



Town of Brewster Water Quality Review Committee

2198 Main St., Brewster, MA 02631
(508) 896-3701

WATER QUALITY REVIEW COMMITTEE MEETING AGENDA

2198 Main Street
August 25, 2023 at 9AM

WATER QUALITY REVIEW COMMITTEE

Vacant

Chair

Amy von Hone

Vice Chair

Susan Brown

Ned Chatelain

Kimberley
Crocker Pearson

John Keith

Robert Michaels

Davis Walters

Staff Participant
Chris Miller

This meeting will be conducted in person at the time and location identified above. This means that at least a quorum of the members of the public body will attend the meeting in person and members of the public are welcome to attend in person as well. As a courtesy only, access to the meeting is also being provided via remote means in accordance with applicable law. Please note that while an option for remote attendance and/or participation is being provided as a courtesy to the public, the meeting/hearing will not be suspended or terminated if technological problems interrupt the virtual broadcast or affect remote attendance or participation, unless otherwise required by law. Members of the public with particular interest in any specific item on this agenda, which includes an applicant and its representatives, should make plans for in-person vs. virtual attendance accordingly.

Meetings may be joined by:

1. **Phone:** Call (929) 436-2866 or (301) 715-8592. Webinar ID: 869 1743 3374 Passcode: 443208

To request to speak: Press *9 and wait to be recognized.

2. **Zoom Webinar:** <https://us02web.zoom.us/j/86917433374?pwd=WFNNWktuKzROempqU1FjWDRlZzhXUT09>
Passcode: 443208

To request to speak: Tap Zoom "Raise Hand", then wait to be recognized.

When required by law or allowed by the Chair, persons wishing to provide public comment or otherwise participate in the meeting, may do so by accessing the meeting remotely, as noted above. Additionally, the meeting will be broadcast live, in real time, via **Live broadcast** (Brewster Government TV Channel 18), **Livestream** (livestream.brewster-ma.gov), or **Video recording** (tv.brewster-ma.gov).

1. Call to Order
2. Declaration of a Quorum
3. Meeting Participation Statement
4. Recording Statement
5. Review and discussion of Water Quality Protection District (WQPD) Zoning Bylaw Article XI and WQRC defined responsibilities – Jon Idman, Town Planner
6. Discussion and vote on reorganization of committee
7. For Your Information
 - a. Cape Sand & Recycling – May 2023 Semi-Annual Groundwater Monitoring Report
 - b. Cape Sand & Recycling – July 2023 Semi-Annual Third-Party Inspection Report
8. Matters Not Reasonably Anticipated by the Chair
9. Next Meeting: September 22, 2023
10. Adjournment

Date Posted:
8/22/23

Date Revised:

Received by Town Clerk:

ARTICLE XI
Water Quality Protection District
[Added 5-9-1994 ATM, Art. 51¹]

§ 179-53. Purpose. [Amended 11-17-2008 FYTM, Art. 17²]

The purposes of this Water Quality Protection Bylaw are:

- A. To promote the health, safety and general welfare of the community by ensuring an adequate quality and quantity of drinking water for the residents, institutions and businesses of the Town of Brewster;
- B. To preserve and protect all existing and potential sources of drinking water supplies within Brewster's borders;
- C. To identify uses that should be prohibited or allowed only by special permit and to establish performance standards that must be met for all uses within a Zone I, Zone II and/or the District of Critical Planning Concern ("DCPC"). [Amended 11-15-2021 FYTM by Art. 10]
- D. To protect groundwater and surface water resources from viral, pathogenic, phosphorus and nitrogen contamination and pollution from stormwater runoff;
- E. To complement the commonwealth's Department of Environmental Protection regulations governing groundwater protection and the commonwealth's efforts to protect surface and coastal waters;
- F. To protect other sensitive water resource areas, including those land areas that contribute recharge to private drinking water supply wells;
- G. To conserve the natural resources of the Town; and
- H. To prevent temporary and permanent contamination of the water resources of the Town.

§ 179-54. Scope of authority; overlay district. [Amended 11-17-2008 FYTM, Art. 17; 10-19-2009 FYTM, Art. 18]

This bylaw establishes regulations governing land uses and structures and their potential impact upon the Town's water resources. The provisions of Article XI are superimposed over all zoning districts and all land within the Town of Brewster and shall function as an overlay district. Where this article establishes rules, regulations, requirements, standards or provisions that are stricter than the underlying zoning districts, including those uses and structures found in Table 1 of the Zoning Bylaw, the provisions of this article shall control. In addition, this article establishes specific requirements for land uses and activities within those portions of the Town of Brewster mapped and identified on the Zoning Map as the District of Critical Planning Concern ("DCPC"), entitled "Brewster Water Protection District," as adopted by the Barnstable County Assembly of Delegates pursuant to the Cape Cod Commission Act, which includes "Zone I" and "Zone II" and the "Groundwater Protection District" and the "Pleasant Bay Watershed."

§ 179-55. Definitions. [Amended 11-17-2008 FYTM, Art. 17]

As used in this article, the following terms shall have the following meanings indicated:

-
1. Editor's Note: This article also repealed former Art. XI, Water Resource District, added 5-11-1982 ATM, Art. 88, as amended.
 2. Editor's Note: This article also changed the title of Art. XI from Groundwater Protection District to Water Quality Protection District.

§ 179-55

§ 179-55

AQUIFER — Geologic formation composed of rock, sand or gravel that contains significant amounts of potentially recoverable water.

BEST MANAGEMENT PRACTICES — Any structural or nonstructural mechanism designed to minimize the impact of non-point source pollution on receiving waters or resources, including, but not limited to: detention ponds, construction or installation of vegetative swales and buffers, street cleaning, reduced road salting, and public education programs. **[Amended 11-15-2021 FYTM by Art. 10]**

BUILDER'S ACRE — A unit of land measure equal to 40,000 square feet, which is considered a building acre in accordance with standard real estate practices.

COMMERCIAL FERTILIZERS — Any substance containing one or more recognized plant nutrients which is used for its plant nutrient content and which is designed for use, or claimed by its manufacturer to have value, in promoting plant growth. Commercial fertilizers do not include unmanipulated animal and vegetable manures, marl, lime, limestone, wood ashes, and gypsum.

EARTH REMOVAL — The removal or relocation of geologic materials, such as topsoil, sand, gravel, metallic ores or bedrock. Mining activities are considered earth removal, whether the disturbed natural materials are removed from the site or reworked on the site.

DEP — The Massachusetts Department of Environmental Protection.

DEVELOPMENT — The construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any structure; any mine, excavation, landfill, or land disturbance; and/or any change in use, or alteration or extension of the use, of land.

DISCHARGE — The accidental or intentional disposal, deposit, injection, dumping, spilling, leaking, incineration, or placing of toxic or hazardous material or waste upon or into any land or water so that such hazardous waste or any constituent thereof may enter the land or waters of Brewster. Discharge includes, without limitation, leakage of such materials from failed or discarded containers or storage systems and disposal of such materials into any on-site leaching structure or sewage disposal system.

HAZARDOUS OR TOXIC MATERIALS — Any substance or mixture of physical, chemical or any infectious characteristics posing a significant, actual or potential hazard to water supplies or other hazards to human health if such substance or mixture were discharged to land or water of the Town of Brewster. Hazardous or toxic materials include, without limitation, organic chemicals, petroleum products, heavy metals, radioactive or infectious wastes, acids and alkalis, solvents and thinners and products such as pesticides, herbicides in quantities greater than normal household use; and all substances defined as hazardous or toxic under MGL c. 21C and MGL c. 21E, using the Massachusetts Oil and Hazardous Substance List (310 CMR 40.0000), and 310 CMR 30.000.

HAZARDOUS MATERIAL OR WASTE, HOUSEHOLD QUANTITY OF — Any or all of the following:

- A. Two hundred seventy-five gallons or less of oil on site at any time to be used for heating of a structure or to supply an emergency generator; and
- B. Twenty-five gallons (or the dry weight equivalent) or less of other hazardous materials on site at any time, including oil not used for heating or to supply an emergency generator; and
- C. A quantity of hazardous waste at the very small quantity generator level as defined in the Massachusetts Hazardous Waste Regulations, 310 CMR 30.353.

HISTORICAL HIGH GROUNDWATER TABLE ELEVATION — A groundwater elevation determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey.

§ 179-55

§ 179-55

IMPERVIOUS SURFACE — Material or structure on, above or below the ground that does not allow precipitation or surface water to penetrate directly into the soil.

LANDFILL — A facility established in accordance with a valid site assignment for the purposes of disposing of solid waste into or on the land, pursuant to 310 CMR 19.006.

LOT — As per § 179-2, Definitions.

MINING — The removal or relocation of geologic materials, such as topsoil, sand, gravel, metallic ores or bedrock whether the disturbed natural materials are removed from the site or reworked on the site. **[Amended 11-15-2021 FYTM by Art. 10]**

NITROGEN MANAGEMENT — The process of ensuring that nitrogen generated by land uses does not exceed established capacities of the resources receiving nitrogen inputs.

NONSANITARY WASTEWATER — Wastewater discharges from industrial and commercial facilities containing wastes from any activity other than collection of sanitary sewage, including, but not limited to, activities specified in the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6).

OPEN DUMP — A facility which is operated or maintained in violation of the Resource Conservation and Recovery Act [42 U.S.c. § 4004(a)(b)], or the regulations and criteria for solid waste disposal.

PETROLEUM PRODUCT — Petroleum or petroleum byproduct, including, but not limited to: fuel oil; gasoline; diesel; kerosene; aviation jet fuel; aviation gasoline; lubricating oils; oily sludge; oil refuse; oil mixed with other wastes; crude oils; or other liquid hydrocarbons regardless of specific gravity. Petroleum product shall not include liquefied petroleum gas, including, but not limited to, liquefied natural gas, propane or butane.

POTENTIAL DRINKING WATER SOURCES — Areas that could provide significant potable water in the future.

PROCESS WASTEWATER — All wastewater disposed of on site other than sanitary wastewater.

RECHARGE AREAS — Areas that collect precipitation or surface water and carry it or have it pumped to aquifers. Recharge areas may include areas designated as Zone I, Zone II or Zone III.

SEPTAGE — The liquid, solid, and semisolid contents of privies, chemical toilets, cesspools, holding tanks, or other sewage waste receptacles. Septage does not include any material that is a hazardous waste, pursuant to 310 CMR 30.000.

SLUDGE — The solid, semisolid, and liquid residue that results from a process of wastewater treatment or drinking water treatment. Sludge does not include grit, screening, or grease and oil which are removed at the headworks of a facility.

STORMWATER MANAGEMENT — The process of ensuring that the magnitude and frequency of stormwater runoff does not increase the hazards associated with flooding and that water quality is not compromised by untreated stormwater flow.

SUBDIVISION — The division or redivision of a lot, tract, or parcel of land into two or more lots, tracts, or parcels in accordance with MGL c. 41 § 81L.

TIGHT TANK — Any and all containers or devices with regard to or used for wastewater disposal as defined and regulated by the State Sanitary Code, 310 CMR 15.260.

TREATMENT WORKS — Any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation, or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage, or disposal.

§ 179-55

§ 179-56

VERY SMALL QUANTITY GENERATOR — Any public or private entity, other than residential, which produces less than 27 gallons (100 kilograms) a month of hazardous waste or waste oil, but not including any acutely hazardous waste as defined in 310 CMR 30.136.

WASTE OIL RETENTION FACILITY — A waste oil collection facility for automobile service stations, retail outlets, and marinas which is sheltered and has adequate protection to contain a spill, seepage, or discharge of petroleum waste products in accordance with MGL c. 21, § 52A.

WATER QUALITY REVIEW COMMITTEE (WQRC) — Committee to be appointed by the Select Board to include seven members; one member each from the Select Board, Board of Health, Planning Board, Conservation Commission, and Water Commissions, the Brewster Building Commissioner and the Brewster Health Agent. At the initial appointment, to occur no later than three weeks after the effective date of this bylaw, members other than the Building Commissioner and the Health Agent shall be appointed for one-, two- and three-year terms and thereafter all members shall be appointed for three-year terms. The Building Commissioner and Health Agent shall serve as members of the WQRC while they are employed in their respective positions. **[Amended 11-18-2013 FYTM, Art. 10; 11-13-2017 FYTM, Art. 13; 11-15-2021 FYTM by Art. 10]**

ZONE I — The immediate land area around a well. It is defined as a four-hundred-foot protective radius for wells greater than 100,000 gpd and a radius of 100 to 400 feet for wells less than 100,000 gpd, depending upon the pumping rate. The Zone I must be owned by the water supplier or controlled through a conservation restriction. Only water supplier activities are allowed in the Zone I.

ZONE II — The DEP-approved area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated as defined in 310 CMR 22.00. The Zone II includes the Zone I.

ZONE III — The land area beyond the area of Zone II from which surface water and groundwater drain into Zone II. Zone III boundaries are determined by identifying the topographic surface water drainage divides. The surface water drainage area commonly coincides with the groundwater drainage; however, in areas where they are not coincident, the Zone III encompasses both the surface and groundwater drainage area.

§ 179-56. Use regulations. [Amended 11-17-2008 FYTM, Art. 17]

A. Provided that all necessary permits, orders, or approvals as required by local, county, state, or federal law are also obtained, the following uses and activities shall not independently trigger the need for a special permit and shall be allowed as long as the uses and activities comply with applicable performance standards established in § 179-57. **[Amended 11-15-2021 FYTM by Art. 10]**

- (1) (Reserved)
- (2) (Reserved)
- (3) Retail/wholesale sales/office/commercial uses with a lot size below 40,000 square feet and building area less than 5,000 square feet that store or handle hazardous materials or wastes in amounts that do not exceed household quantities;
- (4) Construction activities: The activities of constructing, repairing, or maintaining any building or structure, provided that all contractors, subcontractors, laborers, and their employees follow all local, county, state and federal laws when using, handling, storing, or producing any hazardous materials or wastes;
- (5) Household use: the use of hazardous materials or wastes in amounts that do not exceed

§ 179-56

§ 179-56

household quantities;

- (6) Municipal use: the municipal use of hazardous materials and any materials stored and used for the sole purpose of water supply treatment or as required by law; and
- (7) Storage of oil(s): the storage of oil(s) used for heating fuel, provided that the container used for such storage shall be located within an enclosed structure that is sufficient to preclude leakage of oil to the external environment and to afford routine access for visual inspection and shall be sheltered to prevent the intrusion of precipitation;
- (8) Conservation of soil, water, plants, and wildlife;
- (9) Outdoor recreation, nature study, boating, fishing, and hunting where otherwise legally permitted;
- (10) Normal operation and maintenance of existing water bodies and dams, splash boards, and other water control, supply and conservation devices;
- (11) Use and development of single-family residential dwelling units;
- (12) Use of land pursuant to an approved definitive subdivision plan, special permit, or variance;
- (13) Farming, gardening, nursery, conservation, forestry, harvesting, and grazing;
- (14) Construction, maintenance, repair, and enlargement of drinking-water-supply-related facilities such as, but not limited to, wells, pipelines, aqueducts, and tunnels;
- (15) Underground storage tanks related to permitted activities.

B. Prohibited uses within the Town of Brewster. The following uses are prohibited throughout and within the Town of Brewster:

- (1) (Reserved)
- (2) Landfills receiving only wastewater and/or septage (wastewater residuals "monofils") as defined in 310 CMR 32.05, approved by the DEP pursuant to MGL c. 21, §§ 26 through 53; MGL c. 111, § 17; MGL c. 83, §§ 6 and 7, and regulations promulgated thereunder.
- (3) Storage of sludge and septage, as defined in 310 CMR 32.05, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31.
- (4) Storage of deicing chemicals, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads, unless such storage, including loading areas, is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.
- (5) Storage of animal manure, unless such storage is covered or contained within a structure designed to prevent the generation and escape of contaminated runoff or leachate.
- (6) Earth removal not consistent with § 179-39 of the Brewster Zoning Bylaw.
- (7) Facilities that generate, treat, store or dispose of hazardous waste subject to MGL c. 21C and 310 CMR 30.000, except for the following:
 - (a) Very small quantity generators of Class A regulated recyclable material as defined under 310 CMR 30.000.

- § 179-56 (b) Household hazardous waste centers and collection events under 310 CMR 30.390. § 179-56
- (c) Waste oil retention facilities required by MGL c. 21, § 52A.
- (d) Water remediation treatment works approved by the Department of Environmental Protection (DEP) designed in accordance with 314 CMR 5.00 for the treatment of contaminated groundwater or surface waters and operated in compliance with MGL c. 21E and 310 CMR 40.0000.
- (8) Automobile graveyards and junkyards, as defined in MGL c. 140B, § 1.
- (9) Storage of dry hazardous materials, as defined in MGL c. 21E, unless in a freestanding container within a building or above ground with adequate secondary containment adequate to contain a spill the size of the container's total storage capacity.
- (10) Storage of fertilizers unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.
- (11) (Reserved)³
- (12) Any commercial floor drainage system which discharges to the ground without a DEP permit or authorization. **[Amended 11-15-2021 FYTM by Art. 10]**
- C. Prohibited uses within Zones I and Zones II of the Groundwater Protection District. The following uses, which may be allowed in other areas of the Town of Brewster, are prohibited in Zones I and II of the Groundwater Protection District. Notwithstanding language to the contrary found within § 179-52 of the Zoning Bylaw, no variance for a use or activity not otherwise permitted shall be granted by the Board of Appeals within Zones I or Zones II of the Groundwater Protection District.
- (1) Storage of liquid petroleum and/or liquid hazardous products (as defined in MGL c. 21E), except the following: normal household use, outdoor maintenance and heating of a structure; fuel storage facilities as licensed by the Town; waste oil retention facilities required by statute, rule or regulation; emergency generators required by statute, rule or regulation.
- (2) Petroleum, fuel oil, and heating oil bulk stations and terminals, including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5983 and 5171, not including liquefied petroleum gas.
- (3) Treatment works that are subject to 314 CMR 5.00 (not Title 5 septic systems), including privately owned sewage treatment facilities, except for the following:
- (a) The replacement or repair of an existing treatment works that will not result in a system capacity greater than the system capacity of the existing treatment works;
- (b) The replacement of existing subsurface sewage disposal system(s) with wastewater treatment works that will not result in a system capacity greater than the system capacity of the existing system(s);
- (c) Treatment works approved by DEP designed for the treatment of contaminated groundwater; and
- (d) Sewage treatment facilities in those areas with existing water quality problems when it has

3. Editor's Note: Former Subsection B(11), regarding land uses that create more than 15% or 2,500 square feet of impervious surface, was repealed 11-15-2021 FYTM by Art. 10.

