No
Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ☐ Yes ☐ No; if yes, attach.
H. National Historic Preservation Act eligibility determination
1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:
□ Criterion A : No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.
☐ Criterion B: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.
□ Criterion C : Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.
2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ☐ Yes ☐ No
Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or
other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): \Box Yes \Box No
I. Supplemental information
Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.
Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ☐ Yes ☐ No
Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ☐ Yes ☐ No

J. Certification requirement

t. P	certify under penalty of law that this document and all attachments were prepared under my direction or supervision in a hat qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and be personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are information, including the possibility of fine and imprisonment for knowing violations.	persons who manage elief, true, accurate, a	the system, or those nd complete. I have
	A BMPP meeting the requirements of this general permit will be deve	loped and imple	mented upon
	Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■	No □
	Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■	No 🗆
	Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■	No □ NA □
	Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ■	No □ NA □
	Notification provided to the owner/operator of the area associated with activities covered by an additional discharge		
	permit(s). Additional discharge permit is (check one): □ RGP □ DGP □ CGP □ MSGP □ Individual NPDES permit	Check one: Yes □	No ■ NA □
	□ Other, if so, specify:		
Signa	ture: Dat	te: 9/9/2021	
Print	Name and Title: JAMI ANDERSON - GREEN LEAF CONSTRUCTION - PROJECT M	ANAGER	



Enter number values in green boxes below

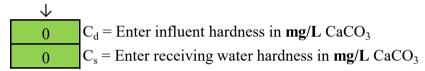
Enter values in the units specified

\downarrow	_
0	$Q_R = Enter upstream flow in MGD$
0.144	$Q_P = Enter discharge flow in MGD$
0	Downstream 7Q10

Enter a dilution factor, if other than zero



Enter values in the units specified



Enter receiving water concentrations in the units specified

\downarrow	
6.9	pH in Standard Units
22.5	Temperature in °C
0	Ammonia in mg /L
0	Hardness in mg/L CaCO ₃
16	Salinity in ppt
0	Antimony in μg /L
23	Arsenic in μg /L
0	Cadmium in μg /L
12	Chromium III in µg/L
0	Chromium VI in µg/L
63	Copper in µg/L
2500	Iron in μg/L
190	Lead in μg/L
0.28	Mercury in μg/L
12	Nickel in μg/L
63	Selenium in μg/L
0	Silver in μg/L
44	Zinc in μg /L

Enter **influent** concentrations in the units specified

\perp	
470	TRC in μg/L
0	Ammonia in mg /L
1	Antimony in μg /L
4.9	Arsenic in μg/L
0.41	Cadmium in μg/L
19	Chromium III in µg/L
0	Chromium VI in µg/L
38	Copper in µg/L
3900	Iron in μg/L
620	Lead in μg/L
0.55	Mercury in μg/L
9.3	Nickel in μg/L
2.5	Selenium in μg/L
0	Silver in μg/L
113	Zinc in μg/L
0	Cyanide in µg/L
0	Phenol in μg/L
0	Carbon Tetrachloride in µg/L
0	Tetrachloroethylene in μg/L
0	Total Phthalates in μg/L
0	Diethylhexylphthalate in μg/L
0.079	Benzo(a)anthracene in μg/L
0.093	Benzo(a)pyrene in µg/L
0.13	Benzo(b)fluoranthene in μg/L
0.047	Benzo(k)fluoranthene in μg/L
0.086	Chrysene in µg/L
0.019	Dibenzo(a,h)anthracene in μg/L
0.077	Indeno(1,2,3-cd)pyrene in μg/L
0	Methyl-tert butyl ether in $\mu g/L$

	0.0				
A. Inorganics	TBEL applies if	bolded	WQBEL applies if bolded		
Ammonia	Report	mg/L			
Chloride	Report	μg/L			
Total Residual Chlorine	0.2	mg/L	7.5	μg/L	
Total Suspended Solids	30	mg/L		F-6-1	
Antimony	206	μg/L	640	μg/L	
Arsenic	104		36		
Cadmium		μg/L	8.9	μg/L	
	10.2	μg/L		μg/L	
Chromium III	323	μg/L	100.0	μg/L	
Chromium VI	323	μg/L	50	μg/L	
Copper	242	μg/L	3.7	μg/L	
Iron	5000	$\mu g/L$		$\mu g/L$	
Lead	160	$\mu g/L$	8.5	$\mu g/L$	
Mercury	0.739	μg/L	1.11	μg/L	
Nickel	1450	μg/L	8.3	μg/L	
Selenium	235.8	μg/L	71	μg/L	
Silver	35.1	μg/L	2.2	μg/L	
Zinc	420	μg/L	86	μg/L	
Cyanide	178	mg/L	1.0	μg/L	
B. Non-Halogenated VOCs		8		F-6-	
Total BTEX	100	μg/L			
Benzene	5.0	$\mu g/L$			
1,4 Dioxane	200	μg/L			
Acetone	7.97	mg/L			
Phenol	1,080	μg/L	300	μg/L	
C. Halogenated VOCs				_	
Carbon Tetrachloride	4.4	/ -	1.6	$\mu g/L$	
1,2 Dichlorobenzene	600	μg/L			
1,3 Dichlorobenzene	320	μg/L			
1,4 Dichlorobenzene	5.0	μg/L			
Total dichlorobenzene	 70	μg/L			
1,1 Dichloroethane	70 5.0	μg/L			
1,2 Dichloroethane	5.0	μg/L			
1,1 Dichloroethylene	3.2 0.05	μg/L			
Ethylene Dibromide Methylene Chloride	4.6	μg/L			
1,1,1 Trichloroethane	200	μg/L			
1,1,2 Trichloroethane	5.0	μg/L μg/L			
Trichloroethylene	5.0 5.0	μg/L μg/L			
Tetrachloroethylene	5.0	μg/L μg/L	3.3	μg/L	
cis-1,2 Dichloroethylene	70	μg/L μg/L	J.J 	μg/L	
7.2 Diemoroemyiene	70	MS/L			

Vinyl Chloride	2.0	$\mu g/L$		
D. Non-Halogenated SVOCs				
Total Phthalates	190	μg/L		μg/L
Diethylhexyl phthalate	101	μg/L	2.2	μg/L
Total Group I Polycyclic				
Aromatic Hydrocarbons	1.0	μg/L		
Benzo(a)anthracene	1.0	μg/L	0.0038	μg/L
Benzo(a)pyrene	1.0	μg/L	0.0038	μg/L
Benzo(b)fluoranthene	1.0	μg/L	0.0038	μg/L
Benzo(k)fluoranthene	1.0	μg/L	0.0038	μg/L
Chrysene	1.0	μg/L	0.0038	μg/L
Dibenzo(a,h)anthracene	1.0	μg/L	0.0038	μg/L
Indeno(1,2,3-cd)pyrene	1.0	μg/L	0.0038	μg/L
Total Group II Polycyclic				
Aromatic Hydrocarbons	100	μg/L		
Naphthalene	20	μg/L		
E. Halogenated SVOCs				
Total Polychlorinated Biphenyls	0.000064	μg/L		
Pentachlorophenol	1.0	μg/L		
F. Fuels Parameters				
Total Petroleum Hydrocarbons	5.0	mg/L		
Ethanol	Report	mg/L		
Methyl-tert-Butyl Ether	70	μg/L	20	$\mu g/L$
tert-Butyl Alcohol	120	μg/L		
tert-Amyl Methyl Ether	90	μg/L		



September 2, 2021

Kim Gravelle Lockwood Remediation Technologies, LLC 89 Crawford Street Leominster, MA 01453

Project Location: 58 Hampden St, Boston, MA

Client Job Number: Project Number: 2-2246

Laboratory Work Order Number: 21H0476

Keny K. Mille

Enclosed are results of analyses for samples received by the laboratory on August 10, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerry K. McGee Project Manager

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Lockwood Remediation Technologies, LLC

89 Crawford Street

REPORT DATE: 9/2/2021

Leominster, MA 01453 ATTN: Kim Gravelle PURCHASE ORDER NUMBER: 2-2246

PROJECT NUMBER: 2-2246

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21H0476

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 58 Hampden St, Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Influent	21H0476-01	Ground Water		-	MA M-MA-086/CT PH-0574/NY11148
				608.3	
				624.1	
				625.1	
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	
				EPA 504.1	
				SM19-23 4500 NH3	3 C
				SM21-23 2540D	
				SM21-23 3500 Cr E	3
				SM21-23 4500 CL	G
				SM2510B	MA M-RI010/CT PH-0740/NY11673/+ Additional
				SM2520B	MA M-RI010/CT PH-0740/NY11673/H Additional
				SM4500	MA M-MA-086/CT PH-0574/NY11148
				Tri Chrome Calc.	
Receiving Water	21H0476-02	Ground Water		EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				SM19-23 4500 NH3	3 C
				SM21-23 3500 Cr E	3
				SM2510B	MA M-RI010/CT PH-0740/NY11673/+ Additional
				SM2520B	MA M-RI010/CT PH-0740/NY11673/H Additional
				Tri Chrome Calc.	



CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT - 9/2/21 - VOC compound list updated to include ethanol per client's request.

REVISED REPORT - 9/1/21 - Compound lists updated for VOCs and SVOCs per client's request.

608.3

Qualifications:

S-26

Surrogate outside of control limits.

Analyte & Samples(s) Qualified:

Tetrachloro-m-xylene

B287930-BLK1

Tetrachloro-m-xylene [2C]

B287930-BLK1

EPA 200.7

Qualifications:

R-02

Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.

Analyte & Samples(s) Qualified:

Iron

21H0476-02[Receiving Water], B287934-DUP1

EPA 200.8

Qualifications:

MS-14

Matrix spike recovery is outside of control limits. Data validation is not affected since sample result is "not detected" and recovery bias is on the high side for this compound

the high side for this compound.

Analyte & Samples(s) Qualified:

Antimony

21H0476-02[Receiving Water], B287935-MS1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021 Field Sample #: Influent

Sampled: 8/10/2021 08:00

Volatile	Organic	Compounds by	GC/MS

								Date	Date/Time	
Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Acetone	<2.35	50.0	2.35	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
tert-Amyl Methyl Ether (TAME)	< 0.150	0.500	0.150	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Benzene	< 0.130	1.00	0.130	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Bromodichloromethane	< 0.140	2.00	0.140	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Bromoform	< 0.290	2.00	0.290	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Bromomethane	<1.07	5.00	1.07	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
tert-Butyl Alcohol (TBA)	< 5.34	20.0	5.34	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Carbon Tetrachloride	< 0.170	2.00	0.170	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Chlorobenzene	< 0.0800	2.00	0.0800	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Chlorodibromomethane	< 0.160	2.00	0.160	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Chloroethane	< 0.370	2.00	0.370	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Chloroform	< 0.190	2.00	0.190	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Chloromethane	< 0.380	2.00	0.380	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,2-Dichlorobenzene	< 0.100	2.00	0.100	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,3-Dichlorobenzene	< 0.0900	2.00	0.0900	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,4-Dichlorobenzene	< 0.110	2.00	0.110	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,2-Dichloroethane	< 0.320	2.00	0.320	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
cis-1,2-Dichloroethylene	< 0.150	1.00	0.150	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,1-Dichloroethane	< 0.160	2.00	0.160	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,1-Dichloroethylene	< 0.160	2.00	0.160	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
trans-1,2-Dichloroethylene	< 0.170	2.00	0.170	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,2-Dichloropropane	< 0.180	2.00	0.180	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
cis-1,3-Dichloropropene	< 0.120	2.00	0.120	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,4-Dioxane	<21.5	50.0	21.5	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
trans-1,3-Dichloropropene	< 0.150	2.00	0.150	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Ethanol	<34.2	50.0	34.2	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Ethylbenzene	< 0.0900	2.00	0.0900	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Methyl tert-Butyl Ether (MTBE)	< 0.170	2.00	0.170	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Methylene Chloride	< 0.300	5.00	0.300	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,1,2,2-Tetrachloroethane	< 0.0900	2.00	0.0900	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Tetrachloroethylene	< 0.200	2.00	0.200	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Toluene	< 0.110	1.00	0.110	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,1,1-Trichloroethane	< 0.170	2.00	0.170	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
1,1,2-Trichloroethane	< 0.150	2.00	0.150	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Trichloroethylene	< 0.180	2.00	0.180	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Trichlorofluoromethane (Freon 11)	< 0.190	2.00	0.190	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Vinyl Chloride	< 0.200	2.00	0.200	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
m+p Xylene	< 0.180	2.00	0.180	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
o-Xylene	< 0.0900	1.00	0.0900	$\mu g/L$	1		624.1	8/11/21	8/11/21 13:21	LBD
Surrogates		% Reco	overy	Recovery Limits	s	Flag/Qual				
1,2-Dichloroethane-d4		83.5		70-130					8/11/21 13:21	
Toluene-d8		94.8		70-130					8/11/21 13:21	
4-Bromofluorobenzene		98.0		70-130					8/11/21 13:21	



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021

Field Sample #: Influent Sampled: 8/10/2021 08:00

Semivolatile Organ	nic Compoun	ids by Go	C/MS
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Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene (SIM)	0.079	0.025	0.018	μg/L	1		625.1	8/12/21	8/16/21 11:39	IMR
Benzo(a)pyrene (SIM)	0.093	0.051	0.011	μg/L	1		625.1	8/12/21	8/16/21 11:39	IMR
Benzo(b)fluoranthene (SIM)	0.13	0.025	0.014	μg/L	1		625.1	8/12/21	8/16/21 11:39	IMR
Benzo(k)fluoranthene (SIM)	0.047	0.10	0.0091	μg/L	1	J	625.1	8/12/21	8/16/21 11:39	IMR
Chrysene (SIM)	0.086	0.10	0.011	μg/L	1	J	625.1	8/12/21	8/16/21 11:39	IMR
Dibenz(a,h)anthracene (SIM)	0.019	0.051	0.015	μg/L	1	J	625.1	8/12/21	8/16/21 11:39	IMR
Indeno(1,2,3-cd)pyrene (SIM)	0.077	0.051	0.014	μg/L	1		625.1	8/12/21	8/16/21 11:39	IMR
Surrogates		% Reco	very	Recovery Limit	s	Flag/Qual				
2-Fluorophenol (SIM)		21.1		15-110					8/16/21 11:39	
Phenol-d6 (SIM)		22.0		15-110					8/16/21 11:39	
Nitrobenzene-d5		45.3		30-130					8/16/21 11:39	
2-Fluorobiphenyl		39.0		30-130					8/16/21 11:39	
2,4,6-Tribromophenol (SIM)		44.7		15-110					8/16/21 11:39	
p-Terphenyl-d14		50.3		30-130					8/16/21 11:39	



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021

Field Sample #: Influent Sampled: 8/10/2021 08:00

Semivolatile	Organic	Compounas	by -	GC/MS	

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	<2.54	2.54	μg/L	1	8.0	625.1	8/12/21	8/16/21 10:41	IMR
Acenaphthylene	<2.54	2.54	μg/L	1		625.1	8/12/21	8/16/21 10:41	IMR
Anthracene	<2.54	2.54	μg/L	1		625.1	8/12/21	8/16/21 10:41	IMR
Benzo(g,h,i)perylene	<2.54	2.54	μg/L	1		625.1	8/12/21	8/16/21 10:41	IMR
Butylbenzylphthalate	< 5.08	5.08	μg/L	1		625.1	8/12/21	8/16/21 10:41	IMR
4-Chloro-3-methylphenol	< 5.08	5.08	μg/L	1		625.1	8/12/21	8/16/21 10:41	IMR
2-Chlorophenol	< 5.08	5.08	μg/L	1		625.1	8/12/21	8/16/21 10:41	IMR
Di-n-butylphthalate	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
2,4-Dichlorophenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Diethylphthalate	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
2,4-Dimethylphenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Dimethylphthalate	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
4,6-Dinitro-2-methylphenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
2,4-Dinitrophenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Di-n-octylphthalate	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Bis(2-Ethylhexyl)phthalate	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Fluoranthene	<2.54	2.54	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Fluorene	<2.54	2.54	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Naphthalene	<2.54	2.54	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
2-Nitrophenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
4-Nitrophenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Pentachlorophenol	< 5.08	5.08	μg/L	1		625.1	8/12/21	8/16/21 10:41	IMR
Phenanthrene	<2.54	2.54	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
2-Methylphenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Phenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
3/4-Methylphenol	<10.2	10.2	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Pyrene	<2.54	2.54	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
2,4,6-Trichlorophenol	< 5.08	5.08	$\mu g/L$	1		625.1	8/12/21	8/16/21 10:41	IMR
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
2-Fluorophenol		22.3	15-110					8/16/21 10:41	
Phenol-d6		24.7	15-110					8/16/21 10:41	
Nitrobenzene-d5		47.5	30-130					8/16/21 10:41	

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	22.3	15-110		8/16/21 10:41
Phenol-d6	24.7	15-110		8/16/21 10:41
Nitrobenzene-d5	47.5	30-130		8/16/21 10:41
2-Fluorobiphenyl	51.0	30-130		8/16/21 10:41
2,4,6-Tribromophenol	44.3	15-110		8/16/21 10:41
p-Terphenyl-d14	68.5	30-130		8/16/21 10:41



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021 Field Sample #: Influent

Sampled: 8/10/2021 08:00

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	< 0.0899	0.101	0.0899	μg/L	1		608.3	8/11/21	8/12/21 12:55	TG
Aroclor-1221 [1]	< 0.0833	0.101	0.0833	μg/L	1		608.3	8/11/21	8/12/21 12:55	TG
Aroclor-1232 [1]	< 0.0848	0.101	0.0848	μg/L	1		608.3	8/11/21	8/12/21 12:55	TG
Aroclor-1242 [1]	< 0.0889	0.101	0.0889	μg/L	1		608.3	8/11/21	8/12/21 12:55	TG
Aroclor-1248 [1]	< 0.0843	0.101	0.0843	μg/L	1		608.3	8/11/21	8/12/21 12:55	TG
Aroclor-1254 [1]	< 0.0949	0.101	0.0949	μg/L	1		608.3	8/11/21	8/12/21 12:55	TG
Aroclor-1260 [1]	< 0.0828	0.101	0.0828	$\mu g/L$	1		608.3	8/11/21	8/12/21 12:55	TG
Surrogates		% Reco	very	Recovery Limits	s	Flag/Qual				
Decachlorobiphenyl [1]		45.0		30-150					8/12/21 12:55	
Decachlorobiphenyl [2]		48.6		30-150					8/12/21 12:55	
Tetrachloro-m-xylene [1]		63.1		30-150					8/12/21 12:55	
Tetrachloro-m-xylene [2]		65.9		30-150					8/12/21 12:55	



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021 Field Sample #: Influent

Sampled: 8/10/2021 08:00

Sample ID: 21H0476-01
Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
	Results	- KL	DL	Cints	Dilution	riag/Quar	Method	Ттератец	Anaryzeu	Analyst
Antimony	1.0	1.0		$\mu g/L$	1		EPA 200.8	8/11/21	8/17/21 13:07	QNW
Arsenic	4.9	0.80		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:37	MJH
Cadmium	0.41	0.20		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:37	MJH
Chromium	19	1.0		$\mu g/L$	1		EPA 200.8	8/11/21	8/13/21 16:24	QNW
Chromium, Trivalent	0.019			mg/L	1		Tri Chrome Calc.	8/11/21	8/13/21 16:24	QNW
Copper	38	1.0		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:37	MJH
Iron	3.9	0.050		mg/L	1		EPA 200.7	8/11/21	8/12/21 21:53	MJH
Lead	620	5.0		$\mu g/L$	10		EPA 200.8	8/11/21	8/13/21 16:14	QNW
Mercury	0.00055	0.00010		mg/L	1		EPA 245.1	8/13/21	8/16/21 12:32	CJV
Nickel	9.3	5.0		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:37	MJH
Selenium	2.5	5.0	0.78	$\mu g/L$	1	J	EPA 200.8	8/11/21	8/12/21 19:37	MJH
Silver	ND	0.20		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:37	MJH
Zinc	110	10		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:37	MJH
Hardness	420	1.4		mg/L	1		EPA 200.7	8/11/21	8/12/21 21:53	MJH



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021 Field Sample #: Influent

Sampled: 8/10/2021 08:00

Sample ID: 21H0476-01
Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Ammonia as N	ND	0.30	0.22	mg/L	1		SM19-23 4500 NH3 C	8/13/21	8/14/21 10:10	FAT
Chloride	190	10		mg/L	10		EPA 300.0	8/12/21	8/12/21 9:49	CB2
Chlorine, Residual	0.47	0.20		mg/L	10		SM21-23 4500 CL G	8/10/21	8/10/21 19:00	ALG
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-23 3500 Cr B	8/10/21	8/10/21 20:15	CB2
Total Suspended Solids	260	5.0		mg/L	1		SM21-23 2540D	8/11/21	8/11/21 12:36	LL
Silica Gel Treated HEM (SGT-HEM)	ND	2.8		mg/L	1		EPA 1664B	8/13/21	8/13/21 9:30	LL



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021

Field Sample #: Influent Sampled: 8/10/2021 08:00

Sample ID: 21H0476-01
Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

								Date	Date/Time	
Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.020	0.0079	μg/L	1		EPA 504.1	8/12/21	8/12/21 17:48	JMB
Surrogates		% Reco	very	Recovery Limits	3	Flag/Qual				
1,3-Dibromopropane (1)		109		70-130					8/12/21 17:48	