§ 179-56

§ 179-56

been demonstrated to DEP and the Planning Board's satisfaction that these problems are attributable to current septic problems and that there will be a net improvement in water quality.

- (4) Stockpiling and disposal of snow or ice removed from highways and streets located outside of a Zone II that contains sodium chloride, chemically treated abrasives or other chemicals used for snow and ice removal.
- (5) Earth removal, consisting of the removal of soil, loam, sand, gravel, or any other earth material within 10 vertical feet of historical high groundwater table elevation, as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey.
- (6) Industrial and commercial uses which discharge process wastewater on site.
- (7) Facilities or works for the treatment or disposal of nonsanitary wastewater that are subject to 314 CMR 5.00, or that discharge to the ground nonsanitary wastewater, including industrial and commercial process waste water, except the following:
 - (a) The replacement or repair of an existing system/treatment works that will not result in a design capacity greater than the design capacity of the existing system/treatment works;
 - (b) Treatment works approved by the Department of Environmental Protection designed for the treatment of contaminated groundwater and operating in compliance with 314 CMR 5.05(3) or 5.05(13); and
 - (c) Publicly owned treatment works.
- (8) Storage of commercial fertilizers, as defined herein and in MGL c. 128, § 64.
- (9) Gasoline stations, automotive service stations or car washes or motor vehicle or commercial boat storage or repair. For the purposes of this chapter, "commercial" is defined as any activity involving the sale of goods or services carried out with the intent of earning a profit.
- (10) Dry-cleaning establishments.

D. Uses/structures allowed by special permit.

- (1) Unless otherwise exempted or prohibited elsewhere by this article and as otherwise permitted in the underlying zoning district, the following uses and activities shall require a special permit from the Planning Board. Where the use or activity requires a special permit from another special permit granting authority, the provisions of this article shall nevertheless apply, although the Planning Board and the other special permit granting authority may hold a combined public hearing pursuant to MGL c. 40A, § 9 in lieu of separate public hearings:
 - (a) (Reserved)
 - (b) The application for the construction of 10 or more dwelling units, whether on one or more contiguous lots, tracts, or parcels, or whether contained within one or more structures;
 - (c) The application for a nonresidential use of 40,000 square feet or greater in lot size or 5,000 square feet or greater of gross floor area; **[Amended 11-15-2021 FYTM by Art. 10]**
- (2) Provided that the following uses and/or structures are permitted by the underlying zoning district and other relevant regulations, a special permit may be issued by the Planning Board for

§ 179-56

§ 179-56

the following uses and/or structures, provided that the Planning Board may impose conditions upon the use or structure, consistent with the authority provided in MGL c. 40 § 9, such that the use or structure will not, in the Planning Board's sole judgment, be inconsistent with the purpose and intent of this bylaw. Notwithstanding the powers hereby conveyed by this article and MGL c. 40A, § 9 to the Planning Board and in recognition of the expertise found within the members of the Water Quality Review Committee, the Planning Board shall, in accordance with the procedures of MGL c. 40A, § 11, cause all applications for a special permit pursuant to this article to be submitted to the Water Quality Review Committee for the Committee's comments and recommendations as provided by MGL c. 40A, § 11. The Planning Board shall include in its decision an explanation regarding any substantive deviation from the Committee's recommendation regarding the approval, denial or conditional approval of the special permit application.

- (a) The application of fertilizers for nondomestic or nonagricultural uses. Such applications shall be made in a manner so as to minimize adverse impacts on groundwater due to nutrient transport, deposition and sedimentation and shall conform to Chapter 119 of the Brewster Town Code, Fertilizer Nutrient Control. **[Amended 11-18-2019 FYTM, Art. 6]**
- (b) The construction of dams or other water control devices, ponds, pools or other changes in water bodies or courses, created for swimming, fishing or other recreational uses, or drainage improvements.
- (c) (Reserved)⁴
- (d) Any use which involves on-site wastewater disposal facilities having over 10,000 gallons per day capacity or disposal of process waste from operations other than personal hygiene and food for residents, patrons and employees.
- (e) Commercial boat and motor vehicle storage, service or repair. For the purposes of this Chapter, "commercial" is defined as any activity involving the sale of goods or services carried out with the intent of earning a profit.
- (f) Storage of home heating fuels in approved containers in amounts greater than 275 gallons or in the aggregate, greater than 275 gallons.
- (g) Treatment works that are subject to 314 CMR 5.00, including privately owned sewage treatment facilities, and:
 - [1] The replacement or repair of an existing treatment works that will not result in a design capacity greater than the design capacity of the existing treatment works.
 - [2] The replacement of existing subsurface sewage disposal system(s) with wastewater treatment works that will not result in a design capacity greater than the design capacity of the existing system(s).
 - [3] Treatment works approved by the Massachusetts Department of Environmental Protection designed for the treatment of contaminated groundwater.
 - [4] Sewage treatment facilities in those areas with existing water quality problems when it has been demonstrated to the Department of Environmental Protection's and the

4. Editor's Note: Former Subsection D(2), regarding uses that create more than 15% or 2,500 square feet of impervious surface, was repealed 11-15-2021 FYTM by Art. 10.

§ 179-56

special permit granting authority's satisfaction both that these problems are attributable to current septic problems and that there will be a net improvement in water quality.

§ 179-57

§ 179-57. Performance standards. [Amended 11-17-2008 FYTM, Art. 17; 10-19-2009 FYTM, Art. 18]

To preserve the natural land surface providing high-quality recharge to the groundwater, to limit sewage flow and fertilizer application to amounts which will be adequately diluted by natural recharge and to prevent the discharge or leakage of toxic or hazardous substances into the surface and groundwater resources, all new, altered or expanded uses within Zone I, Zone II and/or the DCPC area shall meet the following performance standards, in addition to those requirements imposed by this article or the Planning Board:

- A. No new, altered or expanded uses within Zone I, Zone II and/or the DCPC area shall exceed a five-parts-per-million (ppm) nitrogen loading standard based on the methodology contained in the Brewster Board of Health Nitrogen Loading Regulation. The overall concentration of nitrate nitrogen resulting from domestic wastewater disposal, road runoff, fertilizer application, and other nitrogen sources, when diluted by rainwater recharge on the lot, shall not exceed five parts per million (5 ppm). The policies and procedures in the Brewster Board of Health Nitrogen Loading Regulation will be used to confirm compliance with the 5 mg/L standard. The regulation requires the use of a nitrogen loading spreadsheet developed by the Board of Health to calculate the nitrogen concentration for a subject property based on the proposed land uses. The Board of Health or the Health Agent, or their designee, will review the proposed project and the nitrogen loading spreadsheet calculations for compliance with the health regulation and the performance standards in this bylaw. **[Amended 11-18-2019 FYTM, Art. 6; 11-15-2021 FYTM by Art. 10]**
- B. All toxic or hazardous materials shall be stored in product-tight containers, protected from corrosion, accidental damage or vandalism and shall be used and handled in such a way as to prevent spillage with provisions for spill containment and cleanup procedures. In addition, commercial enterprises shall be required to maintain a product inventory and reconcile said inventory with purchase, use, sales and disposal records at sufficient intervals to detect product loss. Subsurface fuel and chemical storage facilities in compliance with local regulations and Massachusetts fire prevention regulations shall be deemed to be in compliance with this standard.
- C. No toxic or hazardous materials shall be present in waste disposed on the site. Waste composed in part or entirely of toxic or hazardous materials shall be retained in product-tight containers for removal and disposal by a licensed scavenger service or as directed by the Board of Health.
- D. Contaminant levels in groundwater resulting from disposal of any substance from operations, other than personal hygiene and food for residents, patrons and employees or from wastewater treatment and disposal systems greater than 10,000 gallons per day capacity, shall not exceed those levels specified in the Drinking Water Regulations of Massachusetts, 310 CMR 22.00, after allowing for dilution by natural recharge on the premises. If higher, background levels of individual constituents in the groundwater shall not be exceeded.
- E. All new, altered or expanded uses shall comply with the requirements of the Stormwater Management Bylaw (Chapter 272) to collect, treat and manage stormwater. **[Amended 11-15-2021 FYTM by Art. 10]**
- F. (Reserved)⁵

§ 179-57
G. Sand and gravel removal operations shall be limited to a plane that is at least 10 feet above the historical high groundwater level for that location. Land area exposed at any one time shall be limited to no more than five contiguous acres in surface area and land disturbed by sand and gravel removal operations shall be returned to a natural vegetative state within one year of completion of operations. § 179-61

H. Monitoring of regulated substances in groundwater monitoring wells. If required by the Planning Board, groundwater monitoring well(s) shall be provided at the expense of the applicant in a manner, number, and location approved by the Planning Board. Except for existing wells found by the Planning Board to be adequate for this provision, the required well(s) shall be installed by a water well contractor. Samples shall be analyzed and analytical reports that describe the quantity of any hazardous material or waste present in each monitoring well shall be prepared by a Massachusetts certified laboratory.

§ 179-58. Prohibited uses within Pleasant Bay Watershed. [Amended 11-17-2008 FYTM, Art. 17]

(Reserved)

§ 179-58.1. Uses/structures allowed by special permit within the Pleasant Bay Watershed. [Added 11-17-2008 FYTM, Art. 17]

(Reserved)

§ 179-58.2. Performance standards within Pleasant Bay Watershed. [Added 11-17-2008 FYTM, Art. 17]

(Reserved)

§ 179-59. Prohibited uses within the watersheds of surface water bodies other than Pleasant Bay. [Amended 11-17-2008 FYTM, Art. 17]

(Reserved)

§ 179-59.1. Uses/structures allowed by special permit within watersheds of surface water bodies other than Pleasant Bay. [Added 11-17-2008 FYTM, Art. 17]

(Reserved)

§ 179-59.2. Performance standards within watersheds of surface water bodies other than Pleasant Bay. [Added 11-17-2008 FYTM, Art. 17]

(Reserved)

§ 179-60. (Reserved) [Amended 11-17-2008 FYTM, Art. 17]

§ 179-61. Water quality review.

A. Water Quality Review Committee. There is hereby established a Water Quality Review Committee (WQRC), comprising one representative each appointed from time to time by and from the Select

5. Editor's Note: Former Subsection F, regarding performance standards for stormwater management, was repealed 11-15-2021 FYTM by Art. 10.

§ 179-61 Board, Board of Health, Planning Board, Conservation Commission, Water Commission, § 179-61
Comprehensive Water Planning Committee, Health Director and Building Commissioner.
[Amended 11-18-2013 FYTM, Art. 10; 11-13-2017 FYTM, Art. 13]

B. Certificate of water quality compliance.

- (1) A certificate of water quality compliance shall be obtained by the owner of the premises from the WQRC or, for special permit uses, from the SPGA:
 - (a) For erection of any new principal structure other than a single-family dwelling or for change in occupancy requiring a certificate of use and occupancy under the State Building Code.
 - (b) For occupancy of any premises not requiring a Certificate of use and occupancy but involving the storage, handling or transportation of toxic or hazardous wastes.
- (2) No building permit or certificate of use and occupancy shall be issued by the Building Commissioner unless a certificate of water quality compliance, if required, has been applied for or obtained.

C. Requirements. A certificate of water quality compliance shall be granted only as follows: [Amended 11-18-2019 FYTM, Art. 6]

- (1) For new construction or additions or new activities not involving structures, only if in full compliance with all requirements of § 179-57, Performance standards.
- (2) For change in occupancy or operation on previously developed premises, only if the requirements of § 179-57B, C and D are met, and the requirements of all other subsections of § 179-57 are either met or, if previously exceeded, there will be no further increase in noncompliance.

D. Submittals. In applying for a certificate of water quality compliance or a special permit, two paper sets and one electronic copy of application materials shall be submitted to the Building Commissioner, who shall forward them to each member of the WQRC. In the case of uses requiring a special permit under § 179-56D, one set shall also be submitted to the SPGA along with any other application materials. All information necessary to demonstrate compliance must be submitted, including but not limited to the following: [Amended 11-18-2019 FYTM, Art. 6; 11-15-2021 FYTM by Art. 10]

- (1) A complete list of all chemicals, pesticides, fuels and other potentially toxic or hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use, accompanied by a description of measures to protect from vandalism, corrosion and leakage and to provide for control of spills.
- (2) A description of potentially toxic or hazardous materials to be generated, indicating storage and disposal method.
- (3) Evidence of approval by the Massachusetts Department of Environmental Protection of any industrial waste treatment or disposal system or any wastewater treatment system over 15,000 gallons per day capacity, accompanied by analysis by a professional engineer in sanitary or civil engineering registered in the Commonwealth of Massachusetts certifying compliance with § 179-57D.

E. Action. For uses not requiring a special permit under § 179-56D, the WQRC shall act within 21 days

§ 179-61 of application, approving it by issuing a certificate of compliance if a majority determine that the applicant has adequately demonstrated compliance with the requirements of the Water Quality Protection District, and rejecting the application otherwise. For uses requiring a special permit under § 179-56D, the WQRC shall make recommendations to the SPGA within 35 days of receipt of the application, as provided in MGL c. 40A, § 11. [Amended 11-18-2019 FYTM, Art. 6] § 179-62

F. Certificate review.

- (1) Each three years the WQRC shall review compliance with this article and the certificate of water quality compliance. Upon request, certificate holders shall submit the following:
 - (a) Description of any changes from the originally submitted materials.
 - (b) Description of any maintenance, repair, replacement, or expansion of the existing sewage disposal system, sewage pumping, or certified inspections completed from the date of the issuance of the last certificate renewal. The certificate holder shall self-certify that the sewage disposal system has been properly maintained and is in proper operating condition. [Amended 11-15-2021 FYTM by Art. 10]
 - (c) Results from analysis of leachate or wastewaters as may be required by the Board of Health.
 - (d) Documentation on the operation and maintenance of stormwater facilities permitted under the Stormwater Management Bylaw (Chapter 272). [Added 11-15-2021 FYTM by Art. 10]
- (2) Evidence of noncompliance shall be reported to the Building Commissioner for enforcement action who shall have the authority to enforce the provisions of this bylaw. [Amended 11-15-2021 FYTM by Art. 10]

§ 179-62. Enforcement.

- A. Inspection. These provisions shall be enforced by the Building Commissioner. The Building Commissioner or agent of the Board of Health may enter upon the premises at any reasonable time to inspect for compliance with the provisions of this article. Evidence of compliance with approved waste disposal plans may be required by the enforcing officers. All records pertaining to waste disposal and removal shall be retained.
- B. Violations. Written notice of any violations shall be provided to the holder of the certificate of water quality compliance, specifying a time for compliance, including cleanup of any spilled materials which is reasonable in relation to the public health hazard involved and the difficulty of compliance, but in no event shall more than 30 days be allowed for either compliance or finalization of a plan for longer term compliance, approved by the WQRC.



Town of Brewster

2198 MAIN STREET
BREWSTER, MASSACHUSETTS 02631-1898

PHONE: 508.896.3701 EXT. 1120

FAX: 508.896.4538

brhealth@brewster-ma.gov

WWW.BREWSTER-MA.GOV

Health Department

Amy L. von Hone, R.S., C.H.O.
Director

Sherrie McCullough, R.S.
Assistant Director

Tammi Mason
Senior Department Assistant

BREWSTER BOARD OF HEALTH NITROGEN LOADING REGULATION

I. Authority:

In accordance with Massachusetts General Laws, Chapter 111, Sections 31 and 127A, the Brewster Board of Health hereby adopts the following regulation to specify the process for developing nitrogen loading calculations for use by the Board and for compliance with other Town zoning articles and regulations including the Water Quality Protection District Bylaw, (Chapter 179 Sections 53-62).

II. Purpose:

To protect public health through the protection of water resources in the Town of Brewster, including, but not limited to public drinking water supplies, coastal estuaries and freshwater ponds, the Board of Health has adopted this regulation to create a standardized method to estimate the nitrogen loading impacts to water quality from new, altered, or expanded land uses. The regulation specifies how nitrogen loading analyses are to be conducted for the Board and for use under other town zoning articles and associated regulations, including the Water Quality Protection District Bylaw.

This regulation includes requirements for the specific nitrogen loading factors used in the nitrogen loading calculations and specific spreadsheets that must be used to document the results of an analysis.

III Review of Nitrogen Loading Projections.

- A. For any project required to meet the performance standards in the Town's Water Quality Protection Bylaw (the Bylaw), or any other applicable law, the following procedures shall be used to determine whether the project will meet the maximum 5 ppm nitrogen loading standard.
- B. The project applicant shall request review of the project nitrogen loading calculations on a form provided by the Board of Health.
- C. The review will commence upon receipt of a completed application, including payment of any applicable fee.

IV. Required Inputs for Nitrogen Loading Calculations:

- A. Table 1 attached to this regulation contains the nitrogen loading input parameters that must be used for any such project. These input values are based on standard inputs used by the Cape Cod Commission (Cape Cod Commission Technical Nitrogen Loading Technical Bulletin 91-001, April 1992) with some additional requirements specified by the Board of Health. Any changes to these input values must be approved by the Health Agent or their designee. The Health Agent or the applicant can refer a proposed change to the Board for its review and approval.
- B. If a use is proposed for a property for which a nitrogen loading value is not provided in Table 1, the applicant must request approval for an appropriate nitrogen loading rate and/or

recharge rate from the Health Agent or their designee. The Health Agent or their designee can refer the request for approval to the Board of Health.

V. Site Plan:

- A. A site plan must be provided with the calculations to document the information used in the nitrogen loading analysis. This includes:
- the existing or proposed lot area
 - the areas of driveways
 - impervious patios and roof areas
 - and undisturbed natural areas
 - existing and proposed lawn areas

Lawn Area Definition: The lawn area used in the calculations should reflect the lawn area shown on the site plan. A lawn is defined as a ground covered with grass or other vegetation that is mowed more than twice per year. A minimum lawn area of 1,000 square foot must be included for all projects subject to the Bylaw.

B. Septic System:

The site plan also needs to document the location and size of the existing or proposed septic system serving the property. If an innovative/alternative septic system is proposed to reduce the concentration of nitrogen in septic system effluent, the applicant must provide documentation that the system has been approved for pilot, provisional or general use by the Massachusetts Department of Environmental Protection (DEP) as required by Title 5 (310 CMR 15.00). This documentation must include the nitrogen concentration in the treated effluent approved by DEP. If an applicant has reason to request a nitrogen concentration in treated effluent from an alternative treatment system that is different from that approved by DEP, they need to receive approval for the proposed concentration from the Health Agent or their designee.