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021

Field Sample #: Influent Sampled: 8/10/2021 08:00

Sample ID: 21H0476-01
Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

									Date	Date/Time	
	Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Salinity		ND	1		ppt	1		SM2510B		8/13/21 0:00	NET



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021 Field Sample #: Influent

Sampled: 8/10/2021 08:00

Sample ID: 21H0476-01
Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

									Date	Date/Time	
	Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Cyanide		ND	0.005	0.001	mg/L	1		SM4500	8/12/21	8/12/21 13:51	AAL



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021

Field Sample #: Receiving Water Sampled: 8/10/2021 09:00

Sample ID: 21H0476-02
Sample Matrix: Ground Water

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		μg/L	1	MS-14	EPA 200.8	8/11/21	8/17/21 13:05	QNW
Arsenic	23	0.80		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:34	MJH
Cadmium	ND	0.20		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:34	MJH
Chromium	12	1.0		$\mu g/L$	1		EPA 200.8	8/11/21	8/13/21 16:21	QNW
Chromium, Trivalent	0.012			mg/L	1		Tri Chrome Calc.	8/11/21	8/13/21 16:21	QNW
Copper	63	1.0		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:34	MJH
Iron	2.5	0.050		mg/L	1	R-02	EPA 200.7	8/11/21	8/12/21 21:48	MJH
Lead	190	5.0		$\mu g/L$	10		EPA 200.8	8/11/21	8/13/21 16:11	QNW
Mercury	0.00028	0.00010		mg/L	1		EPA 245.1	8/13/21	8/16/21 12:34	CJV
Nickel	12	5.0		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:34	MJH
Selenium	63	5.0	0.78	$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:34	MJH
Silver	ND	0.20		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:34	MJH
Zinc	44	10		$\mu g/L$	1		EPA 200.8	8/11/21	8/12/21 19:34	MJH



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021

Field Sample #: Receiving Water Sampled: 8/10/2021 09:00

Sample ID: 21H0476-02
Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Ammonia as N	ND	0.30	0.22	mg/L	1		SM19-23 4500 NH3 C	8/13/21	8/14/21 10:10	FAT
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-23 3500 Cr B	8/10/21	8/10/21 20:15	CB2



Project Location: 58 Hampden St, Boston, MA Sample Description: Work Order: 21H0476

Date Received: 8/10/2021

Field Sample #: Receiving Water Sampled: 8/10/2021 09:00

Sample ID: 21H0476-02
Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

									Date	Date/Time	
	Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Salinity		16	1		ppt	1		SM2510B		8/13/21 0:00	NET



Sample Extraction Data

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B287930	990	5.00	08/11/21

Prep Method: SW-846 5030B Analytical Method: 624.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B287946	5	5.00	08/11/21

Prep Method: SW-846 3510C Analytical Method: 625.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B288037	985	0.500	08/12/21

Prep Method: SW-846 3510C Analytical Method: 625.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B288241	985	0.500	08/12/21

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
21H0476-01 [Influent]	B288127	500	08/13/21

Prep Method: EPA 200.7 Analytical Method: EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B287934	50.0	50.0	08/11/21
21H0476-01 [Influent]	B287934	50.0		08/11/21
21H0476-02 [Receiving Water]	B287934	50.0	50.0	08/11/21

Prep Method: EPA 200.8 Analytical Method: EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B287935	50.0	50.0	08/11/21
21H0476-02 [Receiving Water]	B287935	50.0	50.0	08/11/21

Prep Method: EPA 245.1 Analytical Method: EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date	
21H0476-01 [Influent]	B288164	6.00	6.00	08/13/21	
21H0476-02 [Receiving Water]	B288164	6.00	6.00	08/13/21	

Prep Method: EPA 300.0 Analytical Method: EPA 300.0

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date	
21H0476-01 [Influent]	B287953	10.0	10.0	08/12/21	



Sample Extraction Data

Prep Method: EPA 504 water	Analytical Method: EPA 504.1				
Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date	

21H0476-01 [Influent] B288083 35.5 35.0 08/12/21

SM19-23 4500 NH3 C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B288144	100	100	08/13/21
21H0476-02 [Receiving Water]	B288144	100	100	08/13/21

SM21-23 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
21H0476-01 [Influent]	B287927	100	08/11/21

SM21-23 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B287914	50.0	50.0	08/10/21
21H0476-02 [Receiving Water]	B287914	50.0	50.0	08/10/21

SM21-23 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0476-01 [Influent]	B287910	100	100	08/10/21

Prep Method: EPA 200.8 Analytical Method: Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Date
21H0476-01 [Influent]	B287935	50.0	08/11/21
21H0476-02 [Receiving Water]	B287935	50.0	08/11/21



QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Blank (B287946-BLK1)				Prepared & Analy	zed: 08/11/21		
Acetone	ND	50.0	μg/L				
tert-Amyl Methyl Ether (TAME)	ND	0.500	μg/L				
Benzene	ND	1.00	μg/L				
Bromodichloromethane	ND	2.00	μg/L				
Bromoform	ND	2.00	μg/L				
Bromomethane	ND	2.00	μg/L				
tert-Butyl Alcohol (TBA)	ND	20.0	μg/L				
Carbon Tetrachloride	ND	2.00	μg/L				
Chlorobenzene	ND	2.00	μg/L				
Chlorodibromomethane	ND	2.00	μg/L				
Chloroethane	ND	2.00	μg/L				
Chloroform	ND	2.00	μg/L				
Chloromethane	ND	2.00	μg/L				
1,2-Dichlorobenzene	ND	2.00	μg/L				
1,3-Dichlorobenzene	ND	2.00	μg/L				
1,4-Dichlorobenzene	ND	2.00	μg/L				
1,2-Dichloroethane	ND	2.00	μg/L				
cis-1,2-Dichloroethylene	ND	1.00	μg/L				
1,1-Dichloroethane	ND	2.00	$\mu g/L$				
1,1-Dichloroethylene	ND	2.00	μg/L				
rans-1,2-Dichloroethylene	ND	2.00	μg/L				
1,2-Dichloropropane	ND	2.00	μg/L				
cis-1,3-Dichloropropene	ND	2.00	μg/L				
1,4-Dioxane	ND	50.0	$\mu g/L$				
trans-1,3-Dichloropropene	ND	2.00	μg/L				
Ethanol	ND	50.0	μg/L				
Ethylbenzene	ND	2.00	$\mu g/L$				
Methyl tert-Butyl Ether (MTBE)	ND	2.00	$\mu g/L$				
Methylene Chloride	ND	5.00	$\mu g/L$				
1,1,2,2-Tetrachloroethane	ND	2.00	$\mu g/L$				
Tetrachloroethylene	ND	2.00	$\mu g/L$				
Toluene	ND	1.00	$\mu g/L$				
1,1,1-Trichloroethane	ND	2.00	$\mu g/L$				
1,1,2-Trichloroethane	ND	2.00	$\mu g/L$				
Trichloroethylene	ND	2.00	$\mu g/L$				
Trichlorofluoromethane (Freon 11)	ND	2.00	$\mu g/L$				
Vinyl Chloride	ND	2.00	$\mu g/L$				
m+p Xylene	ND	2.00	$\mu g/L$				
o-Xylene	ND	1.00	$\mu g/L$				
Surrogate: 1,2-Dichloroethane-d4	21.3		μg/L	25.0	85.0	70-130	
Surrogate: Toluene-d8	23.7		$\mu g/L$	25.0	94.8	70-130	
Surrogate: 4-Bromofluorobenzene	24.3		μg/L	25.0	97.0	70-130	



QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287946 - SW-846 5030B										
LCS (B287946-BS1)				Prepared &	Analyzed: 08	/11/21				
Acetone	200	50.0	μg/L	200		97.5	70-160			
tert-Amyl Methyl Ether (TAME)	20	0.500	$\mu g/L$	20.0		99.2	70-130			
Benzene	19	1.00	$\mu g/L$	20.0		93.8	65-135			
Bromodichloromethane	20	2.00	$\mu g/L$	20.0		99.4	65-135			
Bromoform	23	2.00	$\mu g/L$	20.0		116	70-130			
Bromomethane	20	2.00	$\mu g/L$	20.0		102	15-185			
tert-Butyl Alcohol (TBA)	200	20.0	$\mu g/L$	200		102	40-160			
Carbon Tetrachloride	18	2.00	$\mu g/L$	20.0		87.9	70-130			
Chlorobenzene	21	2.00	$\mu g/L$	20.0		103	65-135			
Chlorodibromomethane	21	2.00	$\mu g/L$	20.0		104	70-135			
Chloroethane	16	2.00	$\mu g/L$	20.0		79.4	40-160			
Chloroform	18	2.00	$\mu g/L$	20.0		91.3	70-135			
Chloromethane	7.6	2.00	$\mu g/L$	20.0		38.0	20-205			
1,2-Dichlorobenzene	19	2.00	$\mu g/L$	20.0		95.4	65-135			
1,3-Dichlorobenzene	19	2.00	$\mu g/L$	20.0		95.8	70-130			
1,4-Dichlorobenzene	19	2.00	μg/L	20.0		94.1	65-135			
1,2-Dichloroethane	20	2.00	μg/L	20.0		98.9	70-130			
cis-1,2-Dichloroethylene	19	1.00	μg/L	20.0		94.6	70-130			
1,1-Dichloroethane	20	2.00	μg/L	20.0		98.4	70-130			
1,1-Dichloroethylene	17	2.00	μg/L	20.0		86.4	50-150			
trans-1,2-Dichloroethylene	19	2.00	μg/L	20.0		97.4	70-130			
1,2-Dichloropropane	22	2.00	μg/L	20.0		108	35-165			
cis-1,3-Dichloropropene	20	2.00	μg/L	20.0		98.6	25-175			
1,4-Dioxane	230	50.0	μg/L	200		115	40-130			
trans-1,3-Dichloropropene	20	2.00	μg/L	20.0		101	50-150			
Ethanol	190	50.0	μg/L	200		93.1	40-160			
Ethylbenzene	20	2.00	μg/L	20.0		98.3	60-140			
Methyl tert-Butyl Ether (MTBE)	20	2.00	μg/L	20.0		100	70-130			
Methylene Chloride	20	5.00	μg/L	20.0		99.4	60-140			
1,1,2,2-Tetrachloroethane	22	2.00	μg/L	20.0		112	60-140			
Tetrachloroethylene	21	2.00	μg/L	20.0		106	70-130			
Toluene	19	1.00	μg/L	20.0		97.4	70-130			
1,1,1-Trichloroethane	18	2.00	μg/L	20.0		87.9	70-130			
1,1,2-Trichloroethane	22	2.00	μg/L	20.0		109	70-130			
Trichloroethylene	20	2.00	μg/L	20.0		102	65-135			
Trichlorofluoromethane (Freon 11)	15	2.00	μg/L	20.0		73.5	50-150			
Vinyl Chloride	15	2.00	μg/L	20.0		75.2	5-195			
m+p Xylene	39	2.00	μg/L	40.0		98.6	70-130			
o-Xylene	20	1.00	μg/L	20.0		98.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	19.9		μg/L	25.0		79.5	70-130			
Surrogate: Toluene-d8	23.7		$\mu g/L$	25.0		94.9	70-130			
Surrogate: 4-Bromofluorobenzene	24.7		$\mu g/L$	25.0		98.7	70-130			



QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B288241 - SW-846 3510C										
Blank (B288241-BLK1)				Prepared: 08	3/12/21 Anal	yzed: 08/16/2	21			
Benzo(a)anthracene (SIM)	ND	0.025	μg/L							
Benzo(a)pyrene (SIM)	ND	0.050	μg/L							
Benzo(b)fluoranthene (SIM)	ND	0.025	μg/L							
Benzo(k)fluoranthene (SIM)	ND	0.10	μg/L							
Chrysene (SIM)	ND	0.10	μg/L							
Dibenz(a,h)anthracene (SIM)	ND	0.050	μg/L							
ndeno(1,2,3-cd)pyrene (SIM)	ND	0.050	μg/L							
Pentachlorophenol (SIM)	ND	0.50	μg/L							
Surrogate: 2-Fluorophenol (SIM)	64.7		μg/L	200		32.4	15-110			
Surrogate: Phenol-d6 (SIM)	62.1		μg/L	200		31.0	15-110			
Surrogate: Nitrobenzene-d5	62.6		μg/L μg/L	100		62.6	30-130			
Surrogate: 2-Fluorobiphenyl	54.1		μg/L	100		54.1	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	129		μg/L	200		64.6	15-110			
urrogate: p-Terphenyl-d14	63.6		μg/L	100		63.6	30-130			
CS (B288241-BS1)				Prepared: 08	3/12/21 Anal	yzed: 08/16/2	21			
Benzo(a)anthracene (SIM)	35.7	1.0	μg/L	50.0		71.4	33-143			
Benzo(a)pyrene (SIM)	38.4	2.0	μg/L	50.0		76.8	17-163			
Benzo(b)fluoranthene (SIM)	40.8	1.0	μg/L	50.0		81.5	24-159			
Benzo(k)fluoranthene (SIM)	39.9	4.0	μg/L	50.0		79.8	11-162			
Chrysene (SIM)	36.1	4.0	μg/L	50.0		72.2	17-168			
Dibenz(a,h)anthracene (SIM)	38.4	2.0	μg/L	50.0		76.8	10-227			
ndeno(1,2,3-cd)pyrene (SIM)	40.1	2.0	μg/L	50.0		80.2	10-171			
Pentachlorophenol (SIM)	28.8	20	μg/L	50.0		57.6	14-176			
Surrogate: 2-Fluorophenol (SIM)	68.2		μg/L	200		34.1	15-110			
Surrogate: Phenol-d6 (SIM)	69.4		$\mu g/L$	200		34.7	15-110			
Surrogate: Nitrobenzene-d5	62.2		μg/L	100		62.2	30-130			
Surrogate: 2-Fluorobiphenyl	66.4		$\mu g/L$	100		66.4	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	172		μg/L	200		86.1	15-110			
durrogate: p-Terphenyl-d14	70.7		$\mu g/L$	100		70.7	30-130			
LCS Dup (B288241-BSD1)				Prepared: 08	3/12/21 Anal	yzed: 08/16/2	21			
Benzo(a)anthracene (SIM)	32.7	1.0	$\mu g/L$	50.0		65.4	33-143	8.65	53	
Benzo(a)pyrene (SIM)	35.1	2.0	$\mu \text{g/L}$	50.0		70.1	17-163	9.09	72	
Benzo(b)fluoranthene (SIM)	37.6	1.0	$\mu g/L$	50.0		75.2	24-159	8.12	71	
Benzo(k)fluoranthene (SIM)	36.8	4.0	$\mu g/L$	50.0		73.5	11-162	8.19	63	
Chrysene (SIM)	33.1	4.0	$\mu g \! / \! L$	50.0		66.2	17-168	8.73	87	
Dibenz(a,h)anthracene (SIM)	35.3	2.0	$\mu g/L$	50.0		70.7	10-227	8.35	126	
ndeno(1,2,3-cd)pyrene (SIM)	36.9	2.0	$\mu g/L$	50.0		73.8	10-171	8.26	99	
Pentachlorophenol (SIM)	25.9	20	μg/L	50.0		51.8	14-176	10.5	86	
Surrogate: 2-Fluorophenol (SIM)	63.6		μg/L	200		31.8	15-110			
Surrogate: Phenol-d6 (SIM)	64.7		$\mu g/L$	200		32.4	15-110			
Surrogate: Nitrobenzene-d5	56.8		$\mu g/L$	100		56.8	30-130			
Surrogate: 2-Fluorobiphenyl	61.0		$\mu g/L$	100		61.0	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	158		$\mu g/L$	200		79.0	15-110			
Surrogate: p-Terphenyl-d14	64.7		$\mu g/L$	100		64.7	30-130			



QUALITY CONTROL

Spike

Source

%REC

RPD

Semivolatile Organic Compounds by - GC/MS - Quality Control

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B288037 - SW-846 3510C										
Blank (B288037-BLK1)				Prepared: 08	3/12/21 Analy	yzed: 08/16/2	1			
Acenaphthene	ND	2.50	μg/L							
Acenaphthylene	ND	2.50	$\mu g/L$							
Anthracene	ND	2.50	$\mu g/L$							
Benzo(g,h,i)perylene	ND	2.50	$\mu g/L$							
Butylbenzylphthalate	ND	5.00	$\mu g/L$							
4-Chloro-3-methylphenol	ND	5.00	$\mu g/L$							
2-Chlorophenol	ND	5.00	$\mu g/L$							
Di-n-butylphthalate	ND	5.00	μg/L							
2,4-Dichlorophenol	ND	5.00	μg/L							
Diethylphthalate	ND	5.00	μg/L							
2,4-Dimethylphenol	ND	5.00	μg/L							
Dimethylphthalate	ND	5.00	μg/L							
4,6-Dinitro-2-methylphenol	ND	5.00	μg/L							
2,4-Dinitrophenol	ND	5.00	μg/L							
Di-n-octylphthalate	ND	5.00	μg/L							
Bis(2-Ethylhexyl)phthalate	ND	5.00	μg/L							
Fluoranthene	ND	2.50	μg/L							
Fluorene	ND	2.50	μg/L							
Naphthalene	ND	2.50	μg/L							
-Nitrophenol	ND	5.00	μg/L							
-Nitrophenol	ND	5.00	μg/L							
Pentachlorophenol	ND	5.00	μg/L							
Phenanthrene	ND	2.50	μg/L							
2-Methylphenol	ND	5.00	μg/L							
Phenol	ND	5.00	μg/L							
8/4-Methylphenol	ND	10.0	μg/L							
Pyrene	ND	2.50	μg/L							
2,4,6-Trichlorophenol	ND	5.00	μg/L							
Surrogate: 2-Fluorophenol	52.9		μg/L	200		26.5	15-110			
Surrogate: Phenol-d6	54.0		μg/L	200		27.0	15-110			
Surrogate: Nitrobenzene-d5	49.5		μg/L	100		49.5	30-130			
Surrogate: 2-Fluorobiphenyl	55.7		μg/L	100		55.7	30-130			
Surrogate: 2,4,6-Tribromophenol	120		μg/L	200		59.8	15-110			
Surrogate: p-Terphenyl-d14	75.7		μg/L	100		75.7	30-130			
LCS (B288037-BS1)		5.00	/7		3/12/21 Analy					
Acenaphthene	32.1	5.00	μg/L	50.0		64.2	47-145			
Acenaphthylene	31.2	5.00	μg/L	50.0		62.5	33-145			
Anthracene	34.1	5.00	μg/L	50.0		68.1	27-133			
Benzo(g,h,i)perylene	34.9	5.00	μg/L	50.0		69.9	10-219			
Butylbenzylphthalate	35.8	10.0	μg/L	50.0		71.7	10-152			
-Chloro-3-methylphenol	32.8	10.0	μg/L	50.0		65.6	22-147			
2-Chlorophenol	27.7	10.0	μg/L	50.0		55.5	23-134			
Di-n-butylphthalate	35.5	10.0	μg/L	50.0		70.9	10-120			
2,4-Dichlorophenol	30.9	10.0	μg/L	50.0		61.9	39-135			
Diethylphthalate	32.8	10.0	μg/L μg/I	50.0		65.6	10-120			
,4-Dimethylphenol	30.5	10.0	μg/L μg/I	50.0		61.0	32-120			
Dimethylphthalate	32.5	10.0	μg/L μg/I	50.0		65.0	10-120			
1,6-Dinitro-2-methylphenol	39.6	10.0	μg/L μg/I	50.0		79.3	10-181			
2,4-Dinitrophenol Di-n-octylphthalate	39.4	10.0	μg/L μg/I	50.0		78.9	10-191			
	36.3	10.0	μg/L	50.0		72.7	4-146			
Bis(2-Ethylhexyl)phthalate	37.0	10.0	μg/L	50.0		74.0	8-158			



QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B288037 - SW-846 3510C										
LCS (B288037-BS1)				Prepared: 08	3/12/21 Analy	zed: 08/14/2	21			
Fluoranthene	34.4	5.00	μg/L	50.0		68.9	26-137			
Fluorene	33.1	5.00	$\mu \text{g/L}$	50.0		66.3	59-121			
Naphthalene	27.9	5.00	$\mu g\!/\!L$	50.0		55.8	21-133			
2-Nitrophenol	32.6	10.0	μg/L	50.0		65.1	29-182			
4-Nitrophenol	19.7	10.0	μg/L	50.0		39.5	10-132			
Pentachlorophenol	31.0	10.0	μg/L	50.0		62.1	14-176			
Phenanthrene	33.4	5.00	μg/L	50.0		66.7	54-120			
2-Methylphenol	26.3	10.0	μg/L	50.0		52.6	40-140			
Phenol	14.9	10.0	μg/L	50.0		29.8	5-120			
3/4-Methylphenol	28.0	20.0	μg/L	50.0		55.9	40-140			
Pyrene	33.7	5.00	μg/L	50.0		67.4	52-120			
2,4,6-Trichlorophenol	32.6	10.0	μg/L	50.0		65.2	37-144			
Surrogate: 2-Fluorophenol	72.5		μg/L	200		36.3	15-110			
Surrogate: Phenol-d6	73.6		μg/L	200		36.8	15-110			
Surrogate: Nitrobenzene-d5	64.9		μg/L	100		64.9	30-130			
Surrogate: 2-Fluorobiphenyl	67.6		μg/L	100		67.6	30-130			
Surrogate: 2,4,6-Tribromophenol Surrogate: p-Terphenyl-d14	149 85.2		μg/L μg/L	200 100		74.5 85.2	15-110 30-130			
Surrogate. p-Terphenyi-u14	03.2		μg/L	100		63.2	30-130			
LCS Dup (B288037-BSD1)					3/12/21 Analy	zed: 08/14/2	21			
Acenaphthene	32.2	5.00	μg/L	50.0		64.4	47-145	0.249	48	
Acenaphthylene	30.6	5.00	μg/L	50.0		61.1	33-145	2.20	74	
Anthracene	34.8	5.00	μg/L	50.0		69.7	27-133	2.26	66	
Benzo(g,h,i)perylene	35.8	5.00	μg/L	50.0		71.6	10-219	2.43	97	
Butylbenzylphthalate	35.7	10.0	μg/L	50.0		71.4	10-152	0.419	60	
4-Chloro-3-methylphenol	34.0	10.0	μg/L	50.0		68.1	22-147	3.68	73	
2-Chlorophenol	28.5	10.0 10.0	μg/L	50.0		57.0	23-134	2.70	61	
Di-n-butylphthalate 2,4-Dichlorophenol	35.8	10.0	μg/L μg/L	50.0		71.6	10-120	0.898	47	
Diethylphthalate	31.5	10.0	μg/L μg/L	50.0 50.0		62.9 66.5	39-135 10-120	1.70 1.27	50 100	
2,4-Dimethylphenol	33.2 30.4	10.0	μg/L μg/L	50.0		60.9	32-120	0.131	58	
Dimethylphthalate	33.4	10.0	μg/L μg/L	50.0		66.8	10-120	2.79	183	
4,6-Dinitro-2-methylphenol	41.0	10.0	μg/L	50.0		81.9	10-120	3.25	203	
2,4-Dinitrophenol	39.8	10.0	μg/L μg/L	50.0		79.5	10-191	0.833	132	
Di-n-octylphthalate	35.8	10.0	μg/L μg/L	50.0		71.6	4-146	1.50	69	
Bis(2-Ethylhexyl)phthalate	36.3	10.0	μg/L	50.0		72.6	8-158	1.88	82	
Fluoranthene	35.0	5.00	μg/L	50.0		69.9	26-137	1.47	66	
Fluorene	33.6	5.00	μg/L	50.0		67.3	59-121	1.53	38	
Naphthalene	28.0	5.00	μg/L	50.0		56.0	21-133	0.394	65	
2-Nitrophenol	33.1	10.0	μg/L	50.0		66.1	29-182	1.52	55	
4-Nitrophenol	19.5	10.0	μg/L	50.0		39.0	10-132	1.22	131	
Pentachlorophenol	32.2	10.0	$\mu \text{g}/L$	50.0		64.4	14-176	3.61	86	
Phenanthrene	34.0	5.00	$\mu \text{g/L}$	50.0		68.1	54-120	2.05	39	
2-Methylphenol	26.6	10.0	$\mu \text{g/L}$	50.0		53.2	40-140	1.17	30	
Phenol	15.2	10.0	$\mu \text{g}/L$	50.0		30.5	5-120	2.19	64	
3/4-Methylphenol	28.8	20.0	$\mu \text{g}/L$	50.0		57.5	40-140	2.82	30	
Pyrene	34.4	5.00	$\mu \text{g}/L$	50.0		68.9	52-120	2.23	49	
2,4,6-Trichlorophenol	32.8	10.0	μg/L	50.0		65.6	37-144	0.611	58	
Surrogate: 2-Fluorophenol	73.6		μg/L	200		36.8	15-110			
Surrogate: Phenol-d6	74.6		$\mu g/L$	200		37.3	15-110			
Surrogate: Nitrobenzene-d5	62.9		$\mu g/L$	100		62.9	30-130			
Surrogate: 2-Fluorobiphenyl	65.8		$\mu g/L$	100		65.8	30-130			



QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch B288037 - SW-846 3510C

LCS Dup (B288037-BSD1)			Prepared: 08/12	2/21 Analyzed: 08/14/2	21	
Surrogate: 2,4,6-Tribromophenol	154	μg/L	200	77.2	15-110	
Surrogate: p-Terphenyl-d14	85.3	μg/L	100	85.3	30-130	



QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B287930 - SW-846 3510C										
Blank (B287930-BLK1)				Prepared: 08	3/11/21 Analy	zed: 08/12/	/21			
Aroclor-1016	ND	0.0200	$\mu \text{g/L}$							
Aroclor-1016 [2C]	ND	0.0200	$\mu g\!/\!L$							
Aroclor-1221	ND	0.0200	μg/L							
Aroclor-1221 [2C]	ND	0.0200	μg/L							
Aroclor-1232	ND	0.0200	μg/L							
Aroclor-1232 [2C]	ND	0.0200	μg/L							
Aroclor-1242	ND	0.0200	μg/L							
Aroclor-1242 [2C]	ND	0.0200	μg/L							
Aroclor-1248	ND	0.0200	μg/L							
Aroclor-1248 [2C]	ND	0.0200	μg/L							
Aroclor 1254	ND	0.0200	μg/L							
Aroclor-1254 [2C] Aroclor-1260	ND	0.0200 0.0200	μg/L μg/I							
Aroclor-1260 Aroclor-1260 [2C]	ND	0.0200	μg/L μg/L							
	ND	0.0200								
Surrogate: Decachlorobiphenyl	0.0706		μg/L	0.200		35.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0758		μg/L	0.200		37.9	30-150			
Surrogate: Tetrachloro-m-xylene	0.0534		μg/L	0.200		26.7	30 130			S-26
Surrogate: Tetrachloro-m-xylene [2C]	0.0520		μg/L	0.200		26.0	\$ 30-150			S-26
LCS (B287930-BS1)					3/11/21 Analy					
Aroclor-1016	0.309	0.200	μg/L	0.500		61.9	50-140			
Aroclor-1016 [2C]	0.298	0.200	μg/L	0.500		59.6	50-140			
Aroclor-1260	0.307	0.200	μg/L	0.500		61.3	8-140			
Aroclor-1260 [2C]	0.299	0.200	μg/L	0.500		59.7	8-140			
Surrogate: Decachlorobiphenyl	1.10		$\mu g/L$	2.00		54.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.19		$\mu g/L$	2.00		59.3	30-150			
Surrogate: Tetrachloro-m-xylene	0.959		μg/L	2.00		48.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.995		μg/L	2.00		49.7	30-150			
LCS Dup (B287930-BSD1)				Prepared: 08	3/11/21 Analy	zed: 08/12/	/21			
Aroclor-1016	0.359	0.200	$\mu \text{g/L}$	0.500		71.8	50-140	14.8		
Aroclor-1016 [2C]	0.352	0.200	$\mu \text{g/L}$	0.500		70.3	50-140	16.5		
Aroclor-1260	0.339	0.200	$\mu \text{g/L}$	0.500		67.8	8-140	10.1		
Aroclor-1260 [2C]	0.329	0.200	μg/L	0.500		65.7	8-140	9.55		
Surrogate: Decachlorobiphenyl	1.27		μg/L	2.00		63.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.40		$\mu g/L$	2.00		70.0	30-150			
Surrogate: Tetrachloro-m-xylene	1.12		$\mu g/L$	2.00		56.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.19		$\mu g/L$	2.00		59.4	30-150			
Matrix Spike (B287930-MS1)	Sou	rce: 21H0476-	01	Prepared: 08	3/11/21 Analy	zed: 08/12/	/21			
Aroclor-1016	0.212	0.100	μg/L	0.250	ND	84.9	50-140			
Aroclor-1016 [2C]	0.219	0.100	$\mu \text{g/L}$	0.250	ND	87.7	50-140			
Aroclor-1260	0.155	0.100	$\mu \text{g/L}$	0.250	ND	62.1	8-140			
Aroclor-1260 [2C]	0.155	0.100	$\mu \text{g/L}$	0.250	ND	61.9	8-140			
Surrogate: Decachlorobiphenyl	0.387		μg/L	1.00		38.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.408		μg/L	1.00		40.8	30-150			
Surrogate: Tetrachloro-m-xylene	0.649		$\mu g/L$	1.00		64.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.679		$\mu g/L$	1.00		67.9	30-150			



Surrogate: Tetrachloro-m-xylene [2C]

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287930 - SW-846 3510C										
Matrix Spike Dup (B287930-MSD1)	Source	ce: 21H0476-	01	Prepared: 08	3/11/21 Analy	zed: 08/12/	/21			
Aroclor-1016	0.222	0.100	μg/L	0.250	ND	88.6	50-140	4.31	36	
Aroclor-1016 [2C]	0.217	0.100	$\mu g\!/\!L$	0.250	ND	86.7	50-140	1.15	36	
Aroclor-1260	0.178	0.100	$\mu \text{g/L}$	0.250	ND	71.2	8-140	13.6	38	
Aroclor-1260 [2C]	0.176	0.100	$\mu \text{g}/L$	0.250	ND	70.4	8-140	12.9	38	
Surrogate: Decachlorobiphenyl	0.423		μg/L	1.00		42.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.445		$\mu g/L$	1.00		44.5	30-150			
Surrogate: Tetrachloro-m-xylene	0.691		$\mu g/L$	1.00		69.1	30-150			

 $\mu g/L$

1.00

30-150

72.7

0.727



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B287934 - EPA 200.7										
Blank (B287934-BLK1)				Prepared: 08	3/11/21 Analy	zed: 08/12/2	21			
Iron	ND	0.050	mg/L							
Hardness	ND	1.4	mg/L							
LCS (B287934-BS1)				Prepared: 08	3/11/21 Analy	zed: 08/12/2	21			
Iron	3.95	0.050	mg/L	4.00		98.8	85-115			
Hardness	28	1.4	mg/L	26.4		104	85-115			
LCS Dup (B287934-BSD1)				Prepared: 08	3/11/21 Analy	zed: 08/12/2	21			
Iron	4.04	0.050	mg/L	4.00		101	85-115	2.28	20	
Hardness	28	1.4	mg/L	26.4		105	85-115	1.11	20	
Duplicate (B287934-DUP1)	Sou	rce: 21H0476-	02	Prepared: 08	3/11/21 Analy	zed: 08/12/2	21			
Iron	1.84	0.050	mg/L		2.52			31.5	* 20	R-02
Matrix Spike (B287934-MS1)	Sou	rce: 21H0476-	02	Prepared: 08	3/11/21 Analy	zed: 08/12/2	21			
Iron	5.70	0.050	mg/L	4.00	2.52	79.5	70-130			
Batch B287935 - EPA 200.8										
Blank (B287935-BLK1)				Prepared: 08	3/11/21 Analy	zed: 08/17/2	21			
Antimony	ND	1.0	μg/L							
Arsenic	ND	0.80	$\mu g/L$							
Cadmium	ND	0.20	$\mu g/L$							
Chromium	ND	1.0	$\mu g/L$							
Copper	ND	1.0	$\mu g/L$							
Lead	ND	0.50	$\mu g/L$							
Nickel	ND	5.0	$\mu \text{g/L}$							
Selenium	ND	5.0	$\mu g/L$							
Silver	ND	0.20	$\mu \text{g/L}$							
Zinc	ND	10	μg/L							
LCS (B287935-BS1)				Prepared: 08	3/11/21 Analy	zed: 08/17/2	21			
Antimony	512	10	$\mu \text{g/L}$	500		102	85-115			
Arsenic	525	8.0	$\mu g\!/\!L$	500		105	85-115			
Cadmium	509	2.0	$\mu g\!/\!L$	500		102	85-115			
Chromium	518	10	$\mu g\!/\!L$	500		104	85-115			
Copper	1020	10	$\mu \text{g/L}$	1000		102	85-115			
Lead	513	5.0	$\mu g/L$	500		103	85-115			
Nickel	526	50	$\mu g/L$	500		105	85-115			
Selenium	498	50	$\mu g/L$	500		99.6	85-115			
Silver	475	2.0	$\mu \text{g/L}$	500		95.1	85-115			
Zinc	1010	100	μg/L	1000		101	85-115			



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287935 - EPA 200.8	Result	- Ellint	Cinto	Level	resuit	7 GREEC	Zimits	III D	Limit	110103
				Drangrad: 06	3/11/21 Analy	gad: 09/17/)1			
Antimony	504	10	μg/L	500	5/11/21 Allary	101	85-115	1.58	20	
Arsenic	525	8.0	μg/L	500		105	85-115	0.0966	20	
Cadmium	517	2.0	μg/L	500		103	85-115	1.41	20	
Chromium	525	10	μg/L	500		105	85-115	1.40	20	
Copper	1020	10	μg/L	1000		102	85-115	0.687	20	
Lead	515	5.0	μg/L	500		103	85-115	0.471	20	
Nickel	531	50	μg/L	500		106	85-115	0.939	20	
Selenium	498	50	μg/L	500		99.6	85-115	0.0392	20	
Silver	494	2.0	μg/L	500		98.7	85-115	3.75	20	
Zinc	1010	100	μg/L	1000		101	85-115	0.754	20	
Ouplicate (B287935-DUP1)	Sou	rce: 21H0476-	02	Prepared: 08	3/11/21 Analy	zed: 08/17/2	21			
Antimony	ND	1.0	μg/L		ND			NC	20	
Arsenic	23.3	0.80	μg/L		22.6			3.06	20	
Cadmium	ND	0.20	$\mu g/L$		ND			NC	20	
Chromium	9.93	1.0	$\mu \text{g/L}$		11.9			18.5	20	
Copper	53.8	1.0	$\mu g/L$		62.8			15.6	20	
Lead	194	5.0	$\mu g/L$		193			0.139	20	
Nickel	10.9	5.0	$\mu g/L$		11.7			6.93	20	
Selenium	65.7	5.0	$\mu g/L$		62.7			4.72	20	
Silver	ND	0.20	$\mu g/L$		ND			NC	20	
Zinc	41.5	10	$\mu \text{g}/L$		43.7			5.24	20	
Matrix Spike (B287935-MS1)	Sou	rce: 21H0476-	-02	Prepared: 08	3/11/21 Analy	zed: 08/17/2	21			
Antimony	660	10	μg/L	500	ND	132 *	70-130			MS-14
Arsenic	547	8.0	$\mu g/L$	500	22.6	105	70-130			
Cadmium	491	2.0	$\mu g/L$	500	ND	98.2	70-130			
Chromium	544	10	$\mu g/L$	500	11.9	106	70-130			
Copper	999	10	μg/L	1000	62.8	93.6	70-130			
Lead	709	5.0	μg/L	500	193	103	70-130			
Nickel	515	50	μg/L	500	11.7	101	70-130			
Selenium	541	50	μg/L	500	62.7	95.6	70-130			
Silver	477	2.0	μg/L	500	ND	95.3	70-130			
Zinc	976	100	$\mu g/L$	1000	43.7	93.2	70-130			
Batch B288164 - EPA 245.1										
Blank (B288164-BLK1)				Prepared: 08	3/13/21 Analy	zed: 08/16/2	21		<u> </u>	
Mercury	ND	0.00010	mg/L							
LCS (B288164-BS1)				Prepared: 08	3/13/21 Analy	zed: 08/16/2	21			
Mercury	0.00402	0.00010	mg/L	0.00400		101	85-115			



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Ratch	R288164	- FPA	245 1

LCS Dup (B288164-BSD1)				Prepared: 08/13/21	Analyzed: 08/16/2	1		
Mercury	0.00403	0.00010	mg/L	0.00400	101	85-115	0.238	20



QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287910 - SM21-23 4500 CL G										
Blank (B287910-BLK1)				Prepared &	Analyzed: 08	/10/21				
Chlorine, Residual	ND	0.020	mg/L							
LCS (B287910-BS1)				Prepared &	Analyzed: 08	/10/21				
Chlorine, Residual	0.71	0.020	mg/L	0.663		108	80.3-122			
LCS Dup (B287910-BSD1)				Prepared &	Analyzed: 08	/10/21				
Chlorine, Residual	0.72	0.020	mg/L	0.663		109	80.3-122	1.05	10.7	
Duplicate (B287910-DUP1)	Sou	rce: 21H0476-	01	Prepared &	Analyzed: 08	/10/21				
Chlorine, Residual	0.36	0.20	mg/L		0.47	7		27.2	27.6	
MRL Check (B287910-MRL1)				Prepared &	Analyzed: 08	/10/21				
Chlorine, Residual	0.0170	0.020	mg/L	0.0200	-	85.2	0-200			
MRL Check (B287910-MRL2)				Prepared &	Analyzed: 08	/10/21				
Chlorine, Residual	0.0170	0.020	mg/L	0.0200	-	85.2	0-200			
Matrix Spike (B287910-MS1)	Sou	rce: 21H0476-	01	Prepared & Analyzed: 08/10/21						
Chlorine, Residual	2.9	0.20	mg/L	3.00	0.47	7 80.5	10-169			
Batch B287914 - SM21-23 3500 Cr B										
Blank (B287914-BLK1)				Prepared & A	Analyzed: 08	/10/21				
Hexavalent Chromium	ND	0.0040	mg/L	-						
LCS (B287914-BS1)				Prepared &	Analyzed: 08	/10/21				
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		102	90-114			
LCS Dup (B287914-BSD1)				Prepared &	Analyzed: 08	/10/21				
Hexavalent Chromium	0.10	0.0040	mg/L	0.100	-	102	90-114	0.00	5	
Matrix Spike (B287914-MS1)	Sou	rce: 21H0476-	02	Prepared &	Analyzed: 08	/10/21				
Hexavalent Chromium	0.097	0.0040	mg/L	0.100	NE	97.0	60.5-130			
Matrix Spike Dup (B287914-MSD1)	Sou	rce: 21H0476-	02	Prepared &	Analyzed: 08	/10/21				
Hexavalent Chromium	0.098	0.0040	mg/L	0.100	NE	98.3	60.5-130	1.29	7.53	
Batch B287927 - SM21-23 2540D										
Blank (B287927-BLK1)				Prepared &	Analyzed: 08	/11/21				
Total Suspended Solids	ND	2.5	mg/L	-	-					



QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B287927 - SM21-23 2540D										
LCS (B287927-BS1)				Prepared &	Analyzed: 08	/11/21				
Total Suspended Solids	172	10	mg/L	200		86.0	53.8-124			
Batch B287953 - EPA 300.0										
Blank (B287953-BLK1)				Prepared &	Analyzed: 08	/11/21				
Chloride	ND	1.0	mg/L							
LCS (B287953-BS1)				Prepared &	Analyzed: 08	/11/21				
Chloride	10	1.0	mg/L	10.0		104	90-110			
LCS Dup (B287953-BSD1)				Prepared &	Analyzed: 08	/11/21				
Chloride	10	1.0	mg/L	10.0		104	90-110	0.00965	20	
Batch B288127 - EPA 1664B										
Blank (B288127-BLK1)				Prepared &	Analyzed: 08	/13/21				
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
LCS (B288127-BS1)				Prepared &	Analyzed: 08	/13/21				
Silica Gel Treated HEM (SGT-HEM)	10		mg/L	10.0		102	64-132			
MRL Check (B288127-MRL1)				Prepared &	Analyzed: 08	/13/21				
Silica Gel Treated HEM (SGT-HEM)	1.20	1.4	mg/L	1.40		85.7	0-200			
Batch B288144 - SM19-23 4500 NH3 C										
Blank (B288144-BLK1)				Prepared: 08	/13/21 Anal	yzed: 08/14/	21			
Ammonia as N	ND	0.30	mg/L							
LCS (B288144-BS1)				Prepared: 08	/13/21 Anal	yzed: 08/14/	21			
Ammonia as N	4.6	0.30	mg/L	5.00		92.4	86.2-110			
LCS Dup (B288144-BSD1)				Prepared: 08	/13/21 Anal	yzed: 08/14/	21			
Ammonia as N	4.8	0.30	mg/L	5.00		95.2	86.2-110	2.99	10	



QUALITY CONTROL

Drinking Water Organics EPA 504.1 - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B288083 - EPA 504 water										
Blank (B288083-BLK1)				Prepared &	Analyzed: 08	/12/21				
1,2-Dibromoethane (EDB)	ND	0.021	μg/L							
Surrogate: 1,3-Dibromopropane	1.20		μg/L	1.04		116	70-130			
LCS (B288083-BS1)				Prepared &	Analyzed: 08	/12/21				
1,2-Dibromoethane (EDB)	0.269	0.021	μg/L	0.259		104	70-130			
Surrogate: 1,3-Dibromopropane	1.19		μg/L	1.04		115	70-130			
LCS Dup (B288083-BSD1)				Prepared &	Analyzed: 08	/12/21				
1,2-Dibromoethane (EDB)	0.270	0.021	μg/L	0.260		104	70-130	0.356		
Surrogate: 1,3-Dibromopropane	1.13		μg/L	1.04		109	70-130			
Matrix Spike (B288083-MS1)	Sou	rce: 21H0476	-01	Prepared &	Analyzed: 08	/12/21				
1,2-Dibromoethane (EDB)	0.244	0.019	μg/L	0.237	NE	103	65-135			
Surrogate: 1,3-Dibromopropane	1.05		μg/L	0.947		111	70-130			



FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
MS-14	Matrix spike recovery is outside of control limits. Data validation is not affected since sample result is "not detected" and recovery bias is on the high side for this compound.
R-02	Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
S-26	Surrogate outside of control limits.



CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications	
- in Water		
Cyanide	CT,MA,NH,NY,RI,NC,ME,VA	
608.3 in Water	CI, MA, MI, MI, MC, ME, VA	
Aroclor-1016	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1016 [2C]	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1221	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1221 [2C]	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1232	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1232 [2C]	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1242	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1242 [2C]	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1248	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1248 [2C]	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1254	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1254 [2C]	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1260	CT,MA,NH,NY,RI,NC,ME,VA	
Aroclor-1260 [2C]	CT,MA,NH,NY,RI,NC,ME,VA	
624.1 in Water		
Acetone	CT,NY,MA,NH	
tert-Amyl Methyl Ether (TAME)	MA	
Benzene	CT,NY,MA,NH,RI,NC,ME,VA	
Bromodichloromethane	CT,NY,MA,NH,RI,NC,ME,VA	
Bromoform	CT,NY,MA,NH,RI,NC,ME,VA	
Bromomethane	CT,NY,MA,NH,RI,NC,ME,VA	
tert-Butyl Alcohol (TBA)	NY,MA	
Carbon Tetrachloride	CT,NY,MA,NH,RI,NC,ME,VA	
Chlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA	
Chlorodibromomethane	CT,NY,MA,NH,RI,NC,ME,VA	
Chloroethane	CT,NY,MA,NH,RI,NC,ME,VA	
Chloroform	CT,NY,MA,NH,RI,NC,ME,VA	
Chloromethane	CT,NY,MA,NH,RI,NC,ME,VA	
1,2-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA	
1,3-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA	
1,4-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA	
1,2-Dichloroethane	CT,NY,MA,NH,RI,NC,ME,VA	
cis-1,2-Dichloroethylene	NY,MA	
1,1-Dichloroethane	CT,NY,MA,NH,RI,NC,ME,VA	
1,1-Dichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA	
trans-1,2-Dichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA	
1,2-Dichloropropane	CT,NY,MA,NH,RI,NC,ME,VA	
cis-1,3-Dichloropropene	CT,NY,MA,NH,RI,NC,ME,VA	
1,4-Dioxane	MA	
trans-1,3-Dichloropropene	CT,NY,MA,NH,RI,NC,ME,VA	
Ethanol	NY,MA,NH	
Ethylbenzene	CT,NY,MA,NH,RI,NC,ME,VA	
Methyl tert-Butyl Ether (MTBE)	NY,MA,NH,NC	
Methylene Chloride	CT,NY,MA,NH,RI,NC,ME,VA	
caryione emoride	O 13th 13th 13th 12th 12th 14th 14th 14th 14th 14th 14th 14th 14	



CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
624.1 in Water	
Naphthalene	NY,MA,NC
1,1,2,2-Tetrachloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Tetrachloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
Toluene	CT,NY,MA,NH,RI,NC,ME,VA
1,1,1-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,1,2-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Trichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
Trichlorofluoromethane (Freon 11)	CT,NY,MA,NH,RI,NC,ME,VA
Vinyl Chloride	CT,NY,MA,NH,RI,NC,ME,VA
m+p Xylene	CT,NY,MA,NH,RI,NC
o-Xylene	CT,NY,MA,NH,RI,NC
625.1 in Water	
Acenaphthene	CT,MA,NH,NY,NC,RI,ME,VA
Acenaphthylene	CT,MA,NH,NY,NC,RI,ME,VA
Anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(g,h,i)perylene	CT,MA,NH,NY,NC,RI,ME,VA
Butylbenzylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4-Chloro-3-methylphenol	CT,MA,NH,NY,NC,RI,VA
2-Chlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-butylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,3-Dichlorobenzene	MA,NC
1,4-Dichlorobenzene	MA,NC
1,2-Dichlorobenzene	MA,NC
2,4-Dichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Diethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dimethylphenol	CT,MA,NH,NY,NC,RI,ME,VA
Dimethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4,6-Dinitro-2-methylphenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-octylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-Ethylhexyl)phthalate	CT,MA,NH,NY,NC,RI,ME,VA
Fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
Fluorene	CT,MA,NH,NY,NC,RI,ME,VA
Naphthalene	CT,MA,NH,NY,NC,RI,ME,VA
2-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
Pentachlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Phenanthrene	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylphenol	NY,NC
Phenol	CT,MA,NH,NY,NC,RI,ME,VA
3/4-Methylphenol	NY,NC
Pyrene	CT,MA,NH,NY,NC,RI,ME,VA
2,4,6-Trichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC
2-Fluorophenol	NC,VA
Phenol-d6	VA



CERTIFICATIONS

Certifications

Certified Analyses included in this Report

Analyte

625.1 in Water	
Nitrobenzene-d5	VA
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Hardness	CT,MA,NH,NY,RI,VA
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
EPA 300.0 in Water	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
SM19-23 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM21-23 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
SM21-23 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC
SM21-23 4500 CL G in Water	
Chlorine, Residual	CT,MA,RI,ME



Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publile Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

OLHOHIE

Phone: 413-525-2332

http://www.contestiabs.com CHAIN OF CUSTODY RECORD

Doc # 381 Rev 1_03242017

' Matrix Codes: GW = Ground Water WW = Waste Water DW = Drinking Water Preservation Codes: = Sodium Hydroxide 8 = Sodium Bisulfate Container Codes age_1__of__1_ 0 = Other (please 0 = Other (please = Sulfuric Acid ² Preservation Code N = Nitric Acid O Field Filtered O Field Filtered H = HCL M = Methanol O Lab to Filter Lab to Filter 3 Container Code A = Air S = Soil SL = Sludge = Sodium **Thiosulfate** SOL = Solid # of Containers define) = iced define) 0 Please use the following codes to indicate possible sample concentration within the Conc Code IV muimondD × × Salinity × × guquesa × EDB H - High; M - Medium; L - Low; C - Clean; U - Unknown SSI 39 Spruce Street East Longmeadow, MA 01028 ⋖ HdT ⋖ × bCB.2 ANAL YSIS REQUESTED ⋖ s'ooV-imeô column above: Cyanide ۵ × Cu, Fe, Pb, Hg, Ni, Se, Ag, Zn) ۵. Total Metals (Sb, As, Cd, Cr III, α Chloride ğğ \supset clombardo@irt-llc.net kgravelle@irt-lic.net *Matrix Code Rush Approval Required <u>₹</u> ₹ 5-day 10-Day View Pollvery 4-Day EXCEL 3-Day Grab CLP Like Data Pkg Required: Composite PDF 🖸 PHRW 6.963225°C Email To: Ending Date/Time Due Date: Format: 7-Day Other: 1-Day 2-Day ÿ ×0 0800 Beginning Date/Time يراه لا يالات Samples are for NPDES RGP Parameters. Lockwood Remediation Technologies 58 Hampden Street, Boston, MA Email: info@contestlabs.com Client Sample ID / Description Kim Gravelle Address: 89 Crawford Street, Leominster, MA 01453 2-2246 Fax: 413-525-6405 Receiving Water Influent PH 10: 7.3 (22,100 Project Name: St. Hampdan Street Con-Test Quote Name/Number: 4 CON-LEST Phone: (774) 450-717 Work Orders Con-Test nvoice Recipient: Project Location: company Name Project Number: Project Manager: Sampled By: Comments:

Table of Contents S = Summa Canister T = Tedlar Bag O = Other (please Von Soxhlet A = Amber Glass PCB ONLY Soxhlet G = Glass P = Plastic ST = Sterile V = Vial define) Chromatogram AIHA-LAP,LLC CODEKES! Other WRTA RCP Certification Form Required MA MCP Required MCP Certification Form Required CT RCP Required MWRA School MA State DW Required MBTA Special Requirements Municipality Brownfield # QISMd Government | | Federal | | | | | | | Project Entity 146 of 1888 Date/Time: Date/Time: (signature) Relinguished by: (signature ved by: (signature) Page 39 of 40

I Have Not Confirmed Sample Container
Numbers With Lab Staff Before Relinquishing
Over Samples_____

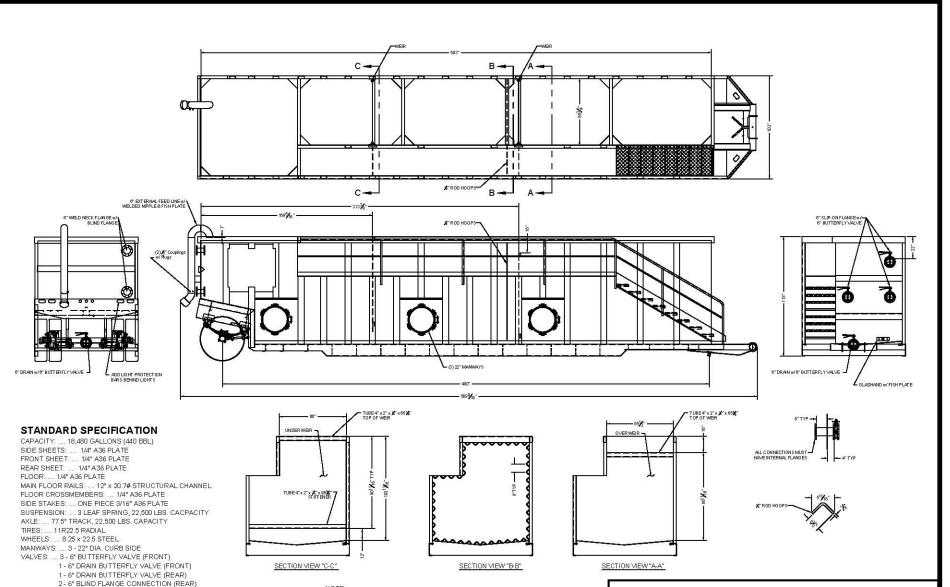


Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (l	Rejection Criteria Listing - Using Acceptance Policy) Any False
Statement will be broug	ht to the attention of the Client - State True or False

	od By			Date	211	5/21	Time	1-1110	
Receiv	=			· · · · -	OHL	<u> 121 - </u>	- 111110	1740	
How were th		In Cooler		No Cooler_		[*] On Ice		No Ice	
receiv	/eu :	Direct from Samp	oling	- eth		Ambient		Melted Ice	
Were samp	oles within		By Gun#	<u> </u>	,	Actual Tem	p- 4.1		
Temperatu		T	By Blank #		,	Actual Tem	p -		
•	Custody S	eal Intact?	MA	Wer	e Samples			NA	
Was	COC Relin	quished?		Does	Chain Agre	ee With Sa	mples?	T	
Are the	re broken/l	eaking/loose caps	on any sam		F				
Is COC in in	•		.,,,,,,,,,		ples receiv		olding time?	t	
Did COC ir		Client		Analysis		•	er Name		
pertinent Inf		Project		ID's _		Collection	Dates/Times		
•		d out and legible?							
Are there La		?		i	Who was				
	Are there Rushes?					notified?		-	
Are there Sh		-		,	Who was	notified?	Cassic		
Is there enou	•				*******	-			
	•	ere applicable?	<u></u>	•	MS/MSD?		- tanadO	F	
Proper Media					s splitting s	amples rec	quirea?		
Were trip bla			<u> </u>	•	On COC?_		Pasa		
Do all sample	es nave trie			Acid _	<u> </u>		Base		
Vials	#	Containers:	#			#	4.0	- ,	#
Unp-		1 Liter Amb.	6	1 Liter F		ł	16 oz		<u> </u>
HCL-	3	500 mL Amb.		500 mL			8oz Am	b/Clear	
		OFO mal Amb	1	250 ml	misself 1		! 407 Am	h/Cloor	
Meoh-		250 mL Amb.		250 mL			<u> </u>	b/Clear	
Meoh- Bisulfate-		Flashpoint		Col./Ba	cteria		2oz Am	b/Clear	
Meoh- Bisulfate- DI-	-	Flashpoint Other Glass		Col./Ba Other F	cteria Plastic		2oz Am Enc	b/Clear	
Meoh- Bisulfate- DI- Thiosulfate-	3	Flashpoint Other Glass SOC Kit		Col./Ba Other F Plastic	cteria Plastic Bag		2oz Am	b/Clear	
Meoh- Bisulfate- DI-	3	Flashpoint Other Glass		Col./Ba Other F Plastic Ziplo	cteria Plastic Bag ock	_12	2oz Am Enc	b/Clear	
Meoh- Bisulfate- DI- Thiosulfate- Sulfuric-	3	Flashpoint Other Glass SOC Kit Perchlorate		Col./Ba Other F Plastic	cteria Plastic Bag ock		2oz Am Enc	b/Clear	
Meoh- Bisulfate- DI- Thiosulfate- Sulfuric- Vials	3	Flashpoint Other Glass SOC Kit Perchlorate Containers:	#	Col./Ba Other F Plastic Ziplo Unused N	cteria Plastic Bag ock	#	2oz Am Enc Frozen:	b/Clear core	· ·
Meoh- Bisulfate- DI- Thiosulfate- Sulfuric- Vials Unp-	3	Flashpoint Other Glass SOC Kit Perchlorate Containers: 1 Liter Amb.	#	Col./Ba Other F Plastic Ziplo Unused N	cteria Plastic Bag ock ledia Plastic		2oz Am Enc Frozen:	b/Clear core	#
Meoh- Bisulfate- DI- Thiosulfate- Sulfuric- Vials Unp- HCL-	*	Flashpoint Other Glass SOC Kit Perchlorate Containers: 1 Liter Amb. 500 mL Amb.	#	Col./Ba Other F Plastic Ziplo Unused N	cteria Plastic Bag ock ledia Plastic Plastic		2oz Am Enc Frozen:	Amb. b/Clear	*
Meoh- Bisulfate- DI- Thiosulfate- Sulfuric- Vials Unp-	3	Flashpoint Other Glass SOC Kit Perchlorate Containers: 1 Liter Amb.	#	Col./Ba Other F Plastic Ziple Unused N 1 Liter F 500 mL	Plastic Plastic Plastic Plastic Plastic Plastic Plastic Plastic		2oz Am Enc Frozen: 16 oz 8oz Am	Amb. b/Clear b/Clear	#
Meoh- Bisulfate- DI- Thiosulfate- Sulfuric- Vials Unp- HCL- Meoh-	3	Flashpoint Other Glass SOC Kit Perchlorate Containers: 1 Liter Amb. 500 mL Amb. 250 mL Amb.	#	Col./Ba Other F Plastic Ziple Unused N 1 Liter F 500 mL 250 mL	Plastic Plastic Plastic Plastic Plastic Plastic Plastic Point		2oz Am Enc Frozen: 16 oz 8oz Am 4oz Am	Amb. b/Clear b/Clear b/Clear	#
Meoh- Bisulfate- DI- Thiosulfate- Sulfuric- Vials Unp- HCL- Meoh- Bisulfate- DI- Thiosulfate-	*	Flashpoint Other Glass SOC Kit Perchlorate Containers: 1 Liter Amb. 500 mL Amb. 250 mL Amb. Col./Bacteria Other Plastic SOC Kit	*	Col./Ba Other F Plastic Ziplo Unused N 1 Liter F 500 mL 250 mL Flash Other G Plastic	Plastic Slass Bag		2oz Am Enc Frozen: 16 oz 8oz Am 4oz Am 2oz Am	Amb. b/Clear b/Clear b/Clear	*
Meoh-Bisulfate-DI-Thiosulfate-Sulfuric-Vials Unp-HCL-Meoh-Bisulfate-DI-	3	Flashpoint Other Glass SOC Kit Perchlorate Containers: 1 Liter Amb. 500 mL Amb. 250 mL Amb. Col./Bacteria Other Plastic	#	Col./Ba Other F Plastic Ziplo Unused N 1 Liter F 500 mL 250 mL Flash	Plastic Slass Bag		20z Am Enc Frozen: 16 oz 80z Am 40z Am 20z Am	Amb. b/Clear b/Clear b/Clear	4





NOTE: This drawing is a representation baseline for this model of tank. Variations between this drawing and the actual equipment do exist, primarily with appurtenance locations, sizes and quantities.

INLET PIPING: 1 - 6" PIPE SYSTEM (REAR)

18,000 gal. Weir Tank



Lockwood Remediation Technologies, LLC

89 Crawford Street Leominster, Massachusetts 01453 O: 774-450-7177 F: 888-835-0617



The Pulsatron Series HV designed for high viscosity applications for precise and accurate metering control. The Series HV offers manual control over stroke length and stroke rate as standard with the option to choose between 4-20mA and external pace inputs for automatic control.

Five distinct models are available, having pressure capabilities to 150 PSIG (10 BAR) @ 12 GPD (1.9 lph), and flow capacities to 240 GPD (37.9 lph) @ 80 PSIG (5.6 BAR), with a turndown ratio of 100:1. Metering performance is reproducible to within ± 2% of maximum capacity.

Features

- Automatic Control, available with 4-20mADC direct or external pacing, with stop function.
- Manual Control by on-line adjustable stroke rate and stroke length.
- Auto-Off-Manual switch.
- · Highly Reliable timing circuit.
- Circuit Protection against voltage and current upsets.
- Panel Mounted Fuse.
- Solenoid Protection by thermal overload with autoreset.
- Water Resistant, for outdoor and indoor applications.
- Indicator Lights, panel mounted.
- Guided Ball Check Valve Systems, to reduce back flow and enhance outstanding priming characteristics.
- Viscosities to 20,000 CPS.

Controls



Manual Stroke Rate

Turn-Down Ratio 10:1

Manual Stroke Length

Turn-Down Ratio 10:1

4-20mA or 20-4mA Input

Automatic Control

Operating Benefits

- Reliable metering performance.
- Rated "hot" for continuous duty.
- High viscosity capability.
- Leak-free, sealless, liquid end.



Aftermarket

- KOPkits
- Gauges
- Dampeners
- Pressure Relief Valves
- Tanks
- Pre-Engineered Systems
 - Process Controllers
 (PULSAblue, MicroVision)











Series HV

Specifications and Model Selection

MODEL		LVB3	LVF4	LVG4	LVG5	LVH7
Capacity	GPH	0.50	1.00	2.00	4.00	10.00
nominal	GPD	12	24	48	96	240
(max.)	LPH	1.9	3.8	7.6	15.1	37.9
Pressure	PSIG	150	150	110	110	80
(max.)	BAR	10	10	7	7	5.6
Connections:	Tubing	(S) .50" I.D. X .75" O.D38" I.D. X .50" OD (LVB3 & F4 only) (S & D) .50" I.D. X .75" O.D. (LVG4.G5 & H7 only)				



Engineering Data

Pump Head Materials Available: GFPPL

PVC PVDF 316 SS

Diaphragm: PTFE-faced CSPE-backed

Check Valves Materials Available:

Seats/O-Rings: PTFE

CSPE Viton

Balls: Ceramic

PTFE 316 SS Alloy C GFPPL

Fittings Materials Available: GFF

PVC PVDF

Bleed Valve: Same as fitting and check valve

selected, except 316SS

Injection Valve & Foot Valve Assy: Same as fitting and check valve

selected

Tubing: Clear PVC White PE

AALIITE EE

Important: Material Code - GFPPL=Glass-filled Polypropylene, PVC=Polywinyl Chloride, PE=Polyethylene, PVDF=Polywinylidene Fluoride, CSPE=Generic formulation of Hypalon, a registered trademark of E.I. DuPont Company. Viton is a registered trademark of E.I. DuPont Company. PVC wetted end recommended for sodium hypochlorite.

Engineering Data

Reproducibility: +/- 2% at maximum capacity

Viscosity Max CPS: 20,000 CPS

Stroke Frequency Max SPM: 125
Stroke Frequency Turn-Down Ratio: 10:1
Stroke Length Turn-Down Ratio: 10:1

Power Input: 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph

Average Current Draw:

@ 115 VAC; Amps: 1.0 Amps

@ 230 VAC; Amps: 0.5 Amps @ 230 VAC

Peak Input Power: 300 Watts Average Input Power @ Max SPM: 130 Watts

Custom Engineered Designs – Pre-Engineered Systems



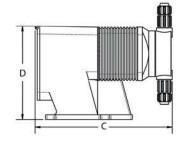
Pre-Engineered Systems

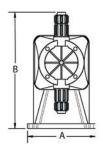
Pulsafeeder's Pre-Engineered Systems are designed to provide complete chemical feed solutions for all electronic metering applications. From stand alone simplex pH control applications to full-featured, redundant sodium hypochlorite disinfection metering, these rugged fabricated assemblies offer turn-key simplicity and industrial-grade durability. The UV-stabilized, high-grade HDPE frame offers maximum chemical compatibility and structural rigidity. Each system is factory assembled and hydrostatically tested prior to shipment.

Dimensions

Series HV Dimensions (inches)					
Model No.	Α	В	С	D	Shipping Weight
LVB3	5.4	9.3	9.5	7.5	13
LVF4	5.4	10.8	10.8	7.5	18
LVG4	5.4	9.5	10.6	7.5	18
LVG5	5.4	10.8	10.8	7.5	18
LVH7	6.1	11.5	11	8.2	25

NOTE: Inches X 2.54 = cm

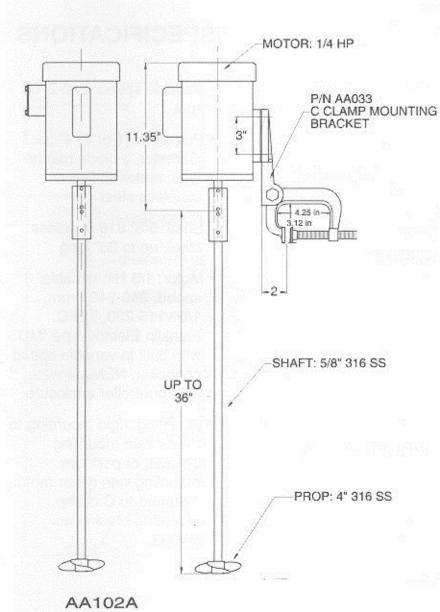








MIXER MODEL NO. AA102A



SPECIFICATIONS

- Speed: 1,725 rpm
- Propeller: (1 or 2)
 4" diameter, 3 blade marine type, material: 316 stainless steel
- Shaft: 5/8" 316 stainless steel, up to 36" long
- Motor: 1/4 HP, 1,725 rpm, 1/60/115-230, capacitor start, or 3/60/230-460, TEFC
- Mounting: rigid mounting to fixed mixer mounting bracket, or portable mounting with mixer motor mounted to C clamp mounting bracket no. AA033.



SAFETY DATA SHEET

Revision date 2018-06-11 Revision number 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name Redux E50

Other means of identification

Product code

Synonyms Water And Wastewater Treatment Coagulant/Flocculant

Recommended use of the chemical and restrictions on use

Recommended use [RU] No information available Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Lockwood Remediation Technologies, LLC

89 Crawford Street

Leominster, Massachusetts 01453

Tel: (774) 450-7177

Hours: Monday-Friday 9:00-5:00 EST

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: (800) 424-9300

Outside USA - +1 (703) 527-3887 collect calls accepted

Contact Point info@reduxtech.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Corrosive to metals	Category 1

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Physical state	Color	Appearance	Odor
liquid	colorless to yellow	clear	no appreciable odor



WARNING

Hazard statements

Causes skin irritation Causes serious eye irritation May be corrosive to metals

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling Wear protective gloves/protective clothing/eye protection/face protection Keep only in original container

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention IF ON SKIN: Wash with plenty of soap and water If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store in corrosive resistant container with a resistant inner liner

Other information

• May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	weight-%	TRADE SECRET	
Trade Secret Ingredient	PROPRIETARY	45 - 55%	*	

^{*}The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

Page 2/11

First Aid Measures

Eye contact

Immediately flush with plenty of water for at least 20 minutes, holding eyelids apart to ensure flushing of the entire surface. Washing within one minute is essential to achieve maximum effectiveness. Seek immediate medical attention.

Skin contact

Immediately wash thoroughly with soap and water, remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention if irritation should develop.

Ingestion

Seek medical attention immediately. Give large amounts of water to drink. If vomiting should occur spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

Inhalation

Remove to fresh air.

Most important symptoms and effects, both acute and delayed

Acute effects

Possible eye, skin and respiratory tract irritation.

Chronic effects

May aggravate existing skin, eye, and lung conditions. Persons with kidney disorders have an increased risk from exposure based on general information found on aluminum salts.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents. Note: Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Water Spray, Carbon Dioxide, Foam, Dry Chemical.

Extinguishing media which must not be used for safety reasons

No information available

Special hazards arising from the substance or mixture

Special Hazard

May produce hazardous fumes or hazardous decomposition products.

Advice for firefighters

Firefighting measures

Product is a water solution and nonflammable. In a fire, this product may build up pressure and rupture a sealed container; cool exposed containers with water spray. Use self-contained breathing apparatus in confined areas; avoid breathing mist or spray.

Special protective equipment for firefighters

Not determined

Explosion data

Sensitivity to Mechanical Impact

None.

Sensitivity to Static Discharge

None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear suitable protective clothing and gloves.

Environmental precautions

Environmental precautions

Do not permit run-off to get into sewers or surface waterways.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

Methods for cleaning up

Clear spills immediately. Contain large spill and remove using a vacuum truck. Soak up small spills with inert absorbent material and place in a labeled waste container for disposal. Ventilate area of leak or spill. Spills of solution are extremely slippery so all residue must be removed promptly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Keep container closed when not in use

Keep away from heat and open flame.

Avoid contact with eyes, skin and clothing

Wash thoroughly after handling

Wear chemical splash goggles, gloves, and protective clothing when handling.

Avoid breathing vapor or mist

Use with adequate ventilation and employ respiratory protection where mist or spray may be generated.

FOR INDUSTRIAL USE ONLY.

Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Do not store in unlined metal containers.

Product may slowly corrode iron, brass, copper, aluminum, mild steel, and stainless steel.

Store in a cool, dry place away from direct heat.

Keep in tightly closed container.

Incompatible products

Oxidizing agents.

A EVENOUEDE CONTROL CORROCALAL PROTECTION

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls

Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.

Individual protection measures, such as personal protective equipment

Eye/face Protection

Wear chemical splash goggles and face shield (when eye and face contact is possible due to splashing or spraying of material).

Hand Protection

Appropriate chemical resistant gloves should be worn.

Skin and body protection

Standard work clothing and work shoes.

Respiratory protection

If exposures exceed the PEL or TLV, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134.

Other personal protection data

Eyewash fountains and safety showers must be easily accessible.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid

Color colorless to yellow

Appearance clear

Odor no appreciable odor
Odor threshold No information available

<u>Property</u>	<u>Values</u>	Remarks / Method
рН	3.5	as is
Melting / freezing point	-7 °C / 19 °F	No information available
Boiling point / boiling range	No information available	No information available
Flash point	Not applicable	No information available
Evaporation rate	No information available	No information available

No information available

Flammability Limit in Air

Flammability (solid, gas)

Upper flammability limitNot applicableNo information availableLower flammability limitNot applicableNo information available

Vapor pressure No information available No information available

Not applicable

Vapor density No information available No information available

Specific gravity 1.33 - 1.35 No information available

Solubility (water) Soluble No information available

Solubility in other solvents No information available No information available

Partition coefficient: n-octanol/water No information available No information available

Autoignition temperature Not applicable No information available

Decomposition temperatureNo information available
No information available

Kinematic viscosity

No information available

No information available

Dynamic viscosity < 100 cps @ 20 °C No information available

Other information

Density	11.0 - 11.3 lb/gal
Bulk Density	No information available
Explosive properties	No information available.
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
Volatile organic compounds (VOCs) content	No information available
Percent Volatile, wt.%	40 - 50%

10. STABILITY AND REACTIVITY

Reactivity

Reactivity

No data available.

Chemical stability

Chemical stability

Stable.

Possibility of hazardous reactions

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

No.

Conditions to avoid

Conditions to avoid

None

Incompatible materials

Materials to avoid

Oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products

Thermal decomposition may release toxic and/or hazardous gases such as Cl2 and HCl.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact

May cause moderate eye irritation that can become severe with prolonged contact. Prolonged exposure to Aluminum salts may cause conjunctivitis.

Skin contact

May be harmful in contact with skin. Prolonged and/or repeated contact may cause skin irritation.

Ingestion

May cause irritation of the mouth, throat and stomach. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Inhalation

Inhalation of mist or vapor may cause respiratory tract irritation.

Acute toxicity - Product Information

Oral LD50 No information available

Dermal LD50 No information available

Inhalation LC50 No information available

Acute toxicity - Component Information

Component	weight-%	ht-% Oral LD50 Dermal		Inhalation LC50
Trade Secret Ingredient	45 - 55%	= 9187 mg/kg (Rat)	> 2000 mg/kg (Rat)	

Information on toxicological effects

Symptoms

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Irritating to skin

Serious eye damage/eye irritation

Causes serious eye irritation

Sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

This product does not contain any components in concentrations greater than or equal to 0.1% that are listed as known or suspected carcinogens by NTP, IARC, ACGIH, or OSHA.

Reproductive toxicity

No information available

Specific target organ toxicity - Single exposure

No information available.

Specific target organ toxicity - Repeated exposure

No information available

Aspiration hazard

No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 18374 mg/kg ATEmix (dermal) 4004 mg/kg

Other information

Conclusions are drawn from sources other than direct testing.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity - Product Information

Fish LC 50 (96 hour, static) 776.4 mg/L Pimephales promelas (Fathead Minnow) 1

EC 50 (96 hour, static) 265.5 mg/L Pimephales promelas (Fathead Minnow) 1

Crustacea LC 50 (48 hour, static) 803.8 mg/L Ceriodaphnia dubia (Water Flea) 1

NOEC (7 day chronic, static) 200 mg/L Ceriodaphnia dubia (Water Flea) ¹

Algae/aquatic plants No information available

Acute aquatic toxicity - Component Information

Component	weight-%	Algae/aquatic plants	Fish	Toxicity to daphnia and other aquatic invertebrates
Trade Secret Ingredient	45 - 55%		LC50 (96 h static) 100 - 500 mg/L	
			(Brachydanio rerio)	

Persistence and degradability

Persistence and degradability

No information available

Bioaccumulative potential

Bioaccumulative potential

No information available.

Mobility

Mobility

No information available

Results of PBT and vPvB assessment

PBT and vPvB assessment

No information available

Other adverse effects

Other information

¹ Generated from tests conducted by ECT-Superior Laboratories May 2010

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Do NOT mix with other chemical wastes. Do not put solutions containing this product into sewer systems. Dispose of product in an approved chemical waste landfill or incinerate in accordance with applicable Federal, state and local regulations. Do not re-use empty containers.

Contaminated packaging

Since empty containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

DOT NOT REGULATED FOR TRANSPORTATION

This product is excepted from DOT regulations under 49 CFR 173.154(d) when shipped by road or railway. The product exception is referenced in 49 CFR 172.101 Table. Packaging

material must not be aluminum, steel or be degraded by this product

<u>ICAO/IATA</u> Regulated

UN number UN3264

Proper shipping name Corrosive Liquid, Acidic, Inorganic, N.O.S. (Polyaluminum Chloride Solution)

Hazard class8Packing groupIIIERG Code8L

<u>IMDG</u> Regulated

UN number UN3264

Proper shipping name Corrosive Liquid, Acidic, Inorganic, N.O.S. (Polyaluminum Chloride Solution)

Hazard class 8
Packing group III
EmS F-A, S-B

Harmonized Tariff Number 2827.32

15. REGULATORY INFORMATION

International Inventories

TSCA (United States)

All ingredients are on the inventory or exempt from listing

Australia (AICS)

All ingredients are on the inventory or exempt from listing

Canada (DSL)

All ingredients are on the inventory or exempt from listing

Canada (NDSL)

None of the ingredients are on the inventory.

China (IECSC)

All ingredients are on the inventory or exempt from listing

EINECS (European Inventory of Existing Chemical Substances)

All ingredients are on the inventory or exempt from listing

ELINCS (European List of Notified Chemical Substances)

None of the ingredients are on the inventory.

ENCS (Japan)

All ingredients are on the inventory or exempt from listing

South Korea (KECL)

All ingredients are on the inventory or exempt from listing

Philippines (PICCS)

All ingredients are on the inventory or exempt from listing

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

AICS - Australian Inventory of Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - China Inventory of Existing Chemical Substances

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

U.S. Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic health hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive hazard No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

16. OTHER INFORMATION

NFPA Rating Health - 1 Flammability - 0 Instability - 0 Special Hazard - HMIS Rating Health - 1 Flammability - 0 Physical hazard - 0 Personal protection - B

Product code

Revision date 2015-03-12

Revision number 1

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

Revision date 2019-27-9 Revision number 2

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID: FOC ND-9911

Product Name: Waste/Water Treatment. For industrial use only

Revision Date: Sep 27,2019
Supersedes Date: April 28, 2019

Manufacturer's Name: Azure Water Services

Address: 280 Callegari Drive West Haven, CT, US, 06516

Emergency Phone: Chemtrec 800-424-9300, in US and Canada only

SECTION 2) HAZARDS IDENTIFICATION

Classification

Eye Irritation - Category 2 Skin Irritation - Category 3

Pictograms



Signal Word

Warning

Hazardous Statements - Health

Causes serious eye irritation

Causes mild skin irritation

Precautionary Statements - General

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Precautionary Statements - Prevention

Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

If skin irritation occurs: Get medical advice/attention.

Precautionary Statements - Storage

No precautionary statement available.

Precautionary Statements - Disposal

No precautionary statement available.

Hazards Not Otherwise Classified (HNOC)

None.



SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

Substances/Mixtures

Chemical nature: Anionic Polyacrylamide

This product is not classified as Hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

All of the product's ingredients are either listed or exempt from the TSCA Inventory.

Some specific chemical identity is being withheld as a trade secrets None of the chemicals in this product are hazardous according to the GHS.

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor/. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED).

Eye Contact

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a flushing duration of 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER/doctor.

Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before re-use or discard.

Ingestion

Rinse mouth with water. Do NOT induce vomiting. Give 1 to 2 cups of milk or water to drink. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call a POISON CENTER/doctor.

Most Important Symptoms and Effects, Both acute and Delayed

No data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide. Sand or earth may be used for small fires only.

Use extinguishing agent suitable for type of surrounding fire.

Unsuitable Extinguishing Media

Do not use direct water stream since this may cause fire to spread.

Specific Hazards in Case of Fire

In case of fire, hazardous decomposition products may include sulphur oxides.

Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

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SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Absorb spill with absorbent material or vacuum spill into polyethylene lined steel or plastic drums.

Do not touch or walk through spilled material.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

Recommended Equipment

Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing. Ensure adequate ventilation. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and Cleaning Up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product.

SECTION 7) HANDLING AND STORAGE

General

Wash hands after use.

Do not get in eyes, on skin or on clothing.

Do not breathe vapors or mists. Use good personal hygiene practices.

Eating, drinking and smoking in work areas is prohibited.

Remove contaminated clothing and protective equipment before entering eating areas.

Eyewash stations and showers should be available in areas where this material is used and stored.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous.

Use ventilation systems where this product is used and stored.

SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	5.85 lb/gal
Specific Gravity	0.65 - 0.85

Appearance Off white granular solid

pH 6.0 - 8.0 Odor Threshold N/A

Odor Description characteristic odor

Water Solubility < 2% Viscosity N/A

Vapor Pressure Similar to water

Vapor Density

N/A

Freezing Point

Solling Point

Evaporation Rate

N/A

Flammability Flash point at or above 200°F/93°C

SECTION 10) STABILITY AND REACTIVITY

Stability

Stable under normal storage and handling conditions.

Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

Incompatible Materials

Strong bases, acids, oxidizing and reducing agents.

Hazardous Decomposition Products

May produce carbon monoxide, carbon dioxide.

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SECTION 11) TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation, ingestion, skin absorption.

Acute Toxicity

Acute Oral Toxicity: Results displayed may not be the result of actual testing of this material but based on a similar tested material

 $LD50, \, Rat, \, 4 \, hr > 2,500 \, mg/kg \ \, (estimated) \\ \textbf{Acute Inhalation Toxicity:} \, LC50, \, Rat, \, 4 \, hr, \, > 20 mg/l \qquad (estimated)$

Acute Dermal Toxicity: LD50, Rabbit, > 10,000 mg/kg (estimated)

Carcinogenicity

Based on available data, the classification criteria are not meet.

Respiratory/Skin Sensitization

No Data Available

Serious Eye Damage/Irritation

Causes serious eye irritation

Skin Corrosion/Irritation

Causes mild skin irritation

Specific Target Organ Toxicity - Repeated Exposure

No Data Available

Specific Target Organ Toxicity - Single Exposure

No Data Available

SECTION 12) ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic Toxicity: Ecotoxicological information provided is based on a structurally or compositionally similar product.

LC50, Bluegill sunfish (Lepomis macrochirus), 96 hr, > 100 mg/kg
LC50, Rainbow Trout (Oncorhynchus mykiss), 96 hr, > 100 mg/l

EC50, Water Flea (Daphina Magna), 48 hr, > 100 mg/l
EC50, Amphipoda (Corophium Volutator), 10 d, 1415 mg/l
EC50, Copepod (Acartia Tonsa), 48 hr, 342 mg/l

IC50, Green Algae (Selenastrum capricornutum), 72 hr, > 100mg/l
IC50, Diatom (Skeletonema Costatum), 72 hr, 2,276 mg/l

OECD Test Guideline 202
OECD Test Guideline 201

Mobility in Soil

Water Solubility: Limited by viscosity. Surface Tension: Not applicable

Persistence and degradability

Ecotoxicological information provided is based on a structurally or compositionally similar product.

Not Readily Biodegradable.

Ready Biodegradability: d:< 10%

Biodegradability in Seawater: d: 1.7%

OECD Test Guideline 301 D/28

OECD Test Guideline 306/28

Bioaccumulative potential

Bioaccumulation is unlikely. Because of the high molecular weight of the polymer diffusion through biological membranes is very small.

Partion coefficient

N-octanol/water: Not applicable

Other adverse effects

This material is not classified as dangerous for the environment .

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SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information

For all transportation accidents, call CHEMTREC at 800/424-9300. All spills and leaks of this material must be handled in accordance with local, state, and federal regulations.

DOT Shipping Designation:

Non-hazardous under 29-CFR 1910.1200. Water treatment compound

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
No applicable CAS	No applicable chemical	-	-

SECTION 16) OTHER INFORMATION

Glossary

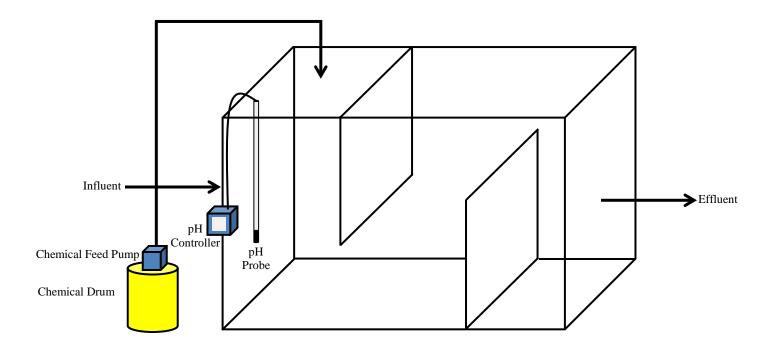
ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDGCanadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

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Notes:

- 1.) Figure is not to scale.
- 2.) System layout can vary with site conditions.



89 Crawford Street

Leominster, Massachusetts 01453

Tel: 774.450.7177 Fax: 888.835.0617 www.lrt-llc.net





One Controller for the Broadest Range of Sensors.

Choose from 30 digital and analog sensor families for up to 17 di:erent parameters.

Maximum Versatility

The sc200 controller allows the use of digital and analog sensors, either alone or in combination, to provide compatibility with Hach's broad range of sensors, eliminating the need for dedicated, parameter-specific controllers.

Ease of Use and Confidence in Results

Large, high-resolution, transreflective display provides optimal viewing resolution in any lighting condition. Guided calibration procedures in 19 languages minimize complexity and reduce operator error. Password-protected SD card reader o:ers a simple solution for data download and transfer. Visual warning system provides critical alerts.

Wide Variety of Communication Options

Utilize two to five analog outputs to transmit primary and secondary values for each sensor, or integrate Hach sensors and analyzers into MODBUS RS232/RS485, Profibus® DP, and HART networks.



Password protected SD card reader offers a simple solution for data download and transfer, and sc200 and digital sensor configuration file duplication and backup.

Controller Comparison







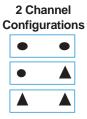
	Previous I	Models			
Features	sc100™ Controller	GLI53 Controller	sc200™ Controller	Benefits	
Display	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	160 x 240 pixels 48 x 68 mm (1.89 x 2.67 in.) Transreflective	 Improved user interface— 50% bigger Easier to read in daylight and sunlight 	
Data Management	irDA Port/PDA ment Service Cable		SD Card Service Cable	 Simplifies data transfer Standardized accessories/ max compatibility 	
Sensor Inputs	2 Max Direct Digital Analog via External Gateway	2 Max Analog Depending on Parameter	2 Max Digital and/or Analog with Sensor Card	Simplifies analog sensor connectionsWorks with analog and digital sensors	
Analog Inputs	N/A	N/A	1 Analog Input Signal Analog 4-20mA Card	 Enables non-sc analyzer monitoring Accepts mA signals from other analyzers for local display Consolidates analog mA signals to a digital output 	
4-20 mA Outputs	O mA Outputs 2 Standard		2 Standard Optional 3 Additional	 Total of five (5) 4-20 mA outputs allows multiple mA outputs per sensor input 	
Digital Communication	MODBUS RS232/RS485 Profibus DP V1.0	HART	MODBUS RS232/RS485 Profibus DP V1.0 HART7.2	Unprecedented combination of sensor breadth and digital communication options	

sc200™ Universal Controller

Choose from Hach's Broad Range of Digital and Analog Sensors					
Parameter	Sensor	Digital or Analog			
Ammonia	AMTAX™ sc, NH4D sc, AISE sc, AN-ISE sc	•			
Chlorine	CLF10 sc, CLT10 sc, 9184 sc	•			
Chlorine Dioxide	9185 sc	•			
Conductivity	GLI 3400 Contacting, GLI 3700 Inductive	A			
Dissolved Oxygen	LDO® Model 2, 5740 sc	•			
Dissolved Oxygen	5500				
Flow	U53, F53 Sensors	A			
Nitrate	NITRATAX™ sc, NO3D sc, NISE sc, AN-ISE sc	•			
Oil in Water	FP360 sc	•			
Organics	UVAS sc	•			
Ozone	9187 sc	•			
pH/ORP	pHD	•			
pH/ORP	pHD, pH Combination, LCP				
Phosphate	PHOSPHAX™ sc	•			
Sludge Level	SONATAX™sc	•			
Suspended Solids	SOLITAX™ sc, TSS sc	•			
Turbidity	1720E, FT660 sc, SS7 sc, ULTRATURB sc, SOLITAX sc, TSS sc	•			
Ultra Pure Conductivity	8310, 8311, 8312, 8315, 8316, 8317 Contacting				
Ultra Pure pH/ORP	8362	A			

● = Digital ▲ = Analog

Connect up to two of any of the sensors listed above, in any combination, to meet your application needs. The diagrams below demonstrate the potential configurations. Operation of analog sensors requires the controller to be equipped with the appropriate sensor module. Contact Hach Technical Support for help with selecting the appropriate module.