VI. Wastewater Flow:

- A. Consistent with the procedures used by the Cape Cod Commission, the wastewater flow used to calculate the nitrogen input from onsite septic systems on residential properties will be based on an average of:
1. The Title 5 design flow for the system based on the number of bedrooms in the house (310 CMR 15:203) and
 2. The average flow based on the occupancy rate provided in the most recent U.S Census data for Brewster.
- B. According to the 2020 Census, the average occupancy rate for Brewster is 2.3 people per house. Therefore, until adjusted based on future, updated census data, using a septic system flow rate of 55 gallons per day per person, a total of 126.5 gallons per day must be used to calculate the average occupancy nitrogen load. Together, the Title 5 design flow volume and the average occupancy volume will be averaged to calculate the wastewater flow.
- C. This calculation shall be used solely for purposes of determining the average Nitrogen Load for the property and shall not affect the design flow of the system as required by Title 5 and/or applicable regulations of the Board of Health.

VII. Use of Brewster Board of Health Spreadsheet for Nitrogen Loading Calculations:

Nitrogen loading calculations developed for use under this regulation must be developed and documented on one of the nitrogen loading calculation spreadsheets attached to this regulation and available electronically from the Health Department. The applicant should use one spreadsheet based on the type of project they propose: either a residential, commercial/industrial, or mixed-use project. The mixed-

use spreadsheet should only be used for a project that combines a commercial/industrial use with a residential use on the same property. The use of the required spreadsheet ensures calculations are be done in a consistent manner that can be reviewed and approved by the Board or its designee. The outcome of the calculation is a prediction of the average nitrogen concentration entering groundwater from a property which can be used to confirm it will meet the performance standards for water quality protection established by the Board of Health or included in other Town zoning articles or regulations, including the Water Quality Protection District Bylaw.

VIII. Confirmation of Nitrogen Load:

- A. Upon receipt of a completed Nitrogen Loading plan, the Health Agent shall review the plan for completeness and confirm the accuracy of the calculation. Any plan that is incomplete or that is not in full compliance with this regulation will be rejected.
- B. The Health Agent will either confirm or deny the Nitrogen Loading projection submitted by the applicant. If the projection is denied, the Health Agent shall state the reasons for denial and the applicant will have an opportunity to resubmit the plan.
- C. The Health Agent or the applicant may refer the plan to the Board of Health for its review of the Health Agent's determination.
- D. Approval of the plan shall not constitute an approval of the project or any component thereof.

IX. Variances:

Variances from this regulation, if referred by the Health Agent or requested by the applicant, may be granted by the Board of Health after a hearing at which the applicant establishes the following:

- A. The enforcement thereof would do manifest injustice;
- B. Submittal of documentation and up-to-date data that supports the requested variance;
- C. The person requesting a variance has established that a level of environmental protection that is at least equivalent to that provided under this regulation can be achieved without strict application of the provision of regulation from which a variance is sought.

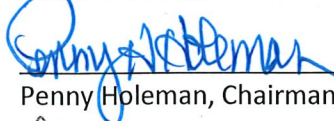
X. Invalidation:

If any section, paragraph, sentence, clause or phrase of the regulations shall be decided invalid for any reason, whatsoever, such decision shall not affect the remaining portion of these regulations, which shall remain in full force and effect, and to this end of the provision of these regulations are hereby declared severable.

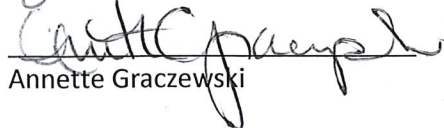
Adopted: February 16, 2022

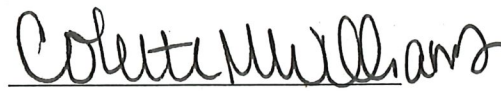
Effective: February 16, 2022

Board of Health:


Penny Holeman, Chairman


Jean Kampas, Vice Chairman


Annette Graczewski


Town Clerk

Joseph Ford


Dr. Kimberley Crocker Pearson

Brewster Board of Health
Nitrogen Loading Calculations Spreadsheet

Nitrogen Loading Calculations under the Board of Health Nitrogen Loading Regulation must be conducted using the spreadsheets in this workbook.

Instructions

This workbook contains three sheets, each calculating an estimate of nitrogen loading for different types of properties in Brewster. Navigate to the sheet ("Residential", or "Commercial|Industrial", or "Mixed Use") which best describes your property and complete the highlighted cells to calculate.

The calculation includes two sections - Section 1 calculates the nitrogen loading from runoff on the property and Section 2 calculates the nitrogen loading from wastewater. Nitrogen from both runoff and wastewater are combined to calculate the total average nitrogen load from any property.

To complete section 1 (Runoff), input the areas (in square feet) of the property and of the various ground covers (roof, impervious material, lawn) on the property.

To complete section 2 (Wastewater), first indicate if you have an innovative/advanced septic system by completing that field with either "Yes" or "No". If yes, then input the effluent nitrogen concentration based on the value approved by MA DEP for that system. If no, then a default value of 35 mg/L is automatically used.

For residential properties, the title 5 design flow is calculated based on the number of bedrooms on the property. The title 5 design flow is averaged with an average nitrogen load for residential properties in the final average nitrogen load value. For commercial/industrial properties, input the design wastewater flows according to Title 5 section 203 (310 CMR 15.203), Table 3. The worksheet for mixed use properties includes room for both of these figures.

The loading rates for any other land use associated with a property not included in this workbook must be presented to the Brewster Health Agent or their designee for review and approval as required in the Nitrogen Loading Regulation. The additional loading rates, once approved can be entered in the "Other" category on the

**TABLE 1: Input Values for Nitrogen Loading Calculations
Brewster Board of Health Nitrogen Loading Regulation**

Land Use/Nitrogen Source	Nitrogen Loading Input	Recharge Rate*
Roofs, Driveways, Impervious Areas and Lawns		
Building Roof Area	0.75 mg/L	40 in/year Total footprint of all buildings on the property
Road/Driveway/Impervious Area	1.5 mg/L	40 in/year Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios*
Fertilizer Loading Rate for Lawns	3 lbs N/1,000 sq ft - 25% leaching rate	17 in/year Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year.
Minimum Lawn Size	1,000 sq. ft.	
Natural/Undisturbed Areas	0.05 mg/L	17 in/year Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.
Wastewater - Residential Uses		
	Standard Septic System	Innovative/Alternative (I/A) Septic System
Title 5 Design Flow	Based on Title 5 (310 CMR 15.203)	Based on Title 5 (310 CMR 15.203)
Average Wastewater Flow	2.3 people/house @ 55 gallon/day per person	2.3 people per house @ 55 gallon/day per person
Wastewater Nitrogen Concentration	35 mg/L	Nitrogen Concentration based on DEP Alternative System Approval Letter*
Wastewater - Non-Residential Uses		
	Standard Septic System	Innovative/Alternative Septic System
Title 5 Design Flow	Based on Title 5 (310 CMR 15.203)	Based on Title 5 (310 CMR 15.203)
Wastewater Nitrogen Concentration	35 mg/L	Nitrogen Concentration based on DEP Alternative System Approval Letter* or approved by the Health Agent or their designee

Notes

- * *Recharge Rate is the amount of annual rainfall that infiltrates into the ground for each type of land use area based on the Cape Cod Commission Nitrogen Loading Technical Bulletin 91-001, April, 1992*
- * *Impervious areas include paved, gravel, shell, and crushed stone pathways, patios, driveways and parking areas*
- * *The treated effluent nitrogen concentration for an I/A septic treatment system approved by the Massachusetts Department of Environmental Protection in their Pilot, Provisional or General Use Approval is found at: <https://www.mass.gov/guides/innovative-technology-and-title-5-systems>*

Complete the highlighted cells as applicable.

Land Use/Nitrogen Source	Area (square feet)	Nitrogen Loading Input (units)	Recharge Rate (units)	Volume (L/day)	Nitrogen Load (mg/day)
Lot size (total)	40000				
Building Roof Area	2500	0.75 mg/L	40 inches/year	646.5	484.9
Total footprint of all buildings on the property					
Road/Driveway/Impervious Area	2500	1.5 mg/L	40 inches/year	646.5	969.8
Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios. Impervious areas include gravel, shell, and crushed stone pathways or driveways or parking areas					
Lawn Size	1500	3 lbs N/1,000 sq ft - 25% leaching rate	17 inches/year	164.9	1399.3
Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year. The minimum lawn size for nitrogen loading calculations is 1,000 sq. ft.					
Other/Miscellaneous	0	0 mg/L	17 inches/year	0.0	0.0
For any other potential sources of nitrogen on the property. Inputs must be approved by the health agent.					
Natural/Undisturbed Areas	33500	0.05 mg/L	17 inches/year	3681.8	184.1
Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.					
Subtotal: Runoff					5139.7

Section 1: Runoff

Do you have an Innovative/Alternative Septic System (Yes/No)?	No	Yes
If "Yes", what is the nitrogen concentration of the system (in units of mg/L), based on the DEP Alternative System Approval Letter? (See https://www.mass.gov/guides/innovative-technology-and-title-5-systems)		
Number of Bedrooms?	3	
Average Wastewater Flow	The average wastewater flow method assumes 2.3 people and an average flow of 55 gallons per day per person.	
Volume (L/day)		Nitrogen Load (mg/day)
1249.1		43716.8
478.8		16758.1

Section 2: Wastewater

Total nitrogen load (including runoff and wastewater)	Title 5	Average
6388.7	6388.7	46754.8
5618.5	19796.1	3.5
Average Nitrogen Load		5.42 ppm

Complete the highlighted cells as applicable.

Land Use/Nitrogen Source	Area (square feet)	Nitrogen Loading Input (units)	Recharge Rate (units)	Volume (L/day)	Nitrogen Load (mg/day)
Lot size (total)	30000				
Building Roof Area	2000	0.75 mg/L	40 inches/year	517.2	387.9
<i>Total footprint of all buildings on the property</i>					
Road/Driveway/Impervious Area	5000	1.5 mg/L	40 inches/year	1293.0	1939.5
<i>Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios. Impervious areas include gravel, shell, and crushed stone pathways or driveways or parking areas</i>					
Lawn Size	1000	3 lbs N/1,000 sq ft - 25% leaching rate	17 inches/year	109.9	932.9
<i>Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year. The minimum lawn size for nitrogen loading calculations is 1,000 sq. ft.</i>					
Other/Miscellaneous	0	0 mg/L	17 inches/year	0.0	0.0
<i>For any other potential sources of nitrogen on the property. Inputs must be approved by the health agent.</i>					
Natural/Undisturbed Areas	22000	0.05 mg/L	17 inches/year	2417.9	120.9
<i>Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.</i>					
Subtotal: Runoff					4338.0

Section 1: Runoff

Do you have an Innovative/Alternative Septic System (Yes/No)?	No	If "Yes", what is the nitrogen concentration of the system (in units of mg/L), based on the DEP Alternative System Approval Letter? (See https://www.mass.gov/guides/innovative-technology-and-title-5-systems)	19
Title 5 design flow (gallons per day)	225	Based on Title 5 (310 CMR 15.203). Calculate design flow based on the property features listed in table (3) (COMMERCIAL)	29806.875

Section 2: Wastewater

Volume (L/day)	Nitrogen Load (mg/day)	Load (ppm)
5189.7	33188.1	6.4
Average Nitrogen Load		6.40 ppm

Total nitrogen load (including runoff and wastewater)

Nitrogen Loading Calculations Spreadsheet

Complete the highlighted cells as applicable.

Land Use/Nitrogen Source	Area (square feet)	Nitrogen Loading Input (units)	Recharge Rate (units)	Volume (L/day)	Nitrogen Load (mg/day)
Lot size (total)	30000				
Building Roof Area	4500	0.75 mg/L	40 inches/year	1163.7	872.8
<i>Total footprint of all buildings on the property.</i>					
Road/Driveway/Impervious Area	3000	1.5 mg/L	40 inches/year	775.8	1163.7
<i>Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios. Impervious areas include gravel, shell, and crushed stone pathways or driveways or parking areas.</i>					
Lawn Size	1000	3 lbs N/1,000 sq ft - 25% leaching rate	17 inches/year	109.9	932.9
<i>Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year. The minimum lawn size for nitrogen loading calculations is 1,000 sq. ft. .</i>					
Other/Miscellaneous	0	0	17 inches/year	0.0	0.0
<i>For any other potential sources of nitrogen on the property. Inputs must be approved by the health agent.</i>					
Natural/Undisturbed Areas	21500	0.05 mg/L	17 inches/year	2363.0	118.1
<i>Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.</i>					
Subtotal: Runoff					4412.4

Section 1: Runoff

Section 2: Wastewater		Volume (L/day)	N-Load (mg/day)	Load (ppm)
Do you have an Innovative/Alternative Septic System (Yes/No)?	No			19
<i>If "Yes", what is the nitrogen concentration of the system (in units of mg/L), based on the DEP Alternative System Approval Letter? (See https://www.mass.gov/guides/innovative-technology-and-title-5-systems)</i>				
Title 5 Design Flow: Commercial	225	851.6	29806.9	
Title 5 Design Flow: Residential	3	1249.1	43716.8	
Average Wastewater Flow	The average wastewater flow method assumes 2.3 people and an average flow of 55 gallons per day per person.	478.8	16758.1	

Volume (L/day)	N-Load (mg/day)	Load (ppm)
Title 5	6513.1	11.8
Average	5742.8	8.6
Average Nitrogen Load		10.20 ppm

Total nitrogen load (including runoff and wastewater)

WATER QUALITY REVIEW COMMITTEE

2024 Committee Membership

CHAIR

Vacant

VICE CHAIR

Amy von Hone (*Health Director*)
[REDACTED]

avonhone@brewster-ma.gov

John Keith (*BOH*)
[REDACTED]

Kimberley Crocker Pearson (*Cons. Commission*)
[REDACTED]

Davis Walters (*Building Commissioner*)
(W) 508-896-3701 x 1125

dwalters@brewster-ma.gov

Robert Michaels (*Planning Board*)
[REDACTED]

Alternate: **Charlotte Degen**
[REDACTED]

Ned Chatelain (*Select Board*)
[REDACTED]

nchatelain@brewster-ma.gov

Susan Brown (*Water Commissioner*)
[REDACTED]

Town Staff:

Chris Miller (*Natural Resources Director*)
(W) 508-896-4546
[REDACTED]

cmiller@brewster-ma.gov

ASSISTANT:

Beth Devine (*WQRC Admin*)
[REDACTED]

bdevine@brewster-ma.gov

BENNETT ENVIRONMENTAL ASSOCIATES, LLC.

A NATURAL SYSTEMS UTILITIES COMPANY

LICENSED SITE PROFESSIONALS ENVIRONMENTAL SCIENTISTS GEOLOGISTS ENGINEERS

1573 Main Street, Brewster, MA 02631 508-896-1706 Fax 508-896-5109 www.bennett-ea.com

CAPE SAND & RECYCLING, LLC

WOOD WASTE RECLAMATION FACILITY (WWRF)

SEMI-ANNUAL GROUNDWATER MONITORING REPORT

MAY 2023 SAMPLING EVENT

1.0 INTRODUCTION

This Groundwater Monitoring Report has been prepared to provide the Massachusetts Department of Environmental Protection (MassDEP) and the Town of Brewster Water Quality Review Committee (BWQRC) with results of the most recent groundwater sampling event, associated with the Wood Waste Reclamation Facility (WWRF) located at 1515 Freemans Way in Brewster, Massachusetts, and currently operated by Cape Sand & Recycling, LLC (CS&R). Groundwater sampling was performed by Bennett Environmental Associates, LLC (BEA) on May 10, 2023. The laboratory analyses were performed by Alpha Analytical, as a laboratory certified to perform the requisite analyses. This report, along with the six-month Third-Party Inspector's report, is being filed with the Mass DEP and the BWQRC as part of the conditional approvals for the small WWRF handling facility.

2.0 GROUNDWATER MONITORING PROGRAM

2.1 Background

On December 29, 2009, the MassDEP issued a Provisional Approval – Authorization to Operate (ATO) a Small Handling Facility/Wood Waste Reclamation to CS&R. The ATO approval included requirements to continue the groundwater monitoring program previously developed to comply with the MassDEP “Wood Waste Reclamation Facilities Siting and Permitting Requirements” Guidance Document - #BWP-98-006 (the WWRF Guidance Document). The ATO approval also declared the Site “Adequately Regulated”, pursuant to the provisions of 310 CMR 40.0110 of the Massachusetts Contingency Plan (MCP). This determination was related to concentrations of arsenic and Bis(2ethylhexyl) phthalate reported in groundwater at the site in November 2007. The concentrations reported exceeded the applicable RCGW-1 Reportable Concentrations, triggering a 120-day release notification requirement resulting in release tracking number (RTN) 4-21361. The ATO document stated that the Adequately Regulated determination is valid provided that the required monitoring continues and that all previously buried materials be excavated, and any unacceptable materials be removed.

On October 19, 2010, MassDEP issued a Provisional Approval – Modification of a Small Handling Facility/Wood Waste Reclamation Facility. The Modification Approval authorized reducing the number of groundwater sampling locations from six (6) monitoring wells to four (4), including MW-1 (replaced by MW-1R), MW-3A, MW-4A and MW-5. Based on information submitted by the consultant at the time (Prime Engineering), MassDEP found that the reduction in the number of wells would not compromise the sufficiency of the network to monitor groundwater and would remain consistent with the standard Mass DEP requirements for WWRFs. The Modification Approval document also reaffirmed that the Site had been declared “Adequately Regulated” pursuant to the provisions of both the MCP and the Solid Waste Regulations (310 CMR 19.00).

As such, monitoring wells MW-1R, MW-3A, MW-4A and MW-5 are sampled on a semi-annual basis for the parameters included in the Groundwater Monitoring Appendix of the WWRF Guidance Document. Total Phosphorus was added as a parameter in November 2015 at the request of the BWQRC.

In addition, the BWQRC has requested sampling two (2) additional downgradient monitoring wells (MW-3B and MW-5B), to evaluate groundwater conditions up-gradient of the Timberlane Drive neighborhood, where private potable wells are currently in-use. These monitoring wells are typically sampled for Total Manganese to evaluate concentrations in these downgradient wells. Monitoring wells MW-3B and MW-5B are also sampled for nitrogen-related parameters when concentrations of Nitrate or Nitrate/Nitrite are reported above the MMCL of 10 mg/L, in any of the MW-3A, MW-4A or MW-5 monitoring wells. During the May 2023 sampling event, wells MW-3B and MW-5B were also sampled for Total Arsenic, and Total Dissolved Solids due to intermittent spikes in concentrations of these analytes reported in MW-3A in May 2020 and May 2022. Monitoring well locations are shown on the enclosed Site Plan.

2.2 Groundwater Sample Collection

Groundwater samples were collected by BEA personnel on May 10, 2023, from monitoring wells MW-1R, MW-3A, MW-3B, MW-4A, MW-5, and MW-5B. A Monitoring Well Sampling Log is attached for reference. Prior to sampling, depth-to-groundwater measurements were taken at each monitoring well location. The wells were then purged in accordance with MassDEP standard practices and BEA Quality Assurance & Quality Control (QA/QC) methods. Field parameters measured during sampling activities included temperature, pH, conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP). The samples were collected using a variable-speed 2” submersible pump, using low-flow sampling methodology. Sample containers were prepared by Alpha Analytical and kept in a cooler or refrigerator pending pick up by a lab courier and transported following chain of custody procedures.

2.3 Groundwater Gauging Data

Well gauging data from the date of sampling reports groundwater elevations ranging from 23.05 to 23.78 feet (NAD83), as measured from the top of the well casings. The May 2023 gauging event shows groundwater flows easterly towards Pleasant Bay, consistent with data from previous monitoring events. Depth-to-groundwater measurements and corresponding elevations are presented on the enclosed Monitoring Well Sampling Log. Groundwater contours are represented on the enclosed Site Plan dated June 6, 2023.

3.0 LABORATORY ANALYTICAL RESULTS

Laboratory results for the May 2023 sampling event were received on May 26, 2023. The results were compared to the Massachusetts Drinking Water Standards (MDWS), published by MassDEP. These standards include Massachusetts Maximum Contaminant Levels (MMCLs), Secondary Maximum Contaminant Levels (SMCLs) and Office of Research and Standards Guideline (ORSG) concentrations. In addition, the results were compared to the MCP Method 1 Risk Characterization Standards for the GW-1 (ingestion) and GW-3 (discharge to surface water) groundwater categories. A tabulation of the laboratory data for the May 2023 sampling event, along with a comparison to the above standards, is presented in Table 1: May 2023 Groundwater Analysis Summary. The results of semi-annual groundwater data over the past three (3) years are presented in Table 2: Temporal Groundwater Analysis Summary –November 2020 through May 2023.

3.1 Total Metals

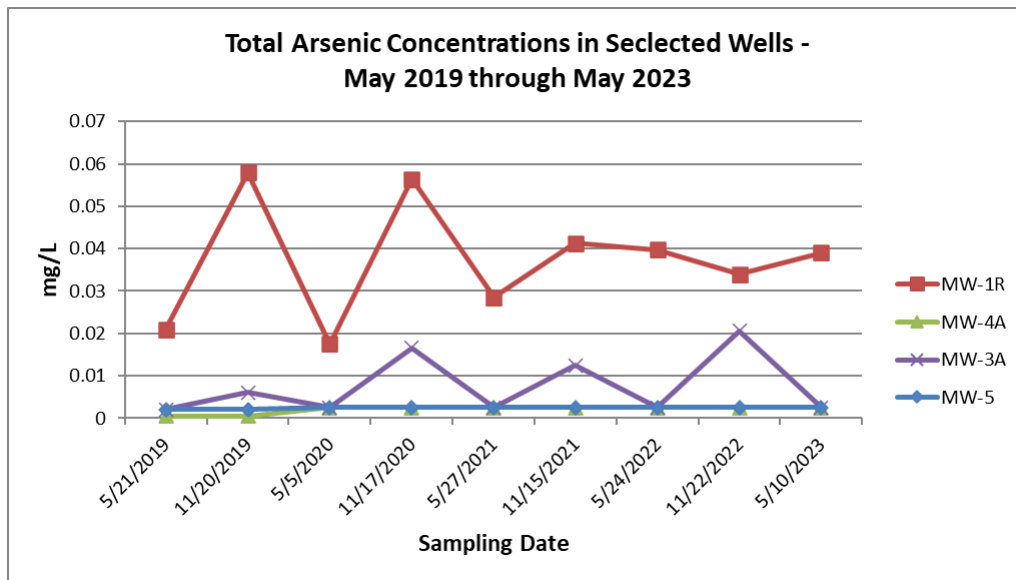
Groundwater samples collected from MW-1R, MW-3A, MW-4A, and MW-5 were analyzed for Total Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Selenium, Silver, and Zinc. Monitoring wells MW-3B and MW-5B were sampled for Total Manganese and Total Arsenic only. Arsenic was reported above the Massachusetts Drinking Water Standard (0.01 mg/L) and the Method 1 GW-1 Risk Characterization Standard in monitoring well MW-1R (0.0391 mg/L). All other monitoring wells sampled reported Arsenic as Non-Detect.

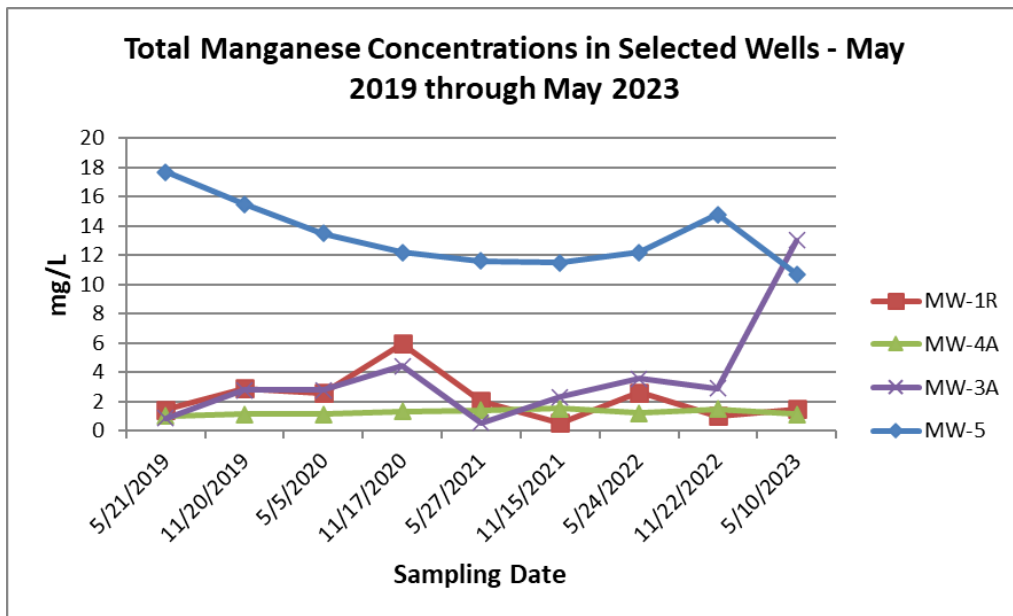
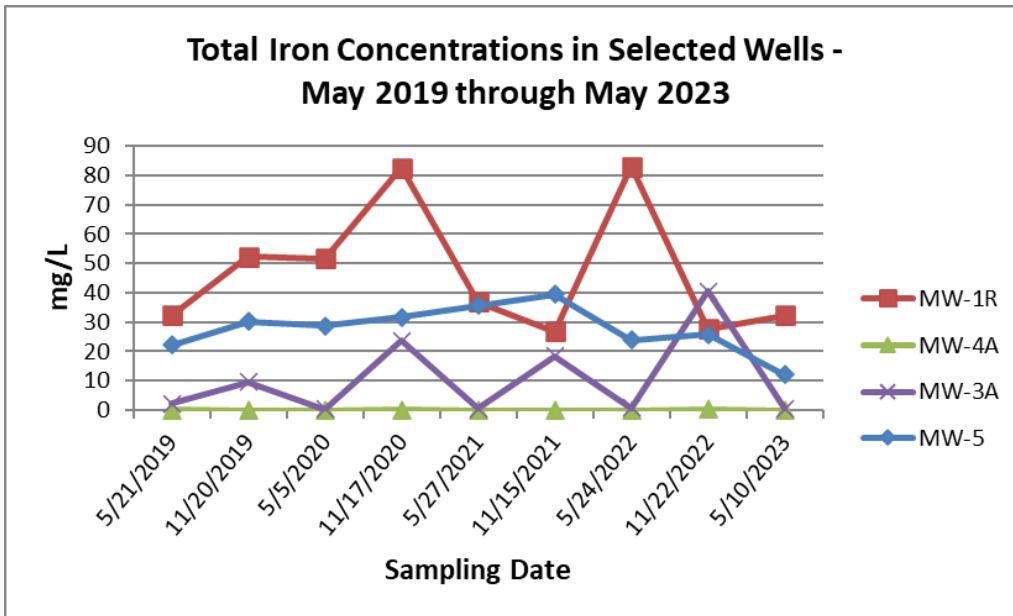
As previously mentioned, Release Notification was made to the DEP for the presence of similar concentrations of Arsenic in groundwater in 2007 (RTN 4-21361). In 2009, the Site was listed as Adequately Regulated by the DEP and therefore Release Notification is not required.

Similar concentrations of Arsenic have been reported in monitoring wells MW-1 (May 2014) and MW-3A (Nov. 2007 and May/Nov. 2012). Arsenic has consistently been reported above the MA Drinking Water Standard and Method 1 GW-1 Standard in monitoring well MW-1R since

November 2016, with concentrations ranging from 0.0175 mg/L to 0.058 mg/L. The elevated concentrations of total metals reported in MW-1R are attributed to naturally occurring metals leaching from native soils in a reducing environment, as a result of decaying organic matter associated with previously buried wood waste in contact with groundwater.

Total Iron was reported at concentrations exceeding Secondary Drinking Water Standards (SMCLs) in groundwater samples collected from MW-1R, MW-3A, and MW-5. The highest concentration of Total Iron was reported at MW-1R (32.2 mg/L). SMCLs are not health-based standards but were established to preserve the aesthetic qualities of drinking water. In October 2013, MassDEP adopted an Office of Research and Standards Guideline (ORSG) for Manganese based on a modified version of the US EPA Health Advisory for this element. The ORSG considers lifetime exposure (0.3 mg/L) and acute exposure (1.0 mg/L) for the general population, as well as a precautionary standard for acute exposure for children <1 year old (0.3 mg/L). Total Manganese was reported at concentrations exceeding the SMCL and ORSG values for chronic and acute exposures in all wells, with the exception of monitoring well MW-3B where only the acute ORSG value was exceeded and in MW-5B where only the SMCL was exceeded. Iron and Manganese dissolve more readily in low oxygen environments and where the groundwater is slightly acidic, which is consistent with conditions at the site. The tracking charts below show concentrations of Total Arsenic, Iron, and Manganese reported during the semi-annual monitoring events since May 2019.





3.2 Volatile Organic Compounds (VOCs)

Groundwater samples collected from monitoring wells MW-1R, MW-3A, MW-4A, and MW-5 were analyzed for VOCs via EPA Method 8260. Trace concentrations of Toluene were reported in MW-1R below the MDWS and GW-1 Method 1 Standards. Trace concentrations of these compounds, including Butanone and Acetone, have been reported intermittently in MW-1R since 2019. The concentrations of VOCs compounds reported in MW-1R may be related to the well's location, adjacent to a drainage ditch next to a gravel access road, where road runoff

could potentially be impacting the well. There were no other VOCs reported in any of the wells sampled above the laboratory detection limits.

3.3 Poly-nuclear Aromatic Hydrocarbons (PAHs)

Groundwater samples collected from monitoring wells MW-1R, MW-3A, MW-4A, and MW-5 were analyzed for PAHs. Naphthalene was reported at trace concentrations in MW-4A, below the MDWS and Method 1 Standards. No PAHs were reported above the laboratory detection limits in any of the remaining wells sampled. Future sampling events will continue to monitor PAH concentrations at these wells.

3.4 Aggregate Organic Constituents

Groundwater samples collected from monitoring wells MW-1R, MW-3A, MW-4A, and MW-5 were analyzed for Tannin & Lignin, Chemical Oxygen Demand (COD) and Total Organic Carbon (TOC). Tannin & Lignin and COD were detected in monitoring wells MW-1R, MW-3A and MW-5. There are no regulatory standards established for these parameters. Concentrations of TOC were reported in all wells. The highest concentrations of Aggregate Organic Constituents were reported at MW-3A, located immediately downgradient of the Site Assigned Area. The concentrations of Tannin & Lignin, COD and TOC in MW-3A were also higher than those typically reported. In the remaining wells these parameters were reported at concentrations consistent with previous sampling events.

3.5 Formaldehyde

Groundwater samples collected from monitoring wells MW-1R, MW-3A, MW-4A, and MW-5 were analyzed for formaldehyde. No concentrations of formaldehyde were detected in any monitoring wells above the method detection limits.

3.6 General Chemistry

Groundwater samples collected from MW-1R, MW-3A, MW-4A, and MW-5 were analyzed for general chemistry parameters including Alkalinity, Color, Chloride, Total Cyanide, Sulfate, Sulfide and Total Dissolved Solids (TDS). Monitoring wells MW-3B and MW-5B were sampled for TDS only. Historic data for the general chemistry parameters is presented in Table 2.

- The highest alkalinity value of 298 mg/L was reported at MW-3A. There are no regulatory standards for alkalinity.
- Color was reported above the SMCL of 15 Color Units (C.U.) in each of the wells, with the exception of MW-4A (<5). The Color units reported in MW-1R (170 C.U.) were lower

than typically reported. Color units reported in the remaining wells are consistent with historical data.

- Chloride was detected in all wells at concentrations between 19 mg/L and 160 mg/L. All of the wells reported Chloride below the SMCL of 250 mg/L. The highest chloride value was reported at monitoring well MW-3A (160 mg/L).
- Trace concentrations of Total Cyanide were detected in MW-3A and MW-5 at a concentration of 0.006 mg/L. These concentrations are well below regulatory standards.
- Sulfate was reported as Non-Detect in monitoring wells MW-1R and MW-4A. Sulfate concentrations were reported in monitoring wells MW-3A and MW-5 below the Secondary Maximum Contaminant Levels and consistent with historic data, as shown in Table 2. Sulfide was not detected in any of the wells sampled.
- TDS concentrations were reported above the SMCL of 500 mg/L in MW-3A (790 mg/L). The remaining wells reported TDS concentrations below the SMCL and consistent with historical results. Low TDS was reported in downgradient wells MW-3B (32 mg/L) and MW-5B (<13), respectively. Future groundwater testing will include TDS at the down gradient MW-3B and MW-5B locations while TDS concentrations remain elevated at upgradient locations.

Groundwater samples collected from MW-1R, MW-3A, MW-4A, MW-5 were also analyzed for Total Kjeldahl Nitrogen (TKN), Nitrate, Nitrite, Total Nitrogen and Total Phosphorus.

- Nitrate was not reported in any well above the Drinking Water Standard of 10 mg/L. The highest concentration of Nitrate (3.21 mg/L) was reported in MW-4A. Concentrations of Nitrate reported are consistent with historical results and trends.
- Nitrite was reported as Non-Detect (<0.05) in all wells.
- Nitrogen, including Nitrate and Nitrite was reported in each of the wells, with the exception of MW-1R. The highest concentration of Nitrate/Nitrite was reported in MW-4A (3.2 mg/L). All of the concentrations reported were below the Drinking Water Standard of 10 mg/L.
- Concentrations of TKN were reported in all wells ranging from 0.3 mg/L in MW-4A to 9.63 mg/L in MW-3A. There is no groundwater standard for TKN.
- Total Nitrogen was reported in each of the wells sampled, ranging from 3.5 mg/L in MW-4A to 11 mg/L in MW-3A. There is no groundwater standard for Total Nitrogen.
- Total Phosphorus was detected in each of the wells sampled, with concentrations ranging from 0.039 mg/L in MW-4A to 1.2 mg/L in MW-1R. There is no state or federal groundwater standard for Phosphorus.

3.7 Field Parameters

Field parameters [temperature, pH, specific conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP)] were recorded during the May 2023 groundwater sampling event. The historic data for the field parameters are presented on Table 2.

- Groundwater temperatures varied between wells, ranging from 50.0 to 68.4 degrees Fahrenheit (F). Groundwater at the upgradient MW-1R well and downgradient MW-3B well reported temperatures of 50.0°F. Monitoring wells MW-3A, MW-4A, MW-5 and MW-5B exhibited groundwater temperatures between 60.7 to 68.4 degrees Fahrenheit, with the highest temperature observed at MW-3A (68.4°F).
- Monitoring wells MW-4A, MW-5, MW-3A, MW-3B, and MW-5B reported pH values below the SMCL (<6.5 S.U.). The values ranged from 5.07 to 6.25 and are consistent with previous results.
- Conductivity and DO concentrations varied from well to well with higher conductivity observed in MW-1R, MW-3A, MW-4A and MW-5. Low DO (<1.0 mg/L) was observed in MW-1R and MW-3A with higher concentrations noted at MW-4A (2.02 mg/L), MW-5 (1.68 mg/L), MW-3B (3.84 mg/L), and MW-5B (4.78 mg/L).

4.0 CONCLUSIONS

The following is a summary of the key findings of the May 2023 groundwater monitoring event:

- Total Arsenic was reported in MW-1R at 0.0391 mg/L, above the MA Drinking Water Standard (0.01 mg/L) and Method 1 GW-1 Risk Characterization Standard (0.01 mg/L). However, the Site is considered Adequately Regulated under the MCP, therefore no Notification to MassDEP is required. All remaining wells, including downgradient wells MW-3B and MW-5B, reported arsenic concentrations as Non-Detect. Future sampling events will include sampling MW-3B and MW-5B for Arsenic analysis.
- Various parameters (Color, pH, Total Iron and Total Manganese) were reported at concentrations exceeding SMCL and/or OSRG parameters. These findings are consistent with previous results. The low pH reported is typical and inherent to the entire Cape Cod aquifer.
- Nitrate and Nitrogen (Nitrate/Nitrite) were not detected at concentrations exceeding regulatory standards at any monitoring well during this sampling event.
- Trace concentrations of Naphthalene were reported in MW-4A. The concentrations reported were well below regulatory standards. No PAH compounds were reported in any of the other wells sampled, consistent with previous sampling events.

- Trace concentrations of Toluene were detected in MW-1R. The concentrations reported were well below regulatory standards. No VOC compounds were detected in the remaining wells.

Should you have any questions regarding the project or require additional information, please contact me at your earliest convenience.