1 Channel
Configurations

Specifications*

Dimensions (H x W x

D)

5.7 in x 5.7 in x 7.1 in (144 mm x 144 mm x 181 mm) **Display** Graphic dot matrix LCD with LED

> backlighting, transreflective 1.9 x 2.7 in. (48 mm x 68 mm)

Display Resolution 240 x 160 pixels Weight 3.75 lbs. (1.70 kg)

Power Requirements 100 - 240 V AC, 24 V DC

(Voltage)

Display Size

Power Requirements 50/60 Hz

(Hz)

Operating **Temperature Range** -20 to 60 °C, 0 to 95% RH non-condensing

Two (Five with optional expansion **Analog Outputs**

module) to isolated current outputs, max 550 Ω , Accuracy: ± 0.1% of FS (20mA) at 25 °C, ± 0.5% of FS over -20 °C to 60 °C

range

Operational Mode: measurement

or calculated value

Analog Output Functional Mode Linear, Logarithmic, Bi-linear, PID

Security Levels 2 password-protected levels Wall, pole, and panel mounting Mounting

Configurations **Enclosure Rating** NEMA 4X/IP66 **Conduit Openings**

Relay: Operational

Mode

1/2 in NPT Conduit Primaryorsecondary

measurement, calculated value (dual channel only) or timer

Relay Functions

Scheduler (Timer), Alarm, Feeder Control, Event Control, Pulse Width Modulation, Frequency Control,

and Warning

Four electromechanical SPDT Relays

(Form C) contacts, 1200 W, 5 A

Communication MODBUS RS232/RS485, PROFIBUS DPV1, or HART7.2

optional

Memory Backup

Electrical Certifications Flash memory

EMC

CE compliant for conducted and radiated emissions:

- CISPR 11 (Class A limits)

- EMC Immunity EN 61326-1 (Industrial limits)

Safety

cETLus safety mark for:

- General Locations per ANSI/UL 61010-1 & CAN/CSA C22.2. No. 61010-1

- Hazardous Location Class I, Division 2, Groups A,B,C & D (Zone 2, Group IIC) per FM 3600 / FM 3611 & CSA C22.2 No. 213 M1987 with approved options and appropriately rated Class I,

Division 2 or Zone 2 sensors

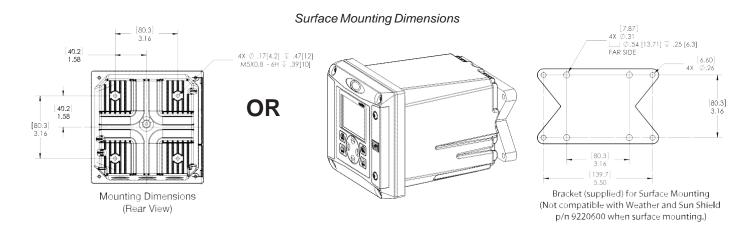
cULus safety mark

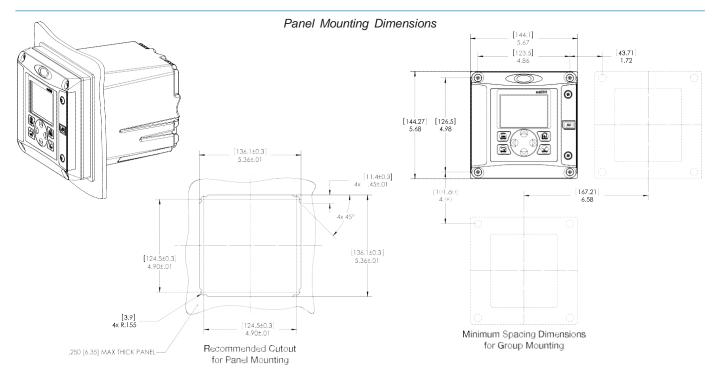
- General Locations per UL 61010-1 & CAN/CSA C22.2. No. 61010-1

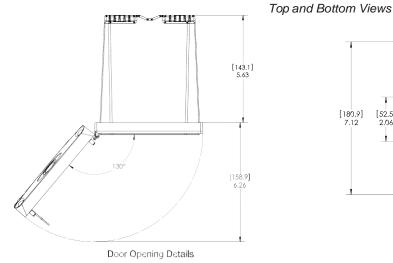
*Subject to change without notice.

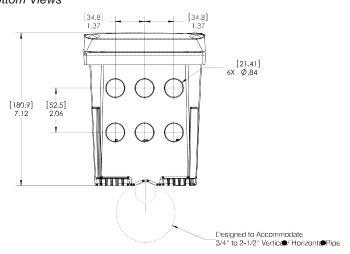
sc200™ Universal Controller

Dimensions











3/4-inch Combination pH and ORP Sensor Kits





Use the Digital Gateway to make any Hach analog combination pH or ORP sensor compatible with the Hach sc1000 Controller.





Digital combination pH and ORP sensors are available in convertible, insertion, and sanitary mounting styles. Choose from rugged dome electrodes or "easy-to-clean" flat glass electrodes.

Features and Benefits

Low Price—High Performance

These combination sensors are designed for specialty applications for immersion or in-line mounting. The reference cell features a double-junction design for extended service life, and a built-in solution ground. The body is molded from chemically-resistant Ryton® or PVDF, and the reference junction is coaxial porous Teflon®. All sensors are rated 0 to 105°C up to 100 psig, and have integral 4.5 m (15 ft.) cables with tinned leads. The PC-series (for pH) and RC-series (for ORP) combination sensors are ideal for measuring mild and aggressive media.

Special Electrode Configurations

Sensors with rugged dome electrodes, "easy-to-clean" flat glass electrodes, and even HF (hydrofluoric acid) resistant glass electrodes are available for a wide variety of process solutions.

Temperature Compensation Element Option

The PC-series combination pH sensors are available with or without a Pt 1000 ohm RTD temperature element. The RC-series combination ORP sensors are supplied without a temperature element.

Versatile Mounting Styles

Sensors are available in three mounting styles—convertible, insertion, and sanitary. Please turn to page 3 for more information.

Full-Featured "Plug and Play" Hach sc Digital Controllers

There are no complicated wiring or set up procedures with any Hach sc controller. Just plug in any combination of Hach digital sensors and it's ready to use—it's "plug and play."

One or multiple sensors—The sc controller family allows you to receive data from up to eight Hach digital sensors in any combination using a single controller.

Communications—Multiple alarm/control schemes are available using the relays and PID control outputs. Available communications include analog 4-20 mA, digital MODBUS[®] (RS485 and RS232) or Profibus DP protocols. (Other digital protocols are available. Contact your Hach representative for details.)

Data logger—A built-in data logger collects measurement data, calibration, verification points, and alarm history.

Specifications*

Most pH applications fall in the 2.5-12.5 pH range. General purpose pH glass electrodes perform well in this range. Some industrial applications require accurate measurements and control at pH values below 2 or above 12. Consult Hach Technical Support for details on these applications.

Combination pH Sensors

Measuring Range

0 to 14 pH

Accuracy

Less than 0.1 pH under reference conditions

Temperature Range

0 to 105°C (32 to 221°F)

Flow Rate

0 to 2 m/s (0 to 6.6 ft./s); non-abrasive

Pressure Range

0 to 6.9 bar at 100°C (0 to 100 psig at 212°F)

Signal Transmission Distance

100 m (328 ft.) when used with the Hach Digital Gateway and a Hach sc Digital Controller.

1000 m (3280 ft.) when used with the Hach Digital Gateway, Termination Box, and a Hach sc Digital Controller.

Sensor Cable

Integral coaxial cable (plus two conductors for temperature compensator option); 4.5 m (15 ft.) long

Wetted Materials

Convertible style: Ryton® body (glass filled)

Insertion style: PVDF body (Kynar®)

Sanitary style: 316 stainless steel sleeved PVDF body

Common materials for all sensor styles include PTFE Teflon double junction, glass process electrode, and Viton® O-rings

Warranty

90 days

Combination ORP Sensors

Measuring Range

-2000 to +2000 millivolts

Accuracy

Limited to calibration solution accuracy (± 20 mV)

Temperature Range

0 to 105°C (32 to 221°F)

Flow Rate

0 to 2 m/s (0 to 6.6 ft./s); non-abrasive

Pressure Range

0 to 6.9 bar at 100°C (0 to 100 psig at 212°F)

Signal Transmission Distance

100 m (328 ft.) when used with the Hach Digital Gateway and a Hach sc Digital Controller.

1000 m (3280 ft.) when used with the Hach Digital Gateway, Termination Box, and a Hach sc Digital Controller.

Sensor Cable

Integral coaxial cable; 4.5 m (15 ft.) long; terminated with stripped and tinned wires

Wetted Materials

Convertible style: Ryton® body (glass filled)

Insertion style: PVDF body (Kynar®)

Common materials for all sensor styles include PTFE Teflon double junction, glass with platinum process electrode, and Viton® O-rings

Warranty

90 days

*Specifications subject to change without notice.

Ryton® is a registered trademark of Phillips 66 Co.; Viton® is a registered trademark of E.I. DuPont de Nemours + Co.; Kynar® is a registered trademark of Pennwalt Corp.

Engineering Specifications

- The pH sensor shall be available in convertible, insertion or sanitary styles. The ORP sensor shall be available in only convertible or insertion styles.
- 2. The convertible style sensor shall have a Ryton[®] body. The insertion style sensor shall have a PVDF body. The sanitary style sensor shall have a 316 stainless steel sleeved PVDF body. Common materials for all sensor styles shall include a PTFE Teflon[®] double junction, and Viton[®] O-rings. The pH sensor shall have a glass pH electrode. The ORP sensor shall have a platinum ORP electrode.
- The convertible style pH sensor shall be available with or without a built-in Pt 1000 ohm RTD temperature element. Insertion and sanitary style pH sensors shall have a built-in Pt 1000 ohm RTD temperature element. Convertible and insertion style ORP sensors shall not have a built-in temperature element.
- The sensor shall communicate via MODBUS[®] RS-485 to a Hach sc Digital Controller.
- The sensor shall be Hach Company Model PC sc or PC-series for pH measurement or Model PC sc or RC-series for ORP measurement.

Dimensions

Convertible Style Sensor

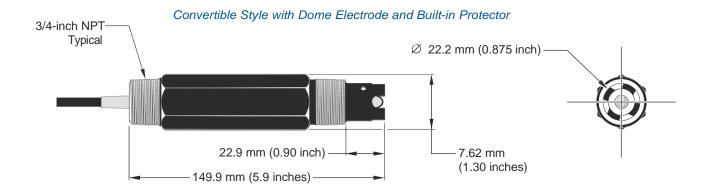
The convertible style sensor has a Ryton[®] body that features 3/4-inch NPT threads on both ends. The sensor can be directly mounted into a standard 3/4-inch pipe tee for flow-through mounting or fastened onto the end of a pipe for immersion mounting. The convertible style sensor enables inventory consolidation, thereby reducing associated costs. Mounting tees and immersion mounting hardware are offered in a variety of materials to suit application requirements.

Insertion Style Sensor

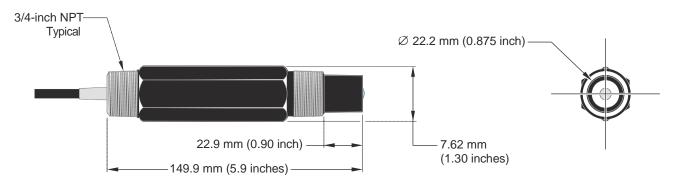
Insertion style sensors feature a longer, non-threaded PVDF body with two Viton® O-rings, providing a seal when used with the optional Hach insertion mount hardware assembly. This ball valve hardware enables sensor insertion and retraction from a pipe or vessel without having to stop the process flow.

Sanitary Style Sensor

The sanitary style sensor, offered for pH measurement, has a 316 stainless steel-sleeved PVDF body with a 2-inch flange. The sensor mates to a standard 2-inch Tri-Clover fitting. The optional Hach sanitary mounting hardware includes a standard 2-inch sanitary tee, sanitary clamp, and Viton[®] sanitary gasket.



Convertible Style with Flat Electrode





The Pulsatron Series A Plus offers manual function controls over stroke length and stroke rate as standard with the option to select external pace for automatic control.

Ten distinct models are available, having pressure capabilities to 250 PSIG (17 BAR) @ 12 GPO (1.9 lph), and flow capacities to 58 GPO (9.1 lph) @ 100 PSIG (7.0 BAR), with a standard turndown ratio of 100:1, and optional ratio of 1000:1. Metering performance is reproducible to within \pm 3% of maximum capacity.

Features

- Manual Control by on-line adjustable stroke rate and stroke length.
- Highly Reliable timing circuit.
- Circuit Protection against voltage and current upsets.
- Solenoid Protection by thermal overload with autoreset.
- Water Resistant, for outdoor and indoor applications.
- Internally Dampened To Reduce Noise.
- Guided Ball Check Valve Systems, to reduce back flow and enhance outstanding priming characteristics.
- Few Moving Parts and Wall Mountable.
- Safe & Easy Priming with durable leak-free bleed valve assembly (standard).
- Optional Control: External pace with auto/manual selection.

Controls



Manual Stroke Rate

Manual Stroke Length

External Pacing-Optional

External Pace With Stop-Optional (125 SPM only)

Controls Options							
F	Standard	Optional					
Feature	Configuration	Configuration ¹					
External Pacing		Auto / Manual Selection /					
External Pace w/ Stop		Auto / Manual Selection 2					
(125SPMonly)							
Manual Stroke Rate	10:1Ratio	100:1 Raio					
Manual Stroke Length	10:1 Ratio	10:1 Ratio					
Total Turndown Ratio	1001 Ratio	1000:1 Ratio					

Note 1:On S2,S3 & S4 sizes only.

Note 2:Not available on 1000:1 turn down pumps.

Operating Benefits

- Reliable metering performance.
- Rated "hot" for continuous duty.
- High viscosity capability.
- Leak-free, sealless, liquid end.



Aftermarket

- KOPkits
- Gauges
- Dampeners
- Pressure Relief Valves
- Tanks
- Pre-Engineered Systems
 - Process Controllers (PULSAblue, MicroVision)







Series A Plus Electronic Metering Pumps



Series A Plus

Specifications and Model Selection

	MODEL		LBC2	LB02	LBC3	LB03	LB04	LB64	LBC4	LBS2	LBS3	LBS4
Capacity		GPH	0.25	025	0.42	0.50	1.00	125	2.00	0.50	1.38	2.42
nominal		GPO	6	6	10	12	24	30	48	12	33	58
(max.)		LPH	0.9	0.9	1.6	1.9	3.8	4.7	7.6	1.9	5.2	9.14
Pressure ³ (max.)	GFPP,PVDF,316SS or PVC <;Ncode) wTFE Seats) PVC (V code) Vton or CSPE Seats IDegas Liquid End	PSIG	250 (17) 150 (10)	150 (10)	250 (17)	150 (10)	100 (7)	100 (7)	50 (33)	250 (17) 150 (10)	150 (10)	100 (7)
Connections:		Tubina		114'IDX 318' OD 318'DX 112' OD					114	!'D X 318' O[)	
		Pioina					1	14'FNPT				
Strokes/Minute		SPM		125					250			

Note 3: Pumps with rated pressure above 150 PSI will be de-rated to 150 PSI Max. when selecting certain valve options, see Price Book for details.

Engineering Data

Pump Head Materials Available: **GFPPL**

PVC **PVDF** 316 SS

PTFE-faced CSPE-backed Diaphragm:

Check Valves Materials Available:

Seats/0-Rings: **PTFE**

> **CSPE** Viton

Balls: Ceramic

> **PTFE** 316 SS

Alloy C

GFPPL Fittings Materials Available:

PVC **PVDF**

Bleed Valve: Same as fitting and check valve

selected, except 316SS

hjection Valve & Foot Valve Assy: Same as fitting and check valve

selected

ClearPVC Tubing:

White PF

Important: Material Code - GFPPL=Glass-filled Polypropylene, PVC=Polyvinyl Chloride, PE=Polyethylene, PVDF=Polyvinylidene Fluoride, CSPE=Generic formulation of Hypalon, a registered trademark of E.I. DuPont Company. Viton is a registered trademark of E.I. DuPont Company. PVC wetted end recommended for sodium hypochlorite.

Engineering Data

Reproducibility: +/- 3% at maximum capady

Viscosity Max CPS: 1000CPS Stroke Frequency Max SPM: 125 / 250 by Model Stroke Frequency Turn-Down Ratio: 10:1/100:1 by Model

Stroke Length Turn-Down Ratio:

Power Input: 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph

Average Current Draw:

@ 115 VAC; Amps: 0.6 Amps @ 230 VAC; Amps: 0.3 Amps 130 Watts Peak hput Power: 50 Watts Average Input Power @ Max SPM:

Custom Engineered Designs-Pre-Engineered Systems

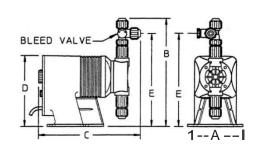


Pre-Engineered Systems Pulsafeeder's Pre-Engineered Systems are designed to provide complete chemical feed solutions for all electronic metering applications. From stand alone simplex pH control applications to full-featured, redundant sodium hypochlorite disinfection metering, these rugged fabricated assemblies offer turnkey simplicity and industrial-grade durability. The UV-stabilized, high-grade HOPE frame offers maximum chemical compatibility and structural rigidity. Each system is factory assembled and hydrostatically tested prior to shipment.

Dimensions

Series A PLUS Dimensions (inches)						
						Shipping
Model No.	Α	В	С	D	Е	Weight
LB02 IS2	5.0	9.6	9.5	6.5	8.2	10
LBC2	5.0	9.9	9.5	6.5	8.5	10
LBC3	5.0	9.9	9.5	6.5	8.5	10
LB03 IS3	5.0	9.9	9.5	6.5	8.5	10
LB0 \$ 4	5.0	9.9	9.5	6.5	8.5	10
LB64	5.0	9.9	9.5	6.5	8.5	10
LBC4	5.0	9.9	9.5	6.5	8.5	10

NOTE: hches X2.54 cm





95-Gallon OverPack - 32" dia x 41.5", 1 each/package



Stock a SpillTech® OverPack with sorbents for emergency spill response, or use it as a salvage drum to ship damaged containers or hazardous waste.

- DOT-Approved for Salvage: All SpillTech® OverPacks are DOT-approved and X-rated for use as salvage drums. Helps companies conform to federal regulations when shipping damaged or leaking containers of hazardous materials, or absorbents contaminated with hazardous substances.
- Perfect for Spill Kits: Stores sorbent products (not included) for easy access as needed for spill control. Saves time when quick response is necessary.
- Sturdy Construction: 100% polyethylene OverPack resists chemicals, rust and corrosion for years of use. Integrated handles make them easy to lift, move or carry with standard material handling equipment. Twist-on, double-wall lid with closed-cell gasket provides sealed, secure closure to prevent leaks and protect contents from moisture, dirt and damage. Durable to withstand rough handling.
- Customized for You: We can customize a Spill Kit to your exact specifications, including the container, its contents and accessories, with no upcharge! Contact your local Distributor for details.

A950VER Specifications

Dimensions: ext. dia. 32" x 41.5" H

Shipping 31.75" W x 41.5" L x 31.75" H

Dimensions:

Sold as: 1 per package

Color: Yellow

Composition: Polyethylene

per Pallet: 3
Incinerable: No
Ship Class: 250

Metric Equivalent Specifications

Dimensions: ext. dia. 81.3cm x 105.4cm H

Shipping 80.6cm W x 105.4cm L x 80.6cm H

Dimensions:



Office: 774-450-7177 • Fax: 888-835-0617



A950VER Technical Information

Warnings & Restrictions:

There are no known warnings and restrictions for this product.

Regulations and Compliance:

49 CFR 173.3(c)(1) - If a container of hazardous waste is damaged or leaking, it can be placed in a compatible salvage drum that meets UN criteria for shipping

49 CFR 173.12(b)(2)(iv) - When labpacking, "Inner packagings...must be surrounded by a chemically compatible absorbent material in sufficient quantity to absorb the total liquid contents."