Sincerely,

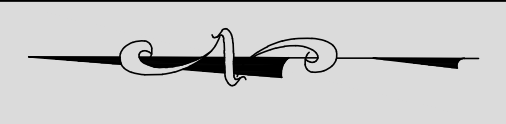
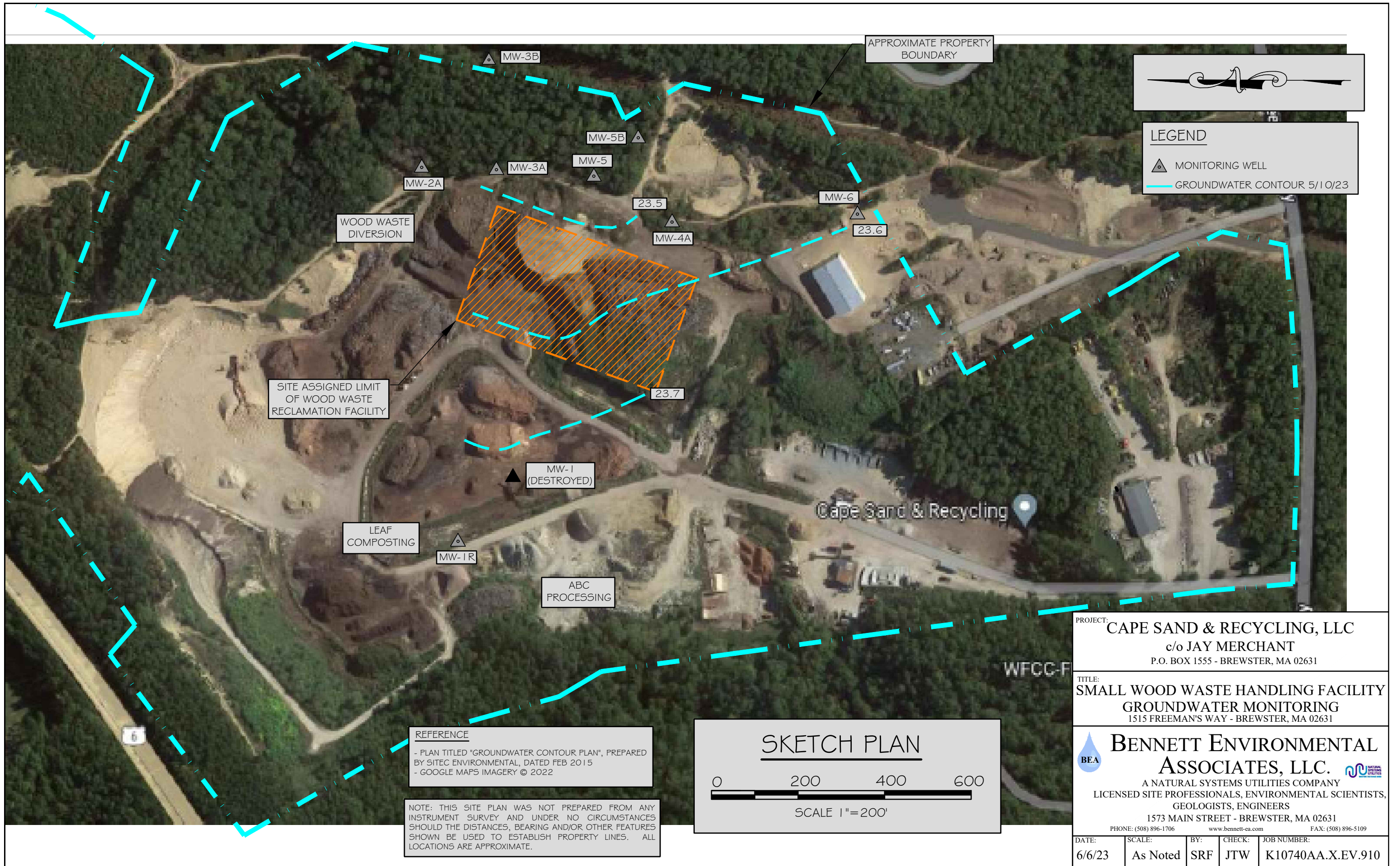
BENNETT ENVIRONMENTAL ASSOCIATES, LLC



John D. Tadema-Wielandt

Manager of Environmental Services

- Encl. Site Plan (6/6/23)
Monitoring Well Sampling Log (5/10/23)
Table 1: May 2023 Groundwater Analysis Summary
Table 2: Temporal Groundwater Analysis Summary – November 2020 through May 2023
Laboratory Analytical Reports
-Alpha Analytical [Lab Report # L2326292 (5/25/23)]
- Cc. Brewster Water Quality Review Committee – Attn. Amy Von Hone
MassDEP (SERO), BAW/Solid Waste Section – Attn. Doug Coppi
Cape Sand & Recycling – Attn. Jay Merchant



LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR 5/10/23

SITE ASSIGNED LIMIT OF WOOD WASTE RECLAMATION FACILITY

WOOD WASTE DIVERSION

LEAF COMPOSTING

ABC PROCESSING

Cape Sand & Recycling

REFERENCE

- PLAN TITLED "GROUNDWATER CONTOUR PLAN", PREPARED BY SITEC ENVIRONMENTAL, DATED FEB 2015
- GOOGLE MAPS IMAGERY © 2022

NOTE: THIS SITE PLAN WAS NOT PREPARED FROM ANY INSTRUMENT SURVEY AND UNDER NO CIRCUMSTANCES SHOULD THE DISTANCES, BEARING AND/OR OTHER FEATURES SHOWN BE USED TO ESTABLISH PROPERTY LINES. ALL LOCATIONS ARE APPROXIMATE.

SKETCH PLAN

0 200 400 600

SCALE 1"=200'

PROJECT: **CAPE SAND & RECYCLING, LLC**
 c/o JAY MERCHANT
 P.O. BOX 1555 - BREWSTER, MA 02631

TITLE: **SMALL WOOD WASTE HANDLING FACILITY
 GROUNDWATER MONITORING**
 1515 FREEMAN'S WAY - BREWSTER, MA 02631

BENNETT ENVIRONMENTAL ASSOCIATES, LLC.
 A NATURAL SYSTEMS UTILITIES COMPANY
 LICENSED SITE PROFESSIONALS, ENVIRONMENTAL SCIENTISTS,
 GEOLOGISTS, ENGINEERS
 1573 MAIN STREET - BREWSTER, MA 02631
 PHONE: (508) 896-1706 www.bennett-ca.com FAX: (508) 896-5109

DATE:	SCALE:	BY:	CHECK:	JOB NUMBER:
6/6/23	As Noted	SRF	JTW	K10740AA.X.EV.910

BENNETT ENVIRONMENTAL ASSOCIATES

A NATURAL SYSTEMS UTILITIES COMPANY

MONITORING WELL SAMPLING LOG

Job Name: Cape Sand & Recycling Date(s): 5/10/23 Time: AM/PM Tide: NA
 Location: 1515 Freemans Way - Brewster, MA Job Number: K1740A
 Sampler: Stephen Lee (PM), Jacob Guthrie (ET) Measuring Point: Ground Surface or T.O.C TOC

Well Number	Elev. of reference point	Total Depth of Well (feet)	Depth to Water (feet)	Standing Water Height (feet)	Water Table Elevation (feet)	Static Volume (gallons)	Volume Purged (gallons)	HNU PI-101 (ppm)	pH	Dissolved Oxygen (mg/L)	Conductivity	Temperature (F)	ORP	Comments:
MW-1R	37.17	20.00	13.39	6.61	23.78	1.08	3.24	NA	7.04	0.82	481.0	50.0	7.10	Slight H2S odor, no sheen
MW-3A	66.43	49.00	43.09	5.91	23.34	0.96	2.88	NA	6.25	0.40	1176.0	68.4	102.8	No odor, no sheen
MW-4A	81.97	66.00	58.44	7.56	23.53	1.23	3.69	NA	5.30	2.02	140.5	61.5	139.7	No odor, no sheen
MW-5	77.42	64.50	54.37	10.13	23.05	1.65	4.95	NA	5.95	1.68	400.7	61.0	49.0	No odor, no sheen
MW-6	84.65	69.00	61.06	7.94	23.59	NA	NA	NA	NA	NA	NA	NA	NA	Gauge only
MW-3B	31.15	17.00	7.75	9.25	23.40	1.51	4.53	NA	5.07	3.84	75.0	50.0	142.2	No odor, no sheen
MW-5B	68.99	56.00	45.57	10.43	23.42	1.70	5.10	NA	5.07	4.78	82.2	60.7	149.0	No odor, no sheen

NOTES: NA = Not Applicable; NE = Not Established; NT = Not Taken
 All wells sampled upon parameter stabilization.

Table 1: May 2023 Groundwater Analysis Summary

Cape Sand & Recycling - 1515 Freemans Way - Brewster, MA

PARAMETER	STANDARDS (mg/l)			RESULTS (mg/l)					
	MDWS	GW-1	GW-3	MW-1R	MW-3A	MW-4A	MW-5	MW-3B	MW-5B
TOTAL METALS									
Arsenic	0.01	0.01	0.9	0.0391	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	2	2	50	0.0283	0.0666	<0.01	0.0356	-	-
Cadmium	0.005	0.005	0.004	<0.004	<0.004	<0.004	<0.004	-	-
Chromium	0.100	0.100	0.300	<0.01	<0.01	<0.01	<0.01	-	-
Copper	1.3	NS	NS	<0.01	0.0236	<0.01	<0.01	-	-
Iron	0.3 ^s	NS	NS	32.2	0.433	<0.05	12.2	-	-
Lead	0.015	0.015	0.010	<0.01	<0.01	<0.01	<0.01	-	-
Manganese	0.05 ^s , 0.3/1.0 ^G	NS	NS	1.47	13	1.13	10.7	0.858	0.0723
Mercury	0.002	0.002	0.020	<0.0002	<0.0002	<0.0002	<0.0002	-	-
Selenium	0.05	0.050	0.100	<0.01	<0.01	<0.01	<0.01	-	-
Silver	0.1 ^s	0.100	0.007	<0.007	<0.007	<0.007	<0.007	-	-
Zinc	5 ^s	5	0.900	<0.05	<0.05	<0.05	<0.05	-	-
VOLATILE ORGANIC COMPOUNDS (VOCs)									
Total VOCs	I	I	I	0.077	ND	ND	ND	-	-
Toluene	1	1	40	0.077	ND	ND	ND	-	-
POLY-NUCLEAR AROMATIC HYDROCARBONS (PAHs)									
2-Methylnaphthalene	NS	0.010	20	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Acenaphthene	NS	0.020	6	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Acenaphthylene	NS	0.030	0.040	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Anthracene	NS	0.060	0.030	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Benzo(a)anthracene	NS	0.001	1	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Benzo(a)pyrene	0.0002	0.0002	0.500	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Benzo(b)fluoranthene	NS	0.001	0.400	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Benzo(ghi)perylene	NS	0.050	0.020	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Benzo(k)fluoranthene	NS	0.001	0.100	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Chrysene	NS	0.002	0.070	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Dibenzo(a,h)anthracene	NS	0.0005	0.040	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Fluoranthene	NS	0.090	0.200	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Fluorene	NS	0.030	0.040	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Indeno(1,2,3-cd)Pyrene	NS	0.0005	0.100	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Naphthalene	0.140 ^G	0.140	20	<0.0001	<0.0001	0.00014	<0.0001	-	-
Phenanthrene	NS	0.040	10	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Pyrene	NS	0.080	0.020	<0.0001	<0.0001	<0.0001	<0.0001	-	-
AGGREGATE ORGANIC CONSTITUENTS									
Tannin & Lignin	NS	NS	NS	1.8	5.4	<0.2	1.6	-	-
Chemical Oxygen Demand (COD)	NS	NS	NS	76	190	<20	22	-	-
Total Organic Carbon (TOC)	NS	NS	NS	26	57	1	8.6	-	-
ALDEHYDES									
Formaldehyde	NS	NS	NS	<0.375	<0.075	<0.075	<0.075	-	-
GENERAL CHEMISTRY									
Alkalinity (as CaCO3)	NS	NS	NS	253	298	10.3	103	-	-
Color	15 ^s	NS	NS	170	85	<5	82	-	-
Chloride	250 ^s	NS	NS	24	160	19	45	-	-
Cyanide, Total	0.2	0.2	0.03	<0.005	0.006	<0.005	0.006	-	-
Total K Nitrogen (TKN)	NS	NS	NS	6.27	9.63	0.3	5.25	-	-
Nitrate-N	10	NS	NS	<0.1	1.61	3.21	0.129	-	-
Nitrite-N	1	NS	NS	<0.05	<0.05	<0.05	<0.05	-	-
Nitrogen, Nitrate/Nitrite	10	NS	NS	<0.1	1.6	3.2	0.13	-	-
Nitrogen, Total	NS	NS	NS	6.3	11	3.5	5.4	-	-
Total Phosphorus	NS	NS	NS	1.2	0.09	0.039	0.112	-	-
Sulfate	250 ^s	NS	NS	<10	37	<10	40	-	-
Sulfide	NS	NS	NS	<0.1	<0.1	<0.1	<0.1	-	-
Total Dissolved Solids	500 ^s	NS	NS	290	790	79	230	32	<13
FIELD PARAMETERS									
Temperature (°F)	NS	NS	NS	50.0	68.4	61.5	61.0	50.0	60.7
pH (pH units)	6.5-8.5 ^s	NS	NS	7.04	6.25	5.3	5.95	5.07	5.07
Specific Conductivity (uS/cm)	NS	NS	NS	481	1176	140.5	400.7	75	82.2
Dissolved Oxygen	NS	NS	NS	0.82	0.4	2.02	1.68	3.84	4.78

MDWS = Massachusetts Drinking Water Standard (MMCL)

GW-1 = Massachusetts MCP Method 1 GW-1 standard

GW-3 = Massachusetts MCP Method 1 GW-3 standard

NA = Not Analyzed for Indicated Compound

^G = Massachusetts Drinking Water Guideline (ORSG)

^s = Secondary Maximum Contaminant Levels (SMCL)

NA = Not Analyzed for Indicated Compound

NS = No Standard

I = VOCs Standards Specific to Individual Compound

= Indicates an exceedance of MMCL, ORSG, or Method 1 Standard

= Indicates an exceedance of SMCL

= Analyzed but not found; detection limit above a Standard

Table 2: Temporal Groundwater Analysis Summary - November 2020 through May 2023

**Cape Sand & Recycling
1515 Freemans Way - Brewster, MA**

PARAMETER	STANDARDS (mg/L)			MW-1R						MW-3A						MW-4A						MW-5						
	MDWS	GW-1	GW-3	Nov-20	May-21	Nov-21	May-22	Nov-22	May-23	Nov-20	May-21	Nov-21	May-22	Nov-22	May-23	Nov-20	May-21	Nov-21	May-22	Nov-22	May-23	Nov-20	May-21	Nov-21	May-22	Nov-22	May-23	
	METALS																											
Arsenic	0.01	0.01	0.9	0.0564	0.0285	0.0413	0.0397	0.034	0.0391	0.0166	<0.005	0.0124	<0.005	0.0206	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	2	2	50	0.017	<0.01	<0.01	<0.04	0.0203	0.0283	0.032	0.034	0.032	0.049	0.0461	0.0666	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.048	0.05	0.045	0.046	0.0525	0.0356	
Cadmium	0.005	0.005	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Chromium	0.100	0.100	0.300	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Copper	1.3	NS	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	0.017	0.022	<0.01	<0.01	<0.01	<0.01	<0.01	0.0236	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Iron	0.3/1.0 ^G	NS	NS	82.5	37	26.8	83	27.7	32.2	23.6	0.488	18.5	0.818	40.4	0.433	0.084	<0.05	<0.05	<0.05	0.264	<0.05	31.6	35.6	39.5	23.8	25.8	12.2	
Lead	0.015	0.015	0.010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Manganese	0.05 ^S , 0.3/1.0 ^G	NS	NS	5.96	2.02	0.534	2.610	1.01	1.47	4.44	0.534	2.32	3.58	2.9	13	1.33	1.39	1.53	1.2	1.48	1.13	12.2	11.6	11.8	12.2	14.8	10.7	
Mercury	0.002	0.002	0.020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Selenium	0.05	0.050	0.100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Silver	0.1 ^S	0.100	0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	
Zinc	5 ^S	5	0.900	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
VOLATILE ORGANIC COMPOUNDS (VOCs)																												
Total VOCs	I	I	I	ND	ND	0.0012	0.0858	0.0022	0.0770	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Butanone (MEK)	4.0 ^G	4	50	ND	ND	ND	0.014	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone	6.3 ^G	6.3	50	ND	ND	ND	0.066	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	1	1	40	ND	ND	0.0012	0.0058	0.0022	0.0770	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
POLY-NUCLEAR AROMATIC HYDROCARBONS (PAHs)																												
2-Methylnaphthalene	NS	0.010	20	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Acenaphthene	NS	0.020	6	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Acenaphthylene	NS	0.030	0.040	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Anthracene	NS	0.060	0.030	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Benzo(a)anthracene	NS	0.001	1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Benzo(a)pyrene	0.0002	0.0002	0.500	<0.0001	0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Benzo(b)fluoranthene	NS	0.001	0.400	<0.0001	0.00028	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Benzo(ghi)perylene	NS	0.050	0.020	<0.0001	0.00019	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Benzo(k)fluoranthene	NS	0.001	0.100	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Chrysene	NS	0.002	0.070	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Dibenzo(a,h)anthracene	NS	0.0005	0.040	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Fluoranthene	NS	0.090	0.200	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Fluorene	NS	0.030	0.040	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Indeno(1,2,3-cd)Pyrene	NS	0.0005	0.100	<0.0001	0.00023	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Naphthalene	0.140 ^G	0.140	20	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00014	<0.0001	0.00027	<0.0001	<0.0001	<0.0001	<0.0001	
Phenanthrene	NS	0.040	10	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Pyrene	NS	0.080	0.020	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
AGGREGATE ORGANIC CONSTITUENTS																												
Tannin & Lignin	NS	NS	NS	1.5	1.3	1.3	4.3	2	1.8	2.8	1	1.3	2.2	1.3	5.4	<0.2	0.3	<0.2	0.29	<0.2	<0.2	2.4	2.8	3.9	2.4	2.2	1.6	
Chemical Oxygen Demand (COD)	NS	NS	NS	68	43																							



ANALYTICAL REPORT

Lab Number:	L2326292
Client:	Bennett Environmental Associates 1573 Main Street Brewster, MA 02631
ATTN:	John Tadema-Wielandt
Phone:	(508) 896-1706
Project Name:	MERCHANT/BS&R
Project Number:	K10740A
Report Date:	05/25/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326292-01	MW-1R	WATER	1515 FREEMANS WAY, BREWSTER, MA	05/10/23 12:30	05/11/23
L2326292-02	MW-3A	WATER	1515 FREEMANS WAY, BREWSTER, MA	05/10/23 11:25	05/11/23
L2326292-03	MW-3B	WATER	1515 FREEMANS WAY, BREWSTER, MA	05/10/23 12:30	05/11/23
L2326292-04	MW-4A	WATER	1515 FREEMANS WAY, BREWSTER, MA	05/10/23 10:45	05/11/23
L2326292-05	MW-5	WATER	1515 FREEMANS WAY, BREWSTER, MA	05/10/23 10:35	05/11/23
L2326292-06	MW-5B	WATER	1515 FREEMANS WAY, BREWSTER, MA	05/10/23 11:45	05/11/23
L2326292-07	TRIP BLANK	WATER	1515 FREEMANS WAY, BREWSTER, MA	05/10/23 00:00	05/11/23

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L2326292-03: The collection date and time on the chain of custody was 10-MAY-23 10:45; however, the collection date/time on the container label was 10-MAY-23 12:30. At the client's request, the collection date/time is reported as 10-MAY-23 12:30.

L2326292-04: The collection date and time on the chain of custody was 10-MAY-23 10:35; however, the collection date/time on the container label was 10-MAY-23 10:45. At the client's request, the collection date/time is reported as 10-MAY-23 10:45.

L2326292-05: The collection date and time on the chain of custody was 10-MAY-23 12:30; however, the collection date/time on the container label was 10-MAY-23 10:35. At the client's request, the collection date/time is reported as 10-MAY-23 10:35.

Volatile Organics

L2326292-02D: The sample has elevated detection limits due to the dilution required by the sample matrix (foam).

In reference to question G:

L2326292-02D: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L2326292-01, -02D, -04, -05, and -07: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0015)

Average Response Factor: 1,4-dioxane

L2326292-01, -02D, -04, -05, and -07: The associated continuing calibration standard is outside the acceptance criteria for one compound; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

PAHs by SIM

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Case Narrative (continued)

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Total Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

Non-MCP Related Narratives

Formaldehyde

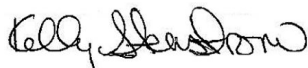
L2326292-01: The sample has an elevated detection limit due to the dilution required by the sample matrix.

Solids, Total Dissolved

L2326292-06: The sample has an elevated detection limit due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 05/25/23

QC OUTLIER SUMMARY REPORT

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
--------	-----------------------	--------	-----------	---------	------------------	---------------	--------------------	-------------------------

There are no QC Outliers associated with this report.

ORGANICS

VOLATILES

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-01
 Client ID: MW-1R
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 12:30
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 05/22/23 15:46
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	77		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-01
 Client ID: MW-1R
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 12:30
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-01
Client ID: MW-1R
Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 12:30
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	103		70-130

Project Name: MERCHANT/BS&R**Lab Number:** L2326292**Project Number:** K10740A**Report Date:** 05/25/23**SAMPLE RESULTS**

Lab ID: L2326292-02 D
 Client ID: MW-3A
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 11:25
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 05/22/23 16:28
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	20	--	10
1,1-Dichloroethane	ND		ug/l	10	--	10
Chloroform	ND		ug/l	10	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	10	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	10	--	10
Tetrachloroethene	ND		ug/l	10	--	10
Chlorobenzene	ND		ug/l	10	--	10
Trichlorofluoromethane	ND		ug/l	20	--	10
1,2-Dichloroethane	ND		ug/l	10	--	10
1,1,1-Trichloroethane	ND		ug/l	10	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	4.0	--	10
cis-1,3-Dichloropropene	ND		ug/l	4.0	--	10
1,3-Dichloropropene, Total	ND		ug/l	4.0	--	10
1,1-Dichloropropene	ND		ug/l	20	--	10
Bromoform	ND		ug/l	20	--	10
1,1,1,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	ND		ug/l	5.0	--	10
Toluene	ND		ug/l	10	--	10
Ethylbenzene	ND		ug/l	10	--	10
Chloromethane	ND		ug/l	20	--	10
Bromomethane	ND		ug/l	20	--	10
Vinyl chloride	ND		ug/l	10	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	10	--	10

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-02 D
 Client ID: MW-3A
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 11:25
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	10	--	10
1,3-Dichlorobenzene	ND		ug/l	10	--	10
1,4-Dichlorobenzene	ND		ug/l	10	--	10
Methyl tert butyl ether	ND		ug/l	20	--	10
p/m-Xylene	ND		ug/l	20	--	10
o-Xylene	ND		ug/l	10	--	10
Xylenes, Total	ND		ug/l	10	--	10
cis-1,2-Dichloroethene	ND		ug/l	10	--	10
1,2-Dichloroethene, Total	ND		ug/l	10	--	10
Dibromomethane	ND		ug/l	20	--	10
1,2,3-Trichloropropane	ND		ug/l	20	--	10
Styrene	ND		ug/l	10	--	10
Dichlorodifluoromethane	ND		ug/l	20	--	10
Acetone	ND		ug/l	50	--	10
Carbon disulfide	ND		ug/l	20	--	10
Methyl ethyl ketone	ND		ug/l	50	--	10
Methyl isobutyl ketone	ND		ug/l	50	--	10
2-Hexanone	ND		ug/l	50	--	10
Bromochloromethane	ND		ug/l	20	--	10
Tetrahydrofuran	ND		ug/l	20	--	10
2,2-Dichloropropane	ND		ug/l	20	--	10
1,2-Dibromoethane	ND		ug/l	20	--	10
1,3-Dichloropropane	ND		ug/l	20	--	10
1,1,1,2-Tetrachloroethane	ND		ug/l	10	--	10
Bromobenzene	ND		ug/l	20	--	10
n-Butylbenzene	ND		ug/l	20	--	10
sec-Butylbenzene	ND		ug/l	20	--	10
tert-Butylbenzene	ND		ug/l	20	--	10
o-Chlorotoluene	ND		ug/l	20	--	10
p-Chlorotoluene	ND		ug/l	20	--	10
1,2-Dibromo-3-chloropropane	ND		ug/l	20	--	10
Hexachlorobutadiene	ND		ug/l	6.0	--	10
Isopropylbenzene	ND		ug/l	20	--	10
p-Isopropyltoluene	ND		ug/l	20	--	10
Naphthalene	ND		ug/l	20	--	10
n-Propylbenzene	ND		ug/l	20	--	10

Project Name: MERCHANT/BS&R**Lab Number:** L2326292**Project Number:** K10740A**Report Date:** 05/25/23**SAMPLE RESULTS**

Lab ID: L2326292-02 D
 Client ID: MW-3A
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 11:25
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	20	--	10
1,2,4-Trichlorobenzene	ND		ug/l	20	--	10
1,3,5-Trimethylbenzene	ND		ug/l	20	--	10
1,2,4-Trimethylbenzene	ND		ug/l	20	--	10
Diethyl ether	ND		ug/l	20	--	10
Diisopropyl Ether	ND		ug/l	20	--	10
Ethyl-Tert-Butyl-Ether	ND		ug/l	20	--	10
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	10
1,4-Dioxane	ND		ug/l	2500	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	105		70-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-04
 Client ID: MW-4A
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:45
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 05/22/23 17:10
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-04
 Client ID: MW-4A
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:45
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: MERCHANT/BS&R**Lab Number:** L2326292**Project Number:** K10740A**Report Date:** 05/25/23**SAMPLE RESULTS**

Lab ID: L2326292-04

Date Collected: 05/10/23 10:45

Client ID: MW-4A

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	105		70-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-05
 Client ID: MW-5
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:35
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 05/22/23 17:52
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-05
 Client ID: MW-5
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:35
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: MERCHANT/BS&R**Lab Number:** L2326292**Project Number:** K10740A**Report Date:** 05/25/23**SAMPLE RESULTS**

Lab ID: L2326292-05

Date Collected: 05/10/23 10:35

Client ID: MW-5

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	106		70-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-07
 Client ID: TRIP BLANK
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 00:00
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 05/22/23 18:34
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-07
 Client ID: TRIP BLANK
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 00:00
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-07
Client ID: TRIP BLANK
Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 00:00
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	106		70-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/22/23 10:52
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02,04-05,07 Batch: WG1782242-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/22/23 10:52
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02,04-05,07 Batch: WG1782242-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 05/22/23 10:52
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02,04-05,07 Batch: WG1782242-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02,04-05,07 Batch: WG1782242-3 WG1782242-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	100		110		70-130	10		20
Carbon tetrachloride	110		110		70-130	0		20
1,2-Dichloropropane	100		110		70-130	10		20
Dibromochloromethane	100		100		70-130	0		20
1,1,2-Trichloroethane	100		110		70-130	10		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	100		100		70-130	0		20
Trichlorofluoromethane	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	110		110		70-130	0		20
Bromodichloromethane	100		110		70-130	10		20
trans-1,3-Dichloropropene	100		110		70-130	10		20
cis-1,3-Dichloropropene	110		110		70-130	0		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	100		100		70-130	0		20
1,1,2,2-Tetrachloroethane	110		110		70-130	0		20
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
Chloromethane	110		110		70-130	0		20
Bromomethane	100		110		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02,04-05,07 Batch: WG1782242-3 WG1782242-4								
Vinyl chloride	110		110		70-130	0		20
Chloroethane	110		110		70-130	0		20
1,1-Dichloroethene	110		110		70-130	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		110		70-130	10		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	100		110		70-130	10		20
p/m-Xylene	110		110		70-130	0		20
o-Xylene	110		110		70-130	0		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	98		100		70-130	2		20
1,2,3-Trichloropropane	100		100		70-130	0		20
Styrene	110		110		70-130	0		20
Dichlorodifluoromethane	100		100		70-130	0		20
Acetone	86		91		70-130	6		20
Carbon disulfide	110		110		70-130	0		20
Methyl ethyl ketone	94		100		70-130	6		20
Methyl isobutyl ketone	110		110		70-130	0		20
2-Hexanone	99		100		70-130	1		20
Bromochloromethane	110		110		70-130	0		20
Tetrahydrofuran	100		110		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02,04-05,07 Batch: WG1782242-3 WG1782242-4								
2,2-Dichloropropane	120		110		70-130	9		20
1,2-Dibromoethane	100		100		70-130	0		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	110		110		70-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	110		110		70-130	0		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	100		110		70-130	10		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	100		110		70-130	10		20
1,2-Dibromo-3-chloropropane	100		100		70-130	0		20
Hexachlorobutadiene	110		110		70-130	0		20
Isopropylbenzene	100		110		70-130	10		20
p-Isopropyltoluene	110		110		70-130	0		20
Naphthalene	100		110		70-130	10		20
n-Propylbenzene	110		110		70-130	0		20
1,2,3-Trichlorobenzene	100		110		70-130	10		20
1,2,4-Trichlorobenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		70-130	0		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20
Diethyl ether	100		110		70-130	10		20
Diisopropyl Ether	110		110		70-130	0		20
Ethyl-Tert-Butyl-Ether	100		110		70-130	10		20

Lab Control Sample Analysis Batch Quality Control

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02,04-05,07 Batch: WG1782242-3 WG1782242-4								
Tertiary-Amyl Methyl Ether	100		110		70-130	10		20
1,4-Dioxane	128		128		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		100		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	100		99		70-130

SEMIVOLATILES

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-01
 Client ID: MW-1R
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 12:30
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8270E-SIM
 Analytical Date: 05/17/23 12:37
 Analyst: JJW

Extraction Method: EPA 3510C
 Extraction Date: 05/15/23 21:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs by SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
2-Methylnaphthalene	ND		ug/l	0.10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	39		30-130
2-Fluorobiphenyl	65		30-130
4-Terphenyl-d14	62		30-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-02
Client ID: MW-3A
Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 11:25
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 141,8270E-SIM
Analytical Date: 05/17/23 12:53
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 05/15/23 21:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs by SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
2-Methylnaphthalene	ND		ug/l	0.10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		30-130
2-Fluorobiphenyl	71		30-130
4-Terphenyl-d14	69		30-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-04
 Client ID: MW-4A
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:45
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8270E-SIM
 Analytical Date: 05/17/23 13:09
 Analyst: JJW

Extraction Method: EPA 3510C
 Extraction Date: 05/15/23 21:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs by SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	0.14		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
2-Methylnaphthalene	ND		ug/l	0.10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		30-130
2-Fluorobiphenyl	62		30-130
4-Terphenyl-d14	65		30-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-05
 Client ID: MW-5
 Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:35
 Date Received: 05/11/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8270E-SIM
 Analytical Date: 05/17/23 13:26
 Analyst: JJW

Extraction Method: EPA 3510C
 Extraction Date: 05/15/23 21:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP PAHs by SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
2-Methylnaphthalene	ND		ug/l	0.10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		30-130
2-Fluorobiphenyl	72		30-130
4-Terphenyl-d14	74		30-130

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E-SIM
Analytical Date: 05/17/23 12:20
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 05/15/23 21:21

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics by SIM - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1779222-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
2-Methylnaphthalene	ND		ug/l	0.10	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		30-130
2-Fluorobiphenyl	69		30-130
4-Terphenyl-d14	75		30-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1779222-2 WG1779222-3								
Acenaphthene	74		64		40-140	14		20
Fluoranthene	76		63		40-140	19		20
Naphthalene	74		65		40-140	13		20
Benzo(a)anthracene	79		67		40-140	16		20
Benzo(a)pyrene	79		69		40-140	14		20
Benzo(b)fluoranthene	78		68		40-140	14		20
Benzo(k)fluoranthene	72		63		40-140	13		20
Chrysene	71		62		40-140	14		20
Acenaphthylene	81		70		40-140	15		20
Anthracene	78		68		40-140	14		20
Benzo(ghi)perylene	79		67		40-140	16		20
Fluorene	77		67		40-140	14		20
Phenanthrene	76		66		40-140	14		20
Dibenzo(a,h)anthracene	85		72		40-140	17		20
Indeno(1,2,3-cd)pyrene	100		87		40-140	14		20
Pyrene	76		62		40-140	20		20
2-Methylnaphthalene	78		69		40-140	12		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1779222-2 WG1779222-3								

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
Nitrobenzene-d5	105		96		30-130
2-Fluorobiphenyl	76		69		30-130
4-Terphenyl-d14	83		70		30-130

METALS

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-01

Date Collected: 05/10/23 12:30

Client ID: MW-1R

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	0.0391		mg/l	0.0050	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Barium, Total	0.0283		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Cadmium, Total	ND		mg/l	0.0040	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Calcium, Total	84.4		mg/l	0.100	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Chromium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Copper, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Iron, Total	32.2		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Lead, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Manganese, Total	1.47		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Mercury, Total	ND		mg/l	0.0002	--	1	05/18/23 13:32	05/24/23 18:03	EPA 7470A	97,7470A	AMW
Selenium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Silver, Total	ND		mg/l	0.0070	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Sodium, Total	13.1		mg/l	2.00	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL
Zinc, Total	ND		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 16:57	EPA 3005A	97,6010D	DHL



Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-02

Date Collected: 05/10/23 11:25

Client ID: MW-3A

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.0050	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Barium, Total	0.0666		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Cadmium, Total	ND		mg/l	0.0040	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Calcium, Total	70.6		mg/l	0.100	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Chromium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Copper, Total	0.0236		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Iron, Total	0.433		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Lead, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Manganese, Total	13.0		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Mercury, Total	ND		mg/l	0.0002	--	1	05/18/23 13:32	05/24/23 18:07	EPA 7470A	97,7470A	AMW
Selenium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Silver, Total	ND		mg/l	0.0070	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Sodium, Total	91.4		mg/l	2.00	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL
Zinc, Total	ND		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 17:06	EPA 3005A	97,6010D	DHL



Project Name: MERCHANT/BS&R**Lab Number:** L2326292**Project Number:** K10740A**Report Date:** 05/25/23**SAMPLE RESULTS**

Lab ID: L2326292-03

Date Collected: 05/10/23 12:30

Client ID: MW-3B

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.0050	--	1	05/18/23 14:02	05/21/23 17:09	EPA 3005A	97,6010D	DHL
Manganese, Total	0.858		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:09	EPA 3005A	97,6010D	DHL



Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-04

Date Collected: 05/10/23 10:45

Client ID: MW-4A

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.0050	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Barium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Cadmium, Total	ND		mg/l	0.0040	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Calcium, Total	6.99		mg/l	0.100	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Chromium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Copper, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Iron, Total	ND		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Lead, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Manganese, Total	1.13		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Mercury, Total	ND		mg/l	0.0002	--	1	05/18/23 13:32	05/24/23 18:10	EPA 7470A	97,7470A	AMW
Selenium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Silver, Total	ND		mg/l	0.0070	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Sodium, Total	11.3		mg/l	2.00	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL
Zinc, Total	ND		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 17:12	EPA 3005A	97,6010D	DHL



Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-05

Date Collected: 05/10/23 10:35

Client ID: MW-5

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.0050	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Barium, Total	0.0356		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Cadmium, Total	ND		mg/l	0.0040	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Calcium, Total	16.7		mg/l	0.100	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Chromium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Copper, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Iron, Total	12.2		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Lead, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Manganese, Total	10.7		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Mercury, Total	ND		mg/l	0.0002	--	1	05/18/23 13:32	05/24/23 18:13	EPA 7470A	97,7470A	AMW
Selenium, Total	ND		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Silver, Total	ND		mg/l	0.0070	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Sodium, Total	26.8		mg/l	2.00	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL
Zinc, Total	ND		mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 17:16	EPA 3005A	97,6010D	DHL



Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-06

Date Collected: 05/10/23 11:45

Client ID: MW-5B

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/l	0.0050	--	1	05/18/23 14:02	05/21/23 17:19	EPA 3005A	97,6010D	DHL
Manganese, Total	0.0723		mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 17:19	EPA 3005A	97,6010D	DHL



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1779683-1									
Arsenic, Total	ND	mg/l	0.0050	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Barium, Total	ND	mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Cadmium, Total	ND	mg/l	0.0040	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Calcium, Total	ND	mg/l	0.100	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Chromium, Total	ND	mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Copper, Total	ND	mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Iron, Total	ND	mg/l	0.0500	--	1	05/18/23 14:02	05/22/23 08:33	97,6010D	DHL
Lead, Total	ND	mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Manganese, Total	ND	mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Selenium, Total	ND	mg/l	0.0100	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Silver, Total	ND	mg/l	0.0070	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Sodium, Total	ND	mg/l	2.00	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL
Zinc, Total	ND	mg/l	0.0500	--	1	05/18/23 14:02	05/21/23 16:28	97,6010D	DHL

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-02,04-05 Batch: WG1779685-1									
Mercury, Total	ND	mg/l	0.0002	--	1	05/18/23 13:32	05/19/23 11:09	97,7470A	DMB