49 CFR 173.12(b) - A container used for labpacking must be "a UN 1A2 or UN 1B2 metal drum, a UN 1D plywood drum, a UN 1G fiber drum or a UN 1H2 plastic drum tested and marked at least for the Packing Group III performance level for liquids or solids."



Office: 774-450-7177 • Fax: 888-835-0617



Borden & Remington Corp 63 Water St. PO Box 2573 Fall River, MA, USA, 02722 Telephone: (508) 675 0096

Name, address, and telephone number of

the manufacturer:

Refer to supplier

Sulfuric Acid 71-100%

SDS Preparation Date (mm/dd/yyyy): 10/13/2015

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: Sulfuric Acid 71-100%

Product Code(s) : Not available.

Recommended use of the chemical and restrictions on use

Reagent ;Chemical intermediate.
Use pattern: Professional Use Only
Recommended restrictions: None known.

Chemical family : Inorganic acid

Name, address, and telephone number

of the supplier:
Borden & Remington Corp

63 Water St. PO Box 2573 Fall River, MA, USA

02722

Supplier's Telephone # : 508-675-0096

24 Hr. Emergency Tel # : Chemtrec: 1-800-424-9300 (Within Continental U.S.); 703-527-3887.

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear to cloudy liquid. Odorless.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Corrosive to metals: Category 1

Acute toxicity, inhalation - Category 2 (mist)

Eye damage/irritation: Category 1 Skin corrosion/irritation: Category 1

Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

May be corrosive to metals.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause respiratory irritation.



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Precautionary statement(s)

Keep only in original container.

Wash thoroughly after handling.

Do not breathe mists.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/clothing and eye/face protection.

[In case of inadequate ventilation] wear respiratory protection.

If swallowed: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Absorb spillage to prevent material damage.

Store in corrosive resistant container with a resistant inner liner.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Other hazards which do not result in classification:

Ingestion may cause severe irritation to the mouth, throat and stomach. Contact with metals may release small amounts of flammable hydrogen gas. Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Prolonged or repeated inhalation of fumes or vapours, may cause chronic lung effects, such as bronchitis, and tooth enamel erosion. Chronic skin contact with low concentrations may cause dermatitis.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

Chemical name	Common name and synonyms	CAS#	<u>Concentration</u>
Sulfuric acid	Battery acid; Hydrogen sulfate; Oil of vitriol	7664-93-9	71.0 - 100.0
Water	H2O	7732-18-5	Balance

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two

glasses of water to drink. Seek immediate medical attention/advice. Never give

anything by mouth if victim is unconscious.

Inhalation Immediately remove person to fresh air. If breathing has stopped, give artificial

respiration. If breathing is difficult, give oxygen by qualified medical personnel only.

Seek immediate medical attention/advice.

Skin contact Take off all contaminated clothing immediately. Immediately flush skin with gently

flowing, running water for at least 20 minutes. Do not rub area of contact. Cover wound with sterile dressing. Seek immediate medical attention/advice. Wash contaminated clothing before reuse. Leather and shoes that have been contaminated with the

solution may need to be destroyed.



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Eve contact

Immediately flush eyes with running water for at least 20 minutes. Protect unharmed eye. Seek immediate medical attention/advice.

Most important symptoms and effects, both acute and delayed

: May cause serious eye irritation or damage. Symptoms may include redness, pain, tearing and conjunctivitis. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death. May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Prolonged or repeated inhalation of fumes or vapours, may cause chronic lung effects, such as bronchitis, and tooth enamel erosion.

Indication of any immediate medical attention and special treatment needed

: Immediate medical attention is required. Causes burns. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water with caution. Contact with water will generate considerable heat.

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable. Burning produces obnoxious and toxic fumes. Contact with metals may release small amounts of flammable hydrogen gas. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Contact with water will generate considerable heat.

Flammability classification (OSHA 29 CFR 1910.106)

: Non-flammable.

Hazardous combustion products

: Sulphur oxides. Carbon dioxide and carbon monoxide. Oxygen.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Dike for water control. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions

Do not allow material to contaminate ground water system. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up



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: Remove all sources of ignition. Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. Neutralize with sodium bicarbonate or a mixture of soda ash/slaked lime. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Contact the proper local authorities.

Special spill response procedures

If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

US CERCLA Reportable quantity (RQ): Sulfuric acid (1000 lbs / 454 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Use in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. See Section 8 for additional personal protection advice when handling this product. Do not ingest. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Keep away from bases, metals and other incompatibles. Keep container tightly closed when not in use. Keep only in original container. Wash thoroughly after handling. During preparation or dilution, always add liquid slowly to water and with constant stirring.

Conditions for safe storage

Store in a cool, dry, well-ventilated area. Store locked up. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store in corrosion-resistant containers. Keep only in original container.

Incompatible materials

Strong oxidizing agents; Metals (e.g. Aluminum, brass, copper); Alkalies; Aldehydes;
 Reducing agents; Water; Organic materials; Acids Chlorate

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:						
Chemical Name	ACGIH T	LV	OSHA PEL			
	<u>TWA</u>	STEL	<u>PEL</u>	<u>STEL</u>		
Sulfuric acid	0.2 mg/m³ (thoracic fraction)	N/Av	1 mg/m³	N/Av		
Water	N/Av	N/Av	N/Av	N/Av		

Exposure controls

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below

recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Confirmation

of which type of respirator is most suitable for the intended application should be obtained from respiratory protection suppliers. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA

(29 CFR 1910.134) or CSA Z94.4-02.

Skin protection : Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to

prevent prolonged or repeated skin contact. Wear impervious gloves, such as butyl rubber. Unsuitable material: polyvinyl alcohol. Advice should be sought from glove

suppliers.

Eye / face protection : Chemical splash goggles must be worn when handling this material. A full face shield

may also be necessary.





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Other protective equipment : Other equipment may be required depending on workplace standards. An eyewash

station and safety shower should be made available in the immediate working area.

General hygiene considerations

Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Clear, oily, colourless liquid

Odour : Odorless.
Odour threshold : N/Av
pH : <1.0

Melting/Freezing point : -40°C (-40°F)

Initial boiling point and boiling range

: 102°C (215.6°F)

Flash point : Not applicable.
Flashpoint (Method) : Not applicable.
Evaporation rate (BuAe = 1) : Slower than ether.
Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)

Not applicable.

Upper flammable limit (% by vol.)

Not applicable.

 Oxidizing properties
 : None known.

 Explosive properties
 : Not explosive

 Vapour pressure
 : <0.3 mmHg @75°F</td>

Vapour density : 3.4

Relative density / Specific gravity

: 1.84

Solubility in water : Soluble
Other solubility(ies) : None known.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

N/Av

Auto-ignition temperature : N/Ap

Decomposition temperature: Not available.

Viscosity : N/Av

Volatiles (% by weight) : Not available.

Volatile organic Compounds (VOC's)

: Not available.

Absolute pressure of container

N/Ap

Flame projection length : N/Ap

Other physical/chemical comments

: None.

SECTION 10. STABILITY AND REACTIVITY



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Reactivity Contact with metals may release small amounts of flammable hydrogen gas.

> Corrosive in contact with metals Avoid contact with incompatible materials. Contact with water will generate considerable heat. Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid

anhydrides, ketones, glycols, and organic peroxides.

Stable under the recommended storage and handling conditions prescribed. Chemical stability

Possibility of hazardous reactions

Hazardous polymerization does not occur. Contact with metals may release small

amounts of flammable hydrogen gas.

Avoid heat and open flame. Ensure adequate ventilation, especially in confined areas. Conditions to avoid

Avoid contact with incompatible materials.

Strong oxidizing agents; Metals (e.g. Aluminum, brass, copper); Alkalies; Aldehydes; Incompatible materials

Reducing agents; Water; Organic materials; Acids Chlorate.

Hazardous decomposition products

: Decomposes at 340 deg C into sulfur trioxide and water.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES Routes of entry skin & eye YES Routes of entry Ingestion YES

Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

Fatal if inhaled. Inhalation of high concentrations of fumes or mists may cause severe irritation and corrosive damage to the nose, throat and upper respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Sign and symptoms ingestion

: May be harmful if swallowed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting,

burns, perforations, bleeding and eventually death.

Sign and symptoms skin This material is classified as hazardous under OSHA regulations (29CFR 1910.1200)

(Hazcom 2012). Classification: Skin corrosion/irritation: Category 1

Causes severe skin burns and eye damage. Direct skin contact may cause corrosive

skin burns, deep ulcerations and possibly permanent scarring.

Sign and symptoms eyes This material is classified as hazardous under OSHA regulations (29CFR 1910.1200)

(Hazcom 2012). Classification: Eye damage/irritation: Category 1

Causes serious eye damage. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. Contact may lead to permanent injury and blindness.

Potential Chronic Health Effects

Chronic skin contact with low concentrations may cause dermatitis. Prolonged or repeated inhalation of fumes or vapours, may cause chronic lung effects, such as

bronchitis, and tooth enamel erosion.

Mutagenicity : Not expected to be mutagenic in humans.





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Carcinogenicity

: This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Strong inorganic acid mist containing sulfuric acid is classified as a Group 1 Human Carcinogen by the IARC. However, this classification does not apply to liquid forms of sulfuric acid.

Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

Target Organs:: Eyes, skin, respiratory system and digestive system.

This material is classified as hazardous under OSHA regulations (29CFR 1910.1200)

(Hazcom 2012). Classification:

Specific target organ toxicity, single exposure -Category 3

May cause respiratory irritation.

The substance or mixture is not classified as specific target organ toxicant, repeated

exposure.

Medical conditions aggravated by overexposure

Pre-existing skin, eye and respiratory disorders.

Synergistic materials

: Not available.

Toxicological data

: See below for toxicological data on the substance. The calculated ATE values for this mixture are: ATE inhalation (mists) = 0.5 mg/L (75%)

	LC ₅₀ (4hr)	LD ₅₀	
Chemical name	inh, rat	(Oral, rat)	(Rabbit, dermal)
Sulfuric acid	0.375mg/L	2140 mg/kg	N/Av
Water	N/Av	>90 mL/kg	N/Av

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

1	CAS No	Toxicity to Fish			
<u>Ingredients</u>		LC50 / 96h	NOEC / 21 day	M Factor	
Sulfuric acid	7664-93-9	N/Av	N/Av	None.	
Water	7732-18-5	No information available.	No information available.	Not applicable.	



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<u>Ingredients</u>	CAS No	Toxicity to Daphnia				
		EC50 / 48h	NOEC / 21 day	M Factor		
Sulfuric acid	7664-93-9	N/Av	N/Av	None.		
Water	7732-18-5	No information available.	No information available.	Not applicable.		

<u>Ingredients</u>	CAS No	Toxicity to Algae				
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor		
Sulfuric acid	7664-93-9	>100mg/L(Green algae)	N/Av	None.		
Water	7732-18-5	No information available.	No information available.	Not applicable.		

Persistence and degradability

: Biodegradation is not applicable to inorganic materials.

Bioaccumulation potential : No data is available on the product itself.

<u>Components</u>	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
Sulfuric acid (CAS 7664-93-9)	N/Ap	no bioaccumulation
Water (CAS 7732-18-5)	N/Ap	N/Ap

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No additional information.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local

regulations.

RCRA

If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and

federal environmental agencies.

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1830	SULFURIC ACID ; or SULPHURIC ACID	8	II	
49CFR/DOT Additional information	May be shipped	as a limited quantity in receptacles not exceeding 1.0 Liters, according	rding to 49 CFR	173.154.	
TDG	UN1830	SULPHURIC ACID	8	II	



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TDG Additional information		bed as LIMITED QUANTITY when transported in containers no la) kg gross mass.	arger than 1.0 Litre, ir	n packages	not
ICAO/IATA	UN1830	Sulphuric acid	8	II	
ICAO/IATA Additional information	Refer to ICA	O/IATA Packing Instruction		-	
IMDG	UN1830	SULFURIC ACID or SULPHURIC ACID	8	II	
IMDG Additional information	May be shipp	ped as a limited quantity. Consult the IMDG regulations for more	information.	-	-

Special precautions for user : None known.

Environmental hazards : See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Se 372, Specific To	•
<u>Ingredients</u>	CAS#	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration
Sulfuric acid	7664-93-9	Yes	1000 lb/ 454 kg	1000 lb TPQ	Yes	1%
Water	7732-18-5	Yes	N/Ap	N/Av	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute Health Hazard. Chronic Health Hazard

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California Proposition 65 State "Right to Know" Lists		California Proposition 65		State "Right to Know" List		California Proposition 65 State "Right to Know" L		ists	
	<u></u>		Type of Toxicity	CA	MA	MN	NJ	PA	RI		
Sulfuric acid	7664-93-9	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes		
Water	7732-18-5	No	N/Ap	No	No	No	No	No	No		



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SAFETY DATA SHEET

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS#	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Sulfuric acid	7664-93-9	231-639-5	Present	Present	(1)-724; (1)-430	KE-32570	Present	HSR001572, HSR001573, HSR001588 (dilution)
Water	7732-18-5	231-791-2	Present	Listed	Listed	KE-35400	Present	Listed

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists

CA: California

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

of 1980

CFR: Code of Federal Regulations **DOT:** Department of Transportation EPA: Environmental Protection Agency HMIS: Hazardous Materials Identification System

HSDB: Hazardous Substances Data Bank

IARC: International Agency for Research on Cancer

Inh: Inhalation

IUCLID: International Uniform Chemical Information Database

MA: Massachusetts MN: Minnesota

MSHA: Mine Safety and Health Administration

N/Ap: Not Applicable N/Av: Not Available

NFPA: National Fire Protection Association

NIOSH: National Institute of Occupational Safety and Health

NJ: New Jersev

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PA: Pennsylvania

PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act

RI: Rhode Island

RTECS: Registry of Toxic Effects of Chemical Substances SARA: Superfund Amendments and Reauthorization Act

STEL: Short Term Exposure Limit

TDG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System



Borden & Remington Corp 63 Water St. PO Box 2573 Fall River, MA, USA, 02722 Telephone: (508) 675 0096

Sulfuric Acid 71-100%

SDS Preparation Date (mm/dd/yyyy): 10/13/2015

Page 11 of 11

SAFETY DATA SHEET

References : Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2015

(Chempendium, RTECs, HSDB, INCHEM).

European Chemicals Agency, Classification Legislation, 2015

Material Safety Data Sheet from manufacturer

OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2015

Preparation Date (mm/dd/yyyy)

: 10/13/2015

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

HMIS Rating : *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: 3 Flammability: 0 Reactivity: 2

NFPA Rating 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

: Health: 3 Flammability: 0 Instability: 2 Special Hazards: None.

Prepared for:

Borden & Remington Corp

63 Water St.

Fall River, MA 02722 Telephone: 508-675-0096



Prepared by:

ICC The Compliance Center Inc.

Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada)

http://www.thecompliancecenter.com

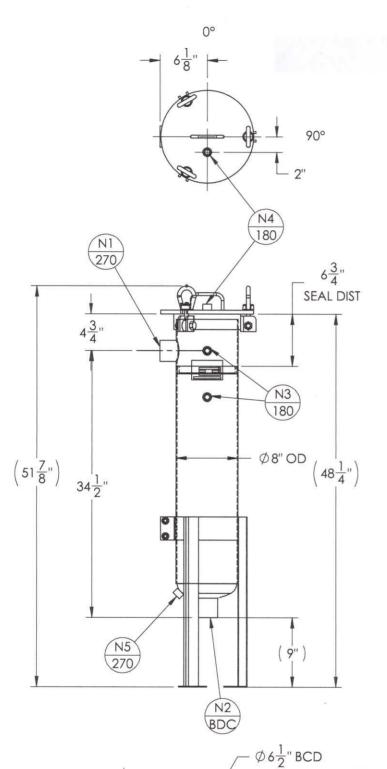


DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc using information provided by / obtained from Borden & Remington Corp and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Borden & Remington Corp .expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc and Borden & Remington Corp.

END OF DOCUMENT



		NOZZLE	SCHEDULE		
MARK	QTY	SIZE	/ RATING	DESCI	RIPTION
N1	1	2" 150	# NPT	IN	LET
N2	1	2" 150)# NPT	OU.	TLET
N3	2	1/2" 30	00# NPT	PRES	SS GA
N4	1	1/2" 30	00# NPT	VE	NT
N5	1	1/2" 30	00# NPT	CLEAN	DRAIN
N6	-		-	DIRT	
	VESS	SEL DESIG	N CONDITION	S	
CODE:	BES	Т СОММЕ	RCIAL PRACT	ICE	
M.A.W.P.:	150 PSI @	250°F	M.D.M.T.:	-20° F	@ 150 PSI
M.A.E.P.:	15 PSI @	250°F			
CORROSION	ALLOWANCE	: NONE	HYDROTEST	PRESS:	195 PSI
STAMP:	'NC'		SERVICE:	NON I	ETHAL
PWHT:	N/A		RADIOGRAP	HY:	N/A
MATERIAL:	SS 304/	L	GASKET:	BUN	IA-N

DRY WEIGHT: 77.62 #'s FLOODED WEIGHT: 140 #'s SHIPPING WEIGHT: 100 #'s VESSEL VOLUME: 1.0 C.F.





1:1

 $otin \frac{1}{2}$ " TYP.



Polyester Liquid Filter Bag



Features

- * Polyester liquid bag filter are available with a carbon steel ring, stainless steel ring or plastic flanges.
- * Heavy-duty handle eases installation and removal
- * Metal ring sewn into bag top for increased durability and positive sealing
- * Wide array of media fibers to meet needed temperature and micron specifications

Applications

Polyester liquid filter bags can be used in the filtering of a wide array of industrial and commercial process fluids

Sizes

Our liquid filter bags are available for all common liquid bag housings. Dimensions range from 4.12" diameter X 8" length thru 9" diameter X 32" length.

Micron Ratings

Available fibers range from 1 to 1500 microns

Options

- * Bag finish or covers for strict migration requirements.
- * Plastic top O.E.M. replacements
- * Multi-layered filtering capabilities for higher dirt holding capacities

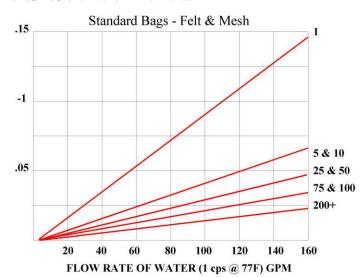
Optional Filter Media

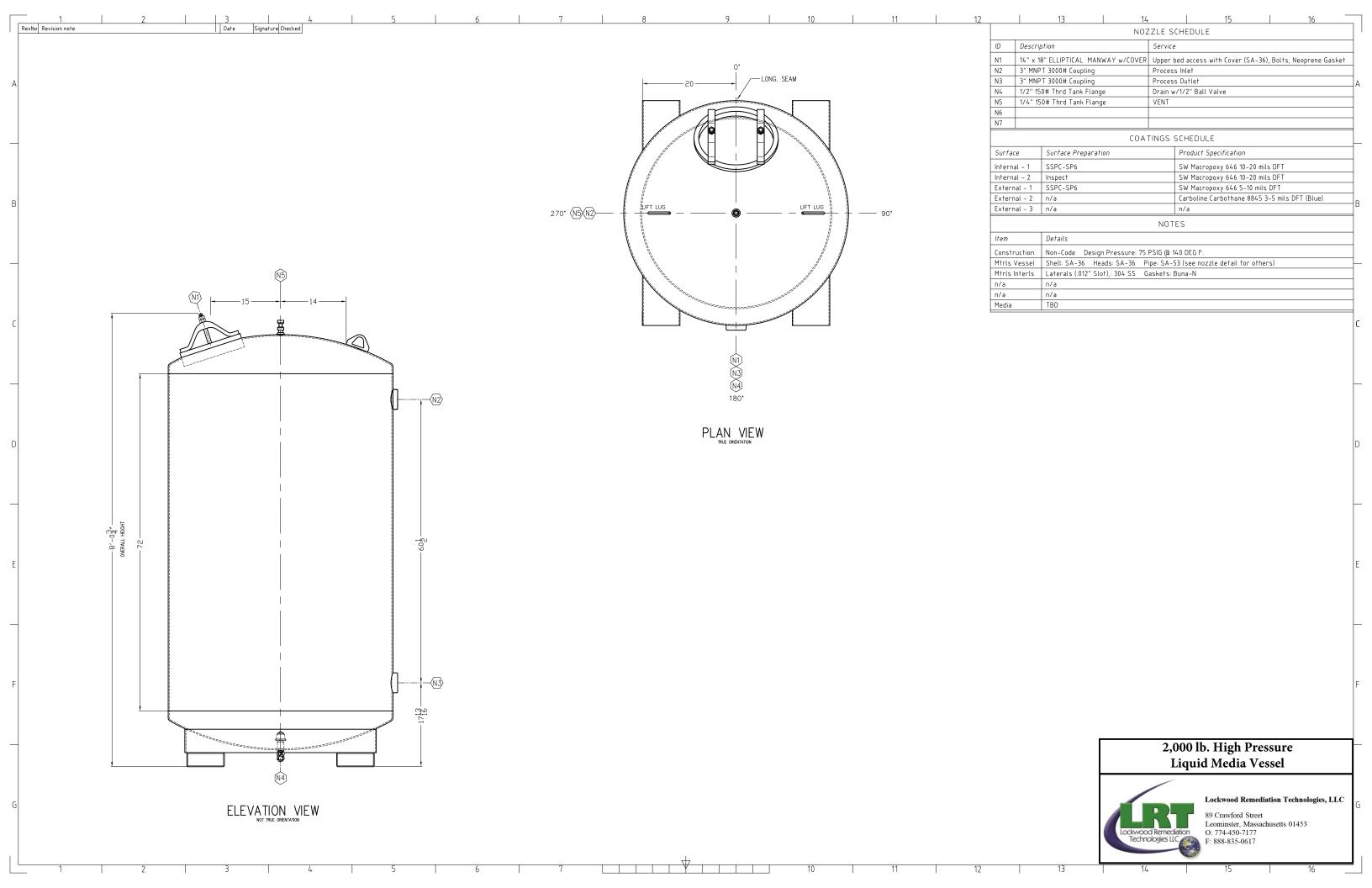
Felt: Nomex, Polyester, Polypropylene

Monofilament: Nylon, Polyester, Polypropylene

Multifilament: Nylon, Polyester

Polypropylene: Oil Removal







89 Crawford Street

Leominster, Massachusetts 01453

Tel: 774.450.7177 Fax: 888.835.0617 www.lrt-llc.net

FILTRATION MEDIA: 8x30 RE-ACTIVATED CARBON 4x10 RE-ACTIVATED CARBON

GENERAL DESCRIPTION

Select Re-Activated carbon from domestic sources is quality screened during our purchasing process for activity, density and fines. The use of re-activated carbon is recommended as a lower cost alternative for most sites where drinking water quality is not necessary. In many cases our re-activated carbon meets and exceeds imported virgin carbon. In addition all carbon either sold by itself or installed in our filtration units traced by lot number to the installation or sale.

8x30 (Liquid Phase) Standard Specifications:	Standard	Value
lodine Number	ASTM D-4607	800 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	8x30 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75

4*10 (Vapor Phase) Standard Specifications:	Standard	Value
Carbon Tetrachloride Activity Level	ASTM D-3467	40 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	4x10 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75



RESINTECH CGS is a sodium form standard crosslinked gel strong acid cation resin. *CGS* is optimized for residential applications that require good regeneration efficiency and high capacity. *RESINTECH CGS* is intended for use in all residential and commercial softening applications that do not have significant amounts of chlorine in the feedwater. *CGS* is supplied in the sodium form.



FEATURES & BENEFITS

RESIDENTIAL SOFTENING APPLICATIONS

Resin parameters are optimized for residential softeners

LOW COLOR THROW

SUPERIOR PHYSICAL STABILITY

93% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop

COMPLIES WITH US FDA REGULATIONS

Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

Prior to first use for potable water, resin should be backwashed for a minimum of 20 minutes, followed by 10 bed volumes of downflow rinse.

HYDRAULIC PROPERTIES





The graph above shows the expected pressure loss of *ResinTech CGS* per foot of bed depth as a function of flow rate at various temperatures.



BACKWASH

The graph above shows the expansion characteristics of *ResinTech CGS* as a function of flow rate at various temperatures.

RESINTECH® CGS

PHYSICAL PROPERTIES

Polymer Structure Styrene/DVB

Polymer Type Gel

Functional Group Sulfonic Acid Physical Form Spherical beads

Ionic Form as shipped Sodium

Total Capacity

Sodium form >1.8 meg/mL

Water Retention

Sodium form 40 to 52 percent

Approximate Shipping Weight

Sodium form 50 lbs./cu.ft.

Screen Size Distribution (U.S. mesh) 16 to 50

Maximum Fines Content (<50 mesh) 1 percent

Minimum Sphericity 90 percent

Uniformity Coefficient 1.6 approx.

Resin Color Amber

Note: Physical properties can be certified on a per lot basis, available upon request

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature

Sodium form 250°F

Minimum bed depth 24 inches

Backwash expansion 25 to 50 percent

Maximum pressure loss 25 psi
Operating pH range 0 to 14 SU

Regenerant Concentration

Salt cycle 10 to 15 percent NaCl Regenerant level 4 to 15 lbs./cu.ft. Regenerant flow rate. 0.5 to 1.5 gpm/cu.ft.

Regenerant contact time >20 minutes

Displacement flow rate

Displacement volume

10 to 15 gallons/cu.ft.

Rinse flow rate

Same as service flow

Rinse volume

35 to 60 gallons/cu.ft.

Service flow rate

1 to 10 gpm/cu.ft.

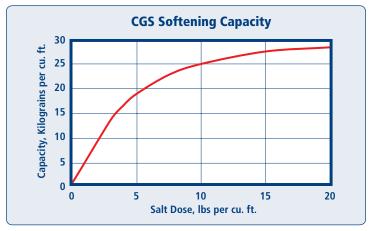
Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.

For operation outside these guidelines, contact ResinTech Technical Support

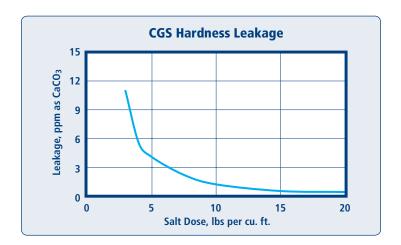
APPLICATIONS

SOFTENING

RESINTECH CGS is a standard crosslinked cation resin optimized for residential and commercial applications. This type of resin is easier to regenerate than the higher crosslinked resins. CGS has marginal resistance to chlorine and other oxidants and is not ideal for high temperature and other high stress applications.



Capacity and leakage data are based on the following: 2:1 Ca:Mg ratio, 500 ppm TDS as CaCO3, 0.2% hardness in the salt and 10% brine concentration applied co-currently through the resin over 30 minutes. No engineering downgrade has been applied.





East Coast - West Berlin, NJ p:856.768.9600 • Midwest - Chicago, IL p:708.777.1167 • West Coast - Los Angeles, CA p:323.262.1600

GROOVED & SMOOTH-END FLOWMETER MODEL MG/MS100 SPECIFICATIONS

PERFORMANCE

ACCURACY/REPEATABILITY: ±2% of reading

guaranteed throughout full range. ±1% over reduced

range. Repeatability 0.25% or better. RANGE: (see dimensions chart below) HEAD LOSS: (see dimensions chart below)

MAXIMUM TEMPERATURE: (Standard Construction)

160°F constant

PRESSURE RATING: 150 psi

MATERIALS

TUBE: Epoxy-coated carbon steel.

BEARING ASSEMBLY: Impeller shaft is 316 stainless steel.

Ball bearings are 440C stainless steel.

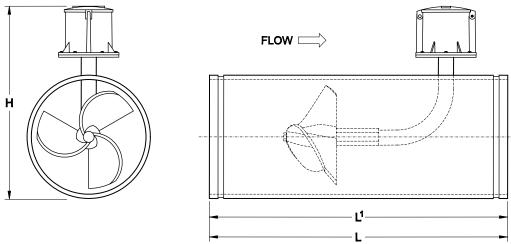
MAGNETS: (Permanent type) Cast or sintered alnico BEARING HOUSING: Brass; Stainless Steel optional IMPELLER: Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.

REGISTER: An instantaneous flowrate indicator and six-digit straight-reading totalizer are standard. The register is hermetically sealed within a die cast aluminum case. This protective housing includes a domed acrylic lens and hinged lens cover with locking hasn

COATING: Fusion-bonded epoxy

OPTIONS

- Forward/reverse flow measurement
- High temperature construction
- "Over Run" bearing assembly for higher-than-normal flowrates
- Electronic Propeller Meter available in all sizes of this model
- A complete line of flow recording/control instrumentation
- Straightening vanes and register extensions available
- · Certified calibration test results

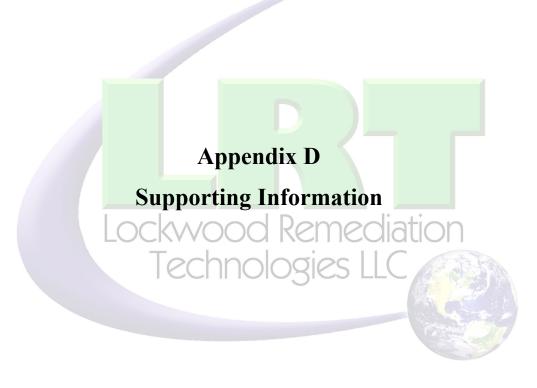


McCrometer reserves the right to change design or specifications without notice.
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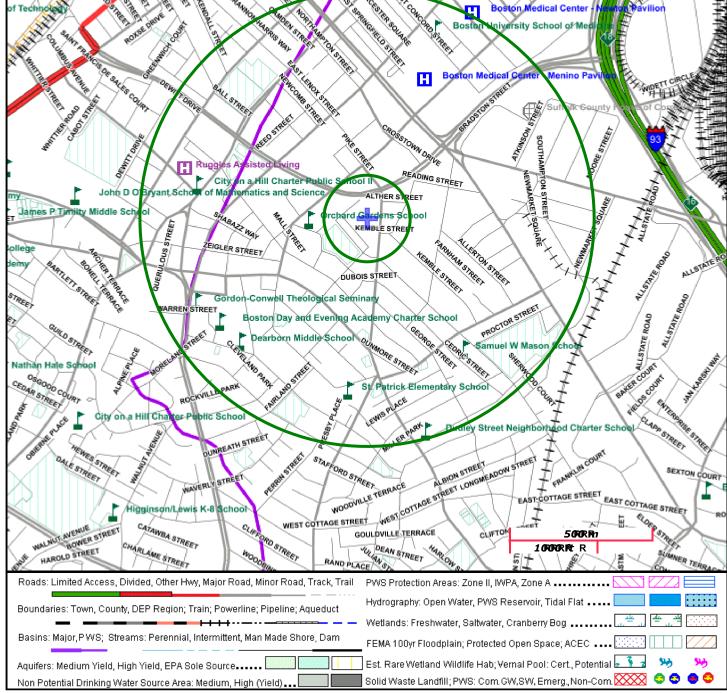
MG100 / MS100	DIMENSIONS												
Meter Size (inches)	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
Maximum Flow U.S. GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Minimum Flow U.S. GPM	40	40	40	50	90	100	125	150	250	275	400	475	700
Head Loss in Inches at Max. Flow	29.50	29.50	29.50	23.00	17.00	6.75	3.75	2.75	2.00	1.75	1.50	1.25	1.00
Shipping Weight, Ibs.			17	40	54	68	87	106	140	144	172	181	223
H (inches)	* 5	See	10.9	12.78	13.84	14.84	16.91	18.90	20.53	22.53	25.53	26.53	30.53
L (inches) MG100	Special		13	20	20	20	20	20	20	22	22	22	22
L ¹ (inches) MS100	Note		13	20	22	22	22	22	22	24	24	24	24
O.D. of Meter Tube			3.50	4.500	6.625	8.625	10.750	12.750	14.00	16.00	18.00	20.00	24.00

*Special Note—Reducing fittings incorporating grooves are supplied to adapt the 3-inch model to smaller line sizes.

Larger flowmeters on special order.



MassDERRR. a R f Wast BSiR RCIRAR PHRISRRI STIR IA STRESINRENT IN 1 ap: 150 DRIPR RE RO.5 IRII REGIRE The information shown is the lifest available at the date of printing. However it may be incomplete. In the responsible that yet and LSTRA cultimately responsible for ascertaming the true conditions surfaunding the SiR RhfRR mati RRR 85 HAMPDEN ST EET 85 HARMPDERNRETRREERIRR OSTORN, MA site. Metad**R**ta for **R**a**R**a layers sho**R**/n on this map **R**an ealth of Massachusetts NATORIS UTRIRMET 18: 4688537mR P329004mE (Z Ra R19) A Rg Rst 19, 2021 R beRound at: httRs://wwRRass.gov/orgsRnassgis-bureauRof-geRgraphic-inforMation. R Department of Environmental Protection New England Conservatory of Music SAM JURN AND STREET Cathedral High School Blackstone School Mara Tie Street Northeastern University Carter Developmental Center A SAMPLON STATES Professional Advancement Network Joseph Hurley School on Medical Center Steel Steel Bosts niversity School of Med Sortenos orange **Boston Medical Cente** Menino Pay Account of the last н ORIVE Ruggi sisted Living READING STREET City on a Hill Charter Public S of Mathematics and Science John D O Bryant Scho ALTHER S REET James P Timilty Middle Sch chard Gardens Se COASE NO KEMBLE STREE TREET FARMINA STREET LUMPON SPARENT ZEIGLER STREET ollege 3 SOMETI THE PARTY ABRIET STREET DUBOIS STREET TREE Gordon-Conwell Theological Seminary PROCTOR STREET RREN STREET Boston Day and Evening Academy Charter School Samuel W Mason





<u>Documentation of the Results of the ESA Eligibility Determination:</u>

Using information in Appendix II of the NPDES RGP, the project located on Hampden Street, Boston, MA is eligible for coverage under this general permit under FWS Criterion A. This project is located in Suffolk County. No designated critical habitats were listed in the project area. An Endangered Species Consultation was conducted on the U.S. Fish & Wildlife Service New England Field Office ECOS IPaC webpage for the Site:

No Endangered species found at this location.



ited States Departme t of the I terior



August 19

1

FISH AND WILDLIF S RVIC

New gla d cological Services Field Office
7 Commercial Street Suite 3
Co cord NH 33 1-5 94
Pho e: (6 3) 3- 541 Fax: (6 3) 3- 1 4
http://www.fws.gov/ ewe gla d

I Reply Refer To: E

Co sultatio Code: 5 1N - 1-SLI-4449

ve t Code: 5 1N - 1- -13618 Project Name: 85 Hampde Street

Ε

Subject: List of threate ed a de da gered species that may occur i your proposed project

locatio or may be affected by your proposed project

To Whom It May Co cer:

The e closed species list ide tifies threate ed e da gered proposed a d ca didate species as well as proposed a d fi al desig ated critical habitat that may occur within the boundary of your proposed project a d/or may be affected by your proposed project. The species list fulfills the requirements of the .S. Fish a d Wildlife Service (Service) under section 7(c) of the dangered Species Act (Act) of 1973 as amended (16 .S.C. 1531 et seq.).

New i formatio based o updated surveys cha ges i the abu da ce a d distributio of species cha ged habitat co ditio s or other factors could cha ge this list. Please feel free to co tact us if you eed more curre t i formatio or assista ce regardi g the pote tial impacts to federally proposed listed a d ca didate species a d federally desig ated a d proposed critical habitat. Please ote that u der 5 CFR 4 .1 (e) of the regulatio s impleme ti g sectio 7 of the Act the accuracy of this species list should be verified after 9 days. This verificatio ca be completed formally or i formally as desired. The Service recomme ds that verificatio be completed by visiti g the COS-IPaC website at regular i tervals duri g project pla i g a d impleme tatio for updates to species lists a d i formatio . A updated list may be requested through the COS-IPaC system by completi g the same process used to receive the e closed list.

The purpose of the Act is to provide a mea s whereby threate ed a de da gered species a d the ecosystems upo which they depe d may be co served. der sectio s 7(a)(1) a d 7(a)() of the Act a d its impleme ti g regulatio s (5 CFR 4 et seq.) Federal age cies are required to utilize their authorities to carry out programs for the co servatio of threate ed a de da gered species a d to determi e whether projects may affect threate ed a de da gered species a d/or desig ated critical habitat. E

A Biological Ass ssm nt is r quir d for construction proj cts (or oth r und rtakings having similar physical impacts) that ar major F d ral actions significantly aff cting th quality of th human nvironm nt as d fin d in th National Environm ntal Policy Act (42 U.S.C. 4332(2) (c)). For proj cts oth r than major construction activiti s, th S rvic sugg sts that a biological valuation similar to a Biological Ass ssm nt b pr par d to d t rmin wh th r th proj ct may aff ct list d or propos d sp ci s and/or d signat d or propos d critical habitat. R comm nd d cont nts of a Biological Ass ssm nt ar d scrib d at 50 CFR 402.12.

If a F d ral ag ncy d t rmin s, bas d on th Biological Ass ssm nt or biological valuation, that list d sp ci s and/or d signat d critical habitat may b aff ct d by th propos d proj ct, th ag ncy is r quir d to consult with th S rvic pursuant to 50 CFR 402. In addition, th S rvic r comm nds that candidat sp ci s, propos d sp ci s and propos d critical habitat b addr ss d within th consultation. Mor information on th r gulations and proc dur s for s ction 7 consultation, including th rol of p rmit or lic ns applicants, can b found in th "Endang r d Sp ci s Consultation Handbook" at:

http://www.fws.gov/ ndang r d/ sa-library/pdf/TOC-GLOS.PDF

Pl as b awar that bald and gold n agl s ar prot ct d und r th Bald and Gold n Eagl Prot ction Act (16 U.S.C. 668 *et seq.*), and proj cts aff cting th s sp ci s may r quir development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow th wind n rgy guid lin s (http://www.fws.gov/wind n rgy/) for minimizing impacts to migratory birds and bats.

Guidanc for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

W appr ciat your conc rn for thr at n d and ndang r d sp ci s. Th S rvic ncourag s F d ral ag nci s to includ cons rvation of thr at n d and ndang r d sp ci s into th ir proj ct planning to furth r th purpos s of th Act. Pl as includ th Consultation Tracking Numb r in th h ad r of this l tt r with any r qu st for consultation or corr spond nc about your proj ct that you submit to our offic .

Attachm nt(s):

Official Sp ci s List e

Official Species ist

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by: **L**

New England Ecological Services Field OfficeL 70 Commercial Street, Suite 300 Concord, NH 03301-5094 L (60B) 223-2541 L

Εv

Project Summ ry a

Consultation Code: 05E1NE00-2021-SLI-4449 Event Code: 05E1NE00-2021-E-13618 **a**

Project Name: 85 Hampden Street Project Type: DEVELOPMENT

Project Description: Demolition of existing structures and the building of a new warehouse **a**

with sub level parking.

Εv

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.33021695,-71.07534299465219,14z



Counties: Suffolk County, Massachusetta

Endangered S ecies Act S ecies

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION. $\,\mathbf{p}$



<u>Documentation of the National Historic Preservation Act Eligibility Determination:</u>

As part of this permit, a determination was made as to whether there were any historic properties or places listed on the national register in the path of the discharge or in the vicinity of the construction of treatment systems or BMPs related to the discharge. A search on the Massachusetts Cultural Resource Information System Database and the National Register of Historic Places found that no historic properties are located on the project site. Therefore, construction and dewatering / water treatment work will be conducted on an existing development and will not impact surrounding areas. Therefore, the proposed discharge will not have the potential to cause effects on historical properties.

Massachusetts Cultural Resource Information System MACRIS

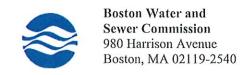
MACRIS Search Results

Search Criteria: Town(s): Boston; Street No: 85; Street Name: Hampden St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No. Property Name Street Town Year

Thursday, August 19, 2021 Page 1 of 1





DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICA	NT PROVIDE INI	FORMATION HERE:						
Company Name: Green Leaf Cor	nstitution	Address: 98 Adams Street, Suite 105 Leominster, MA						
Phone Number: (978) 401-2053		Fax number:						
Contact person name: Jami Anderson								
Cell number: (978) 401-2053		Email address: JAnderson@greenleafcm.com						
Permit Request (check one): 🗹 Nev								
Owner's Information (if different for Owner of property being dewatered:	rom above):							
			701 070 /					
Owner's mailing address: 160 Mide								
Location of Discharge & Proposed								
Street number and name: 85 Ham	npden Street	Neighbor	rhood					
Discharge is to a: □ Sanitary Sewer	□ Combined S	Sewer ✓ Storm Drain □	Other (specify):					
Describe Proposed Pre-Treatment Sy								
BWSC Outfall No. OF071								
Temporary Discharges (Provide Ant	ticinated Dates of D	ischarge): From	10/01/2021 _{To}	09/01/2022				
☐ Groundwater Remediation☐ Utility/Manhole Pumping		□ Tank Removal/Installation □ Test Pipe	 	n				
□ Accumulated Surface Water		☐ Hydrogeologic Testing	□ Other					
Permanent Discharges □ Foundation Drainage		□ Crawl Space/Footing Drain						
□ Accumulated Surface Water		□ Non-contact/Uncontaminated						
□ Non-contact/Uncontaminated Process		□ Other;						
1. Attach a Site Plan showing the source of number, size, make and start reading. N								
2. If discharging to a sanitary or combined	sewer, attach a copy of	of MWRA's Sewer Use Discharge	permit or application.					
 If discharging to a separate storm drain, a as other relevant information. 	attach a copy of EPA'	s NPDES Permit or NOI application	on, or NPDES Permit exclusion letter for	or the discharge, as wel				
4. Dewatering Drainage Permit will be den	ied or revoked if appli	icant fails to obtain the necessary p	ermits from MWRA or EPA.					
	Boston Water and Sew Engineering Customer							
9	80 Harrison Avenue,	Boston, MA 02119						
	Attn: Jodi Dobay, Engir E-mail: beginj@bwsc.	neering Customer Service org						
	Phone: 617-989-7259	Fax: 617-989-7716		, ,				
Signature of Authorized Representative for	Property Owner:	MM N	Date: 9	19/2021				