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1779683-2 WG1779683-3								
Arsenic, Total	106		106		80-120	0		20
Barium, Total	107		108		80-120	1		20
Cadmium, Total	107		107		80-120	0		20
Calcium, Total	108		109		80-120	1		20
Chromium, Total	108		107		80-120	1		20
Copper, Total	110		110		80-120	0		20
Iron, Total	106		108		80-120	2		20
Lead, Total	109		109		80-120	0		20
Manganese, Total	107		109		80-120	2		20
Selenium, Total	108		108		80-120	0		20
Silver, Total	109		107		80-120	2		20
Sodium, Total	111		113		80-120	2		20
Zinc, Total	105		104		80-120	1		20
MCP Total Metals - Mansfield Lab Associated sample(s): 01-02,04-05 Batch: WG1779685-2 WG1779685-3								
Mercury, Total	95		99		80-120	4		20

INORGANICS & MISCELLANEOUS

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-01
Client ID: MW-1R
Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 12:30
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	05/18/23 03:10	05/18/23 13:04	97,9014	JER
General Chemistry - Westborough Lab										
Color, Apparent	170		A.P.C.U.	50	--	10	-	05/12/23 10:00	121,2120B	MRM
Alkalinity, Total	253.		mg CaCO3/L	2.00	NA	1	-	05/22/23 13:52	121,2320B	MKT
Solids, Total Dissolved	290		mg/l	20	--	2	-	05/17/23 03:56	121,2540C	DEW
Chloride	24.		mg/l	1.0	--	1	-	05/24/23 20:28	1,9251	TLH
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	05/12/23 03:39	121,4500NO3-F	KAF
Nitrogen, Nitrate	ND		mg/l	0.100	--	1	-	05/12/23 03:39	121,4500NO3-F	KAF
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	05/12/23 03:39	121,4500NO3-F	KAF
Total Nitrogen	6.3		mg/l	0.30	--	1	-	05/25/23 11:05	107,-	MRM
Nitrogen, Total Kjeldahl	6.27		mg/l	0.300	--	1	05/21/23 19:38	05/24/23 12:03	121,4500NH3-H	KEP
Phosphorus, Total	1.20		mg/l	0.050	--	5	05/25/23 07:40	05/25/23 11:10	121,4500P-E	EYA
Sulfide	ND		mg/l	0.10	--	1	05/16/23 10:21	05/16/23 11:55	1,9030B	LOF
Sulfate	ND		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD
Chemical Oxygen Demand	76.		mg/l	20	--	1	05/23/23 12:10	05/23/23 20:37	44,410.4	CVN
Total Organic Carbon	26.		mg/l	2.0	--	4	-	05/24/23 03:11	1,9060A	DEW
Tannin & Lignin	1.8		mg/l	0.20	--	1	-	05/24/23 15:52	121,5550B	SD
Formaldehyde by EPA 8315A - Westborough Lab										
Formaldehyde	ND		mg/l	0.375	--	5	05/12/23 09:00	05/12/23 22:02	1,8315A	AAS



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-02
Client ID: MW-3A
Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 11:25
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Cyanide, Total	0.006		mg/l	0.005	--	1	05/18/23 03:10	05/18/23 13:05	97,9014	JER
General Chemistry - Westborough Lab										
Color, Apparent	85		A.P.C.U.	25	--	5	-	05/12/23 10:00	121,2120B	MRM
Alkalinity, Total	298.		mg CaCO3/L	2.00	NA	1	-	05/22/23 13:59	121,2320B	MKT
Solids, Total Dissolved	790		mg/l	20	--	2	-	05/17/23 03:56	121,2540C	DEW
Chloride	160		mg/l	10	--	10	-	05/24/23 21:34	1,9251	TLH
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	05/12/23 03:41	121,4500NO3-F	KAF
Nitrogen, Nitrate	1.61		mg/l	0.100	--	1	-	05/12/23 03:41	121,4500NO3-F	KAF
Nitrogen, Nitrate/Nitrite	1.6		mg/l	0.10	--	1	-	05/12/23 03:41	121,4500NO3-F	KAF
Total Nitrogen	11.		mg/l	0.30	--	1	-	05/25/23 11:05	107,-	MRM
Nitrogen, Total Kjeldahl	9.63		mg/l	0.300	--	1	05/21/23 19:38	05/24/23 12:04	121,4500NH3-H	KEP
Phosphorus, Total	0.090		mg/l	0.010	--	1	05/25/23 07:40	05/25/23 10:47	121,4500P-E	EYA
Sulfide	ND		mg/l	0.10	--	1	05/16/23 10:21	05/16/23 11:56	1,9030B	LOF
Sulfate	37.		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD
Chemical Oxygen Demand	190		mg/l	20	--	1	05/23/23 12:10	05/23/23 20:38	44,410.4	CVN
Total Organic Carbon	57		mg/l	5.0	--	10	-	05/23/23 05:20	1,9060A	DEW
Tannin & Lignin	5.4		mg/l	0.20	--	1	-	05/24/23 15:52	121,5550B	SD
Formaldehyde by EPA 8315A - Westborough Lab										
Formaldehyde	ND		mg/l	0.075	--	1	05/12/23 09:00	05/12/23 22:22	1,8315A	AAS



Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-03

Date Collected: 05/10/23 12:30

Client ID: MW-3B

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Dissolved	32.		mg/l	13	--	1.3	-	05/17/23 03:56	121,2540C	DEW



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-04
Client ID: MW-4A
Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:45
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	05/18/23 03:10	05/18/23 13:06	97,9014	JER
General Chemistry - Westborough Lab										
Color, Apparent	ND		A.P.C.U.	5.0	--	1	-	05/12/23 10:00	121,2120B	MRM
Alkalinity, Total	10.3		mg CaCO3/L	2.00	NA	1	-	05/22/23 14:07	121,2320B	MKT
Solids, Total Dissolved	79.		mg/l	13	--	1.3	-	05/17/23 03:56	121,2540C	DEW
Chloride	19.		mg/l	1.0	--	1	-	05/24/23 21:35	1,9251	TLH
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	05/12/23 03:42	121,4500NO3-F	KAF
Nitrogen, Nitrate	3.21		mg/l	0.100	--	1	-	05/12/23 03:42	121,4500NO3-F	KAF
Nitrogen, Nitrate/Nitrite	3.2		mg/l	0.10	--	1	-	05/12/23 03:42	121,4500NO3-F	KAF
Total Nitrogen	3.5		mg/l	0.30	--	1	-	05/25/23 11:05	107,-	MRM
Nitrogen, Total Kjeldahl	0.300		mg/l	0.300	--	1	05/21/23 19:38	05/24/23 12:05	121,4500NH3-H	KEP
Phosphorus, Total	0.039		mg/l	0.010	--	1	05/25/23 07:40	05/25/23 10:48	121,4500P-E	EYA
Sulfide	ND		mg/l	0.10	--	1	05/16/23 10:21	05/16/23 13:08	1,9030B	LOF
Sulfate	ND		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD
Chemical Oxygen Demand	ND		mg/l	20	--	1	05/23/23 12:10	05/23/23 20:38	44,410.4	CVN
Total Organic Carbon	1.0		mg/l	0.50	--	1	-	05/23/23 05:45	1,9060A	DEW
Tannin & Lignin	ND		mg/l	0.20	--	1	-	05/24/23 15:52	121,5550B	SD
Formaldehyde by EPA 8315A - Westborough Lab										
Formaldehyde	ND		mg/l	0.075	--	1	05/12/23 09:00	05/12/23 22:43	1,8315A	AAS



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-05
Client ID: MW-5
Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Date Collected: 05/10/23 10:35
Date Received: 05/11/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Cyanide, Total	0.006		mg/l	0.005	--	1	05/18/23 03:10	05/18/23 13:07	97,9014	JER
General Chemistry - Westborough Lab										
Color, Apparent	82		A.P.C.U.	10	--	2	-	05/12/23 10:00	121,2120B	MRM
Alkalinity, Total	103.		mg CaCO3/L	2.00	NA	1	-	05/22/23 14:08	121,2320B	MKT
Solids, Total Dissolved	230		mg/l	13	--	1.3	-	05/17/23 03:56	121,2540C	DEW
Chloride	45.		mg/l	1.0	--	1	-	05/24/23 20:35	1,9251	TLH
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	05/12/23 03:43	121,4500NO3-F	KAF
Nitrogen, Nitrate	0.129		mg/l	0.100	--	1	-	05/12/23 03:43	121,4500NO3-F	KAF
Nitrogen, Nitrate/Nitrite	0.13		mg/l	0.10	--	1	-	05/12/23 03:43	121,4500NO3-F	KAF
Total Nitrogen	5.4		mg/l	0.30	--	1	-	05/25/23 11:05	107,-	MRM
Nitrogen, Total Kjeldahl	5.25		mg/l	0.300	--	1	05/21/23 19:38	05/24/23 12:09	121,4500NH3-H	KEP
Phosphorus, Total	0.112		mg/l	0.010	--	1	05/25/23 07:40	05/25/23 10:49	121,4500P-E	EYA
Sulfide	ND		mg/l	0.10	--	1	05/16/23 10:21	05/16/23 13:08	1,9030B	LOF
Sulfate	40.		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD
Chemical Oxygen Demand	22.		mg/l	20	--	1	05/25/23 11:40	05/25/23 16:33	44,410.4	CVN
Total Organic Carbon	8.6		mg/l	1.0	--	2	-	05/23/23 06:13	1,9060A	DEW
Tannin & Lignin	1.6		mg/l	0.20	--	1	-	05/24/23 15:53	121,5550B	SD
Formaldehyde by EPA 8315A - Westborough Lab										
Formaldehyde	ND		mg/l	0.075	--	1	05/12/23 09:00	05/12/23 23:03	1,8315A	AAS



Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

SAMPLE RESULTS

Lab ID: L2326292-06

Date Collected: 05/10/23 11:45

Client ID: MW-5B

Date Received: 05/11/23

Sample Location: 1515 FREEMANS WAY, BREWSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Dissolved	ND		mg/l	13	--	1.3	-	05/17/23 03:56	121,2540C	DEW



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1777986-1										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	05/12/23 03:03	121,4500NO3-F	KAF
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1777990-1										
Nitrogen, Nitrate	ND		mg/l	0.100	--	1	-	05/12/23 03:11	121,4500NO3-F	KAF
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1777992-1										
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	05/12/23 03:08	121,4500NO3-F	KAF
Formaldehyde by EPA 8315A - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1778115-1										
Formaldehyde	ND		mg/l	0.075	--	1	05/12/23 09:00	05/12/23 18:38	1,8315A	AAS
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1779470-1										
Sulfide	ND		mg/l	0.10	--	1	05/16/23 10:21	05/16/23 11:53	1,9030B	LOF
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1779760-1										
Solids, Total Dissolved	ND		mg/l	10	--	1	-	05/17/23 03:56	121,2540C	DEW
MCP General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1780276-1										
Cyanide, Total	ND		mg/l	0.005	--	1	05/18/23 03:10	05/18/23 13:00	97,9014	JER
General Chemistry - Westborough Lab for sample(s): 01-02,04 Batch: WG1781401-1										
Chemical Oxygen Demand	ND		mg/l	20	--	1	05/23/23 12:10	05/23/23 20:34	44,410.4	CVN
General Chemistry - Westborough Lab for sample(s): 05 Batch: WG1781404-1										
Chemical Oxygen Demand	ND		mg/l	20	--	1	05/25/23 11:40	05/25/23 16:32	44,410.4	CVN
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1781485-1										
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	--	1	05/21/23 19:38	05/24/23 11:56	121,4500NH3-H	KEP
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1781761-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	05/22/23 15:08	121,2320B	MKT
General Chemistry - Westborough Lab for sample(s): 02,04-05 Batch: WG1782079-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	05/23/23 04:15	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1782574-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	05/24/23 03:11	1,9060A	DEW
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1782690-1										
Sulfate	ND		mg/l	10	--	1	05/24/23 08:20	05/24/23 08:20	1,9038	SMD



Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1782919-1									
Phosphorus, Total	ND	mg/l	0.010	--	1	05/25/23 07:40	05/25/23 10:24	121,4500P-E	EYA
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1782930-1									
Tannin & Lignin	ND	mg/l	0.20	--	1	-	05/24/23 15:48	121,5550B	SD
General Chemistry - Westborough Lab for sample(s): 01-02,04-05 Batch: WG1782977-1									
Chloride	ND	mg/l	1.0	--	1	-	05/24/23 20:15	1,9251	TLH

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1777986-2								
Nitrogen, Nitrite	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1777990-2								
Nitrogen, Nitrate	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1777992-2								
Nitrogen, Nitrate/Nitrite	96		-		90-110	-		20
Formaldehyde by EPA 8315A - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1778115-2								
Formaldehyde	86		-		39-153	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1779470-2								
Sulfide	112		-		75-125	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1779760-2								
Solids, Total Dissolved	93		-		80-120	-		
MCP General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1780276-2 WG1780276-3								
Cyanide, Total	100		93		80-120	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1781401-2					
Chemical Oxygen Demand	94	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1781404-2					
Chemical Oxygen Demand	96	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1781485-2					
Nitrogen, Total Kjeldahl	100	-	78-122	-	
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1781761-2					
Alkalinity, Total	107	-	90-110	-	10
General Chemistry - Westborough Lab Associated sample(s): 02,04-05 Batch: WG1782079-2					
Total Organic Carbon	95	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1782574-2					
Total Organic Carbon	98	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1782690-2					
Sulfate	90	-	90-110	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Project Number: K10740A

Lab Number: L2326292

Report Date: 05/25/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1782919-2					
Phosphorus, Total	100	-	80-120	-	
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1782930-2					
Tannin & Lignin	108	-	80-120	-	20
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG1782977-2					
Chloride	100	-	90-110	-	

Matrix Spike Analysis Batch Quality Control

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 QC Batch ID: WG1779470-4 QC Sample: L2326292-02 Client ID: MW-3A												
Sulfide	ND	0.52	0.37	71	-	-	-	-	70-130	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 01-02,04 QC Batch ID: WG1781401-4 QC Sample: L2326292-04 Client ID: MW-4A												
Chemical Oxygen Demand	ND	238	240	99	-	-	-	-	90-110	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1781404-4 QC Sample: L2326292-05 Client ID: MW-5												
Chemical Oxygen Demand	22	238	270	104	-	-	-	-	90-110	-	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MERCHANT/BS&R

Project Number: K10740A

Lab Number: L2326292

Report Date: 05/25/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 QC Batch ID: WG1778218-1 QC Sample: L2326292-05 Client ID: MW-5						
Color, Apparent	82	82	A.P.C.U.	0		
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 QC Batch ID: WG1779470-3 QC Sample: L2326292-01 Client ID: MW-1R						
Sulfide	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02,04 QC Batch ID: WG1781401-3 QC Sample: L2326292-04 Client ID: MW-4A						
Chemical Oxygen Demand	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1781404-3 QC Sample: L2326292-05 Client ID: MW-5						
Chemical Oxygen Demand	22	20	mg/l	10		20

Project Name: MERCHANT/BS&R**Lab Number:** L2326292**Project Number:** K10740A**Report Date:** 05/25/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326292-01A	Vial HCl preserved	B	NA		3.7	Y	Absent		MCP-8260-21(14)
L2326292-01B	Vial HCl preserved	B	NA		3.7	Y	Absent		MCP-8260-21(14)
L2326292-01C	Vial HCl preserved	B	NA		3.7	Y	Absent		MCP-8260-21(14)
L2326292-01D	Vial H2SO4 preserved	B	NA		3.7	Y	Absent		TOC-9060(28)
L2326292-01E	Vial H2SO4 preserved	B	NA		3.7	Y	Absent		TOC-9060(28)
L2326292-01F	Plastic 250ml unpreserved/No Headspace	B	NA		3.7	Y	Absent		ALK-T-2320(14)
L2326292-01G	Plastic 250ml HNO3 preserved	B	<2	<2	3.7	Y	Absent		MCP-CR-6010T-10(180),MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CA-6010T-10(180),MCP-CD-6010T-10(180),MCP-NA-6010T-10(180),MCP-CU-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L2326292-01H	Plastic 250ml NaOH preserved	B	>12	>12	3.7	Y	Absent		MCP-TCN9014-10(14)
L2326292-01I	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.7	Y	Absent		SULFIDE-9030(7)
L2326292-01J	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.7	Y	Absent		SULFIDE-9030(7)
L2326292-01K	Plastic 950ml H2SO4 preserved	B	<2	<2	3.7	Y	Absent		TKN-4500(28),TPHOS-4500(28),COD-410(28),NO3/NO2-4500(28),TNITROGEN(28)
L2326292-01L	Plastic 950ml unpreserved	B	7	7	3.7	Y	Absent		SO4-9038(28),CL-9251(28),NO3-4500(2),NO2-4500NO3(2),T&L(),TDS-2540(7)
L2326292-01M	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		COLOR-A-2120(2),FORM-8315(3)
L2326292-01N	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		MCP-PAHSIM-21(7)
L2326292-01O	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		MCP-PAHSIM-21(7)
L2326292-02A	Vial HCl preserved	B	NA		3.7	Y	Absent		MCP-8260-21(14)
L2326292-02B	Vial HCl preserved	B	NA		3.7	Y	Absent		MCP-8260-21(14)

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326292-02C	Vial HCl preserved	B	NA		3.7	Y	Absent		MCP-8260-21(14)
L2326292-02D	Vial H2SO4 preserved	B	NA		3.7	Y	Absent		TOC-9060(28)
L2326292-02E	Vial H2SO4 preserved	B	NA		3.7	Y	Absent		TOC-9060(28)
L2326292-02F	Plastic 250ml unpreserved/No Headspace	B	NA		3.7	Y	Absent		ALK-T-2320(14)
L2326292-02G	Plastic 250ml HNO3 preserved	B	<2	<2	3.7	Y	Absent		MCP-CR-6010T-10(180),MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6010T-10(180),MCP-7470T-10(28),MCP-CA-6010T-10(180),MCP-CD-6010T-10(180),MCP-NA-6010T-10(180),MCP-AG-6010T-10(180),MCP-CU-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L2326292-02H	Plastic 250ml NaOH preserved	B	>12	>12	3.7	Y	Absent		MCP-TCN9014-10(14)
L2326292-02I	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.7	Y	Absent		SULFIDE-9030(7)
L2326292-02J	Plastic 250ml Zn Acetate/NaOH preserved	B	>9	>9	3.7	Y	Absent		SULFIDE-9030(7)
L2326292-02K	Plastic 950ml H2SO4 preserved	B	<2	<2	3.7	Y	Absent		TKN-4500(28),COD-410(28),TPHOS-4500(28),NO3/NO2-4500(28),TNITROGEN(28)
L2326292-02L	Plastic 950ml unpreserved	B	7	7	3.7	Y	Absent		CL-9251(28),SO4-9038(28),NO3-4500(2),NO2-4500NO3(2),T&L(),TDS-2540(7)
L2326292-02M	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		COLOR-A-2120(2),FORM-8315(3)
L2326292-02N	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		MCP-PAHSIM-21(7)
L2326292-02O	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		MCP-PAHSIM-21(7)
L2326292-03A	Plastic 250ml unpreserved	D	7	7	3.9	Y	Absent		TDS-2540(7)
L2326292-03B	Plastic 250ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		MCP-MN-6010T-10(180),MCP-AS-6010T-10(180)
L2326292-04A	Vial HCl preserved	D	NA		3.9	Y	Absent		MCP-8260-21(14)
L2326292-04B	Vial HCl preserved	D	NA		3.9	Y	Absent		MCP-8260-21(14)
L2326292-04C	Vial HCl preserved	D	NA		3.9	Y	Absent		MCP-8260-21(14)
L2326292-04D	Vial H2SO4 preserved	D	NA		3.9	Y	Absent		TOC-9060(28)
L2326292-04E	Vial H2SO4 preserved	D	NA		3.9	Y	Absent		TOC-9060(28)
L2326292-04F	Plastic 250ml unpreserved/No Headspace	D	NA		3.9	Y	Absent		ALK-T-2320(14)

Project Name: MERCHANT/BS&R

Lab Number: L2326292

Project Number: K10740A

Report Date: 05/25/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326292-04G	Plastic 250ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		MCP-CR-6010T-10(180),MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6010T-10(180),MCP-CA-6010T-10(180),MCP-7470T-10(28),MCP-CD-6010T-10(180),MCP-NA-6010T-10(180),MCP-ZN-6010T-10(180),MCP-CU-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L2326292-04H	Plastic 250ml NaOH preserved	D	>12	>12	3.9	Y	Absent		MCP-TCN9014-10(14)
L2326292-04I	Plastic 250ml Zn Acetate/NaOH preserved	D	>9	>9	3.9	Y	Absent		SULFIDE-9030(7)
L2326292-04J	Plastic 250ml Zn Acetate/NaOH preserved	D	>9	>9	3.9	Y	Absent		SULFIDE-9030(7)
L2326292-04K	Plastic 950ml H2SO4 preserved	D	<2	<2	3.9	Y	Absent		TKN-4500(28),TPHOS-4500(28),COD-410(28),NO3/NO2-4500(28),TNITROGEN(28)
L2326292-04L	Plastic 950ml unpreserved	D	7	7	3.9	Y	Absent		CL-9251(28),SO4-9038(28),NO3-4500(2),NO2-4500NO3(2),T&L(),TDS-2540(7)
L2326292-04M	Amber 1000ml unpreserved	D	7	7	3.9	Y	Absent		COLOR-A-2120(2),FORM-8315(3)
L2326292-04N	Amber 1000ml unpreserved	D	7	7	3.9	Y	Absent		MCP-PAHSIM-21(7)
L2326292-04O	Amber 1000ml unpreserved	D	7	7	3.9	Y	Absent		MCP-PAHSIM-21(7)
L2326292-05A	Vial HCl preserved	A	NA		3.0	Y	Absent		MCP-8260-21(14)
L2326292-05B	Vial HCl preserved	A	NA		3.0	Y	Absent		MCP-8260-21(14)
L2326292-05C	Vial HCl preserved	A	NA		3.0	Y	Absent		MCP-8260-21(14)
L2326292-05D	Vial H2SO4 preserved	A	NA		3.0	Y	Absent		TOC-9060(28)
L2326292-05E	Vial H2SO4 preserved	A	NA		3.0	Y	Absent		TOC-9060(28)
L2326292-05F	Plastic 250ml unpreserved/No Headspace	A	NA		3.0	Y	Absent		ALK-T-2320(14)
L2326292-05G	Plastic 250ml HNO3 preserved	A	<2	<2	3.0	Y	Absent		MCP-CR-6010T-10(180),MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6010T-10(180),MCP-CA-6010T-10(180),MCP-7470T-10(28),MCP-CD-6010T-10(180),MCP-NA-6010T-10(180),MCP-AG-6010T-10(180),MCP-CU-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L2326292-05H	Plastic 250ml NaOH preserved	A	>12	>12	3.0	Y	Absent		MCP-TCN9014-10(14)
L2326292-05I	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	3.0	Y	Absent		SULFIDE-9030(7)
L2326292-05J	Plastic 250ml Zn Acetate/NaOH preserved	A	>9	>9	3.0	Y	Absent		SULFIDE-9030(7)
L2326292-05K	Plastic 950ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent		TKN-4500(28),TPHOS-4500(28),COD-410(28),NO3/NO2-4500(28),TNITROGEN(28)

Project Name: MERCHANT/BS&R
Project Number: K10740A

Serial_No:05252319:59
Lab Number: L2326292
Report Date: 05/25/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2326292-05L	Plastic 950ml unpreserved	A	7	7	3.0	Y	Absent		CL-9251(28),SO4-9038(28),NO3-4500(2),NO2-4500NO3(2),TDS-2540(7),T&L()
L2326292-05M	Amber 1000ml unpreserved	A	7	7	3.0	Y	Absent		COLOR-A-2120(2),FORM-8315(3)
L2326292-05N	Amber 1000ml unpreserved	A	7	7	3.0	Y	Absent		MCP-PAHSIM-21(7)
L2326292-05O	Amber 1000ml unpreserved	A	7	7	3.0	Y	Absent		MCP-PAHSIM-21(7)
L2326292-06A	Plastic 250ml unpreserved	D	7	7	3.9	Y	Absent		TDS-2540(7)
L2326292-06B	Plastic 250ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		MCP-MN-6010T-10(180),MCP-AS-6010T-10(180)
L2326292-07A	Vial HCl preserved	A	NA		3.0	Y	Absent		MCP-8260-21(14)
L2326292-07B	Vial HCl preserved	A	NA		3.0	Y	Absent		MCP-8260-21(14)

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

Data Qualifiers

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: MERCHANT/BS&R
Project Number: K10740A

Lab Number: L2326292
Report Date: 05/25/23

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 107 Alpha Analytical - In-house calculation method.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 1 OF 1

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9183

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: Merchant/CS&R

Project Location: 1515 Freemans Way, Brewster MA

Project #: K10740A

Project Manager: John Tadema-Wielandt/JCG

ALPHA Quote #: 10135

Client Information

Client: Bennett Environmental Associates

Address: 1573 Main Street

Brewster, MA 02631

Phone: (508) 896-1706

Fax: (508) 896-5109

Email: JTadema-Wielandt@NSUWater.com

These samples have been Previously analyzed by Alpha

Turn-Around Time

Standard Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:
(If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

Date Rec'd in Lab: 5/11/23 ALPHA Job #: 2326292

Report Information	Data Deliverables	Billing Information	
<input type="checkbox"/> FAX	<input checked="" type="checkbox"/> EMAIL	<input checked="" type="checkbox"/> Same as Client info	PO #: K10740A
<input checked="" type="checkbox"/> ADEx	<input type="checkbox"/> Add'l Deliverables		

Regulatory Requirements/Report Limits

State/Fed Program MA MCP Criteria GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Are MCP Analytical Methods Required?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS														SAMPLE HANDLING Filtration <input type="checkbox"/> Done <input checked="" type="checkbox"/> Not Needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)	TOTAL # BOTTLES
PAHs, Formaldehyde	Cyanide	Total Landfill Metals	TDS	Alkalinity	Sulfide	VOCs 8260B	COD, TKN, TOC	Total Phosphorus, Total Nitrogen	NO2, NO3, SO4, TDS, T & L	Chloride, Color	Mn, As	Sample Specific Comments			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
26292 01	MW-1R	5/10/23	12:30pm	GW	JCG
02	MW-3A	5/10/23	11:25am	GW	JCG
03	MW-3B	5/10/23	10:45am	GW	SJL
04	MW-4A	5/10/23	10:35am	GW	SJL
05	MW-5	5/10/23	12:30pm	GW	JCG
06	MW-5B	5/10/23	11:45am	GW	SJL
07	Trip Blank			GW	

PLEASE ANSWER QUESTIONS ABOVE!

Container Type	-	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
<i>Jaenelle</i>	5/10/23 2:00pm	<i>Prudge</i>	5/10/23 2:00pm
<i>W. Dambroski</i>	5/11/23 15:16	<i>W. Dambroski</i>	5/11/23 15:16
<i>W. Dambroski</i>	5/11/23 18:30	<i>lylis</i>	5/11/23 18:30

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(3)
(Rev. 20-JAN-2010)

Method Blank Summary Form 4 Volatiles

Client	: Bennett Environmental Associates	Lab Number	: L2326292
Project Name	: MERCHANT/BS&R	Project Number	: K10740A
Lab Sample ID	: WG1782242-5	Lab File ID	: J230522A10
Instrument ID	: JACK2		
Matrix	: WATER	Analysis Date	: 05/22/23 10:52

Client Sample No.	Lab Sample ID	Analysis Date
WG1782242-3LCS	WG1782242-3	05/22/23 08:46
WG1782242-4LCSD	WG1782242-4	05/22/23 09:28
MW-1R	L2326292-01	05/22/23 15:46
MW-3A	L2326292-02D	05/22/23 16:28
MW-4A	L2326292-04	05/22/23 17:10
MW-5	L2326292-05	05/22/23 17:52
TRIP BLANK	L2326292-07	05/22/23 18:34

Calibration Verification Summary

Form 7

Volatiles

Client : Bennett Environmental Associates
 Project Name : MERCHANT/BS&R
 Instrument ID : JACK2
 Lab File ID : J230522A04
 Sample No : WG1782242-2
 Channel :

Lab Number : L2326292
 Project Number : K10740A
 Calibration Date : 05/22/23 08:46
 Init. Calib. Date(s) : 05/19/23 05/20/23
 Init. Calib. Times : 23:40 06:37

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	107	0
Dichlorodifluoromethane	0.311	0.32	-	-2.9	20	100	0
Chloromethane	0.479	0.52	-	-8.6	20	107	0
Vinyl chloride	0.417	0.451	-	-8.2	20	104	0
Bromomethane	0.201	0.212	-	-5.5	20	114	0
Chloroethane	0.223	0.241	-	-8.1	20	102	0
Trichlorofluoromethane	0.413	0.452	-	-9.4	20	101	0
Ethyl ether	0.156	0.156	-	0	20	105	0
1,1-Dichloroethene	0.293	0.33	-	-12.6	20	105	0
Carbon disulfide	0.975	1.109	-	-13.7	20	106	0
Freon-113	0.304	0.337	-	-10.9	20	103	0
Iodomethane	10	7.242	-	27.6*	20	76	0
Acrolein	0.048	0.055	-	-14.6	20	126	0
Methylene chloride	0.359	0.377	-	-5	20	105	0
Acetone	0.093	0.08	-	14	20	91	0
trans-1,2-Dichloroethene	0.328	0.362	-	-10.4	20	106	0
Methyl acetate	0.218	0.227	-	-4.1	20	115	0
Methyl tert-butyl ether	0.786	0.817	-	-3.9	20	108	0
tert-Butyl alcohol	0.024	0.029	-	-20.8*	20	134	0
Diisopropyl ether	1.232	1.324	-	-7.5	20	108	0
1,1-Dichloroethane	0.676	0.732	-	-8.3	20	103	0
Halothane	0.239	0.262	-	-9.6	20	105	0
Acrylonitrile	0.104	0.108	-	-3.8	20	107	0
Ethyl tert-butyl ether	1.047	1.101	-	-5.2	20	108	0
Vinyl acetate	0.519	0.817	-	-57.4*	20	179	0
cis-1,2-Dichloroethene	0.363	0.387	-	-6.6	20	104	0
2,2-Dichloropropane	0.486	0.566	-	-16.5	20	116	0
Bromochloromethane	0.149	0.161	-	-8.1	20	105	0
Cyclohexane	0.689	0.771	-	-11.9	20	107	0
Chloroform	0.582	0.614	-	-5.5	20	103	0
Ethyl acetate	0.317	0.33	-	-4.1	20	115	0
Carbon tetrachloride	0.376	0.407	-	-8.2	20	104	0
Tetrahydrofuran	0.102	0.104	-	-2	20	109	0
Dibromofluoromethane	0.26	0.259	-	0.4	20	105	0
1,1,1-Trichloroethane	0.452	0.48	-	-6.2	20	105	0
2-Butanone	0.141	0.132	-	6.4	20	112	.01
1,1-Dichloropropene	0.461	0.499	-	-8.2	20	108	0
Benzene	1.46	1.536	-	-5.2	20	105	0
tert-Amyl methyl ether	0.882	0.924	-	-4.8	20	108	0
1,2-Dichloroethane-d4	0.323	0.317	-	1.9	20	105	0
1,2-Dichloroethane	0.404	0.42	-	-4	20	103	0
Methyl cyclohexane	0.572	0.634	-	-10.8	20	108	0
Trichloroethene	0.347	0.356	-	-2.6	20	97	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Bennett Environmental Associates
 Project Name : MERCHANT/BS&R
 Instrument ID : JACK2
 Lab File ID : J230522A04
 Sample No : WG1782242-2
 Channel :

Lab Number : L2326292
 Project Number : K10740A
 Calibration Date : 05/22/23 08:46
 Init. Calib. Date(s) : 05/19/23 05/20/23
 Init. Calib. Times : 23:40 06:37

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.189	0.185	-	2.1	20	103	0
1,2-Dichloropropane	0.313	0.328	-	-4.8	20	102	0
2-Chloroethyl vinyl ether	0.201	0.21	-	-4.5	20	106	0
Bromodichloromethane	0.437	0.451	-	-3.2	20	103	0
1,4-Dioxane	0.0019	0.00243*	-	-27.9*	20	123	0
cis-1,3-Dichloropropene	0.56	0.6	-	-7.1	20	109	0
Chlorobenzene-d5	1	1	-	0	20	105	0
Toluene-d8	1.252	1.254	-	-0.2	20	106	0
Toluene	0.949	0.996	-	-5	20	105	0
4-Methyl-2-pentanone	0.137	0.147	-	-7.3	20	108	0
Tetrachloroethene	0.389	0.42	-	-8	20	104	0
trans-1,3-Dichloropropene	0.434	0.452	-	-4.1	20	106	.01
Ethyl methacrylate	0.457	0.492	-	-7.7	20	109	0
1,1,2-Trichloroethane	0.266	0.274	-	-3	20	104	0
Chlorodibromomethane	0.324	0.326	-	-0.6	20	105	0
1,3-Dichloropropane	0.575	0.58	-	-0.9	20	104	0
1,2-Dibromoethane	0.302	0.309	-	-2.3	20	105	0
2-Hexanone	0.254	0.252	-	0.8	20	106	0
Chlorobenzene	1.017	1.046	-	-2.9	20	104	0
Ethylbenzene	1.805	1.961	-	-8.6	20	106	0
1,1,1,2-Tetrachloroethane	0.316	0.336	-	-6.3	20	106	0
p/m Xylene	0.698	0.757	-	-8.5	20	105	0
o Xylene	0.68	0.738	-	-8.5	20	105	0
Styrene	1.108	1.24	-	-11.9	20	105	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	106	0
Bromoform	0.362	0.37	-	-2.2	20	107	0
Isopropylbenzene	3.216	3.408	-	-6	20	106	0
4-Bromofluorobenzene	0.906	0.9	-	0.7	20	108	0
Bromobenzene	0.753	0.768	-	-2	20	103	0
n-Propylbenzene	3.908	4.225	-	-8.1	20	106	0
1,4-Dichlorobutane	1.039	1.087	-	-4.6	20	105	0
1,1,2,2-Tetrachloroethane	0.672	0.74	-	-10.1	20	117	0
4-Ethyltoluene	3.11	3.366	-	-8.2	20	107	0
2-Chlorotoluene	2.601	2.766	-	-6.3	20	105	0
1,3,5-Trimethylbenzene	2.619	2.783	-	-6.3	20	105	0
1,2,3-Trichloropropane	0.596	0.594	-	0.3	20	105	0
trans-1,4-Dichloro-2-buten	0.213	0.223	-	-4.7	20	106	0
4-Chlorotoluene	2.394	2.537	-	-6	20	107	0
tert-Butylbenzene	2.207	2.331	-	-5.6	20	105	0
1,2,4-Trimethylbenzene	2.558	2.793	-	-9.2	20	105	0
sec-Butylbenzene	3.387	3.668	-	-8.3	20	106	0
p-Isopropyltoluene	2.798	3.055	-	-9.2	20	105	0
1,3-Dichlorobenzene	1.458	1.517	-	-4	20	103	0

* Value outside of QC limits.



Calibration Verification Summary Form 7 Volatiles

Client	: Bennett Environmental Associates	Lab Number	: L2326292
Project Name	: MERCHANT/BS&R	Project Number	: K10740A
Instrument ID	: JACK2	Calibration Date	: 05/22/23 08:46
Lab File ID	: J230522A04	Init. Calib. Date(s)	: 05/19/23 05/20/23
Sample No	: WG1782242-2	Init. Calib. Times	: 23:40 06:37
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.441	1.49	-	-3.4	20	104	0
p-Diethylbenzene	1.701	1.844	-	-8.4	20	106	0
n-Butylbenzene	2.586	2.898	-	-12.1	20	107	0
1,2-Dichlorobenzene	1.35	1.422	-	-5.3	20	106	0
1,2,4,5-Tetramethylbenzene	2.459	2.659	-	-8.1	20	106	0
1,2-Dibromo-3-chloropropan	0.11	0.115	-	-4.5	20	111	0
1,3,5-Trichlorobenzene	1.03	1.125	-	-9.2	20	104	0
Hexachlorobutadiene	0.448	0.488	-	-8.9	20	105	0
1,2,4-Trichlorobenzene	0.889	0.968	-	-8.9	20	104	0
Naphthalene	2.224	2.275	-	-2.3	20	105	0
1,2,3-Trichlorobenzene	0.83	0.879	-	-5.9	20	105	0

* Value outside of QC limits.



Sample Results Comparison with Reportable Concentrations RCGW-1 Criteria.															
CLIENT SAMPLE ID				MW-1R		MW-3A		MW-3B		MW-4A		MW-5		MW-5B	TRIP BLANK
SAMPLING DATE				10-MAY-23		10-MAY-23		10-MAY-23		10-MAY-23		10-MAY-23		10-MAY-23	10-MAY-23
LAB SAMPLE ID	CAS Number	RCGW-1-1	Units	L2326292-01	Qual	L2326292-02	Qual	L2326292-03	Qual	L2326292-04	Qual	L2326292-05	Qual	L2326292-06	L2326292-07
General Chemistry															
Color, Apparent	COLOR		A.P.C.U.	170		85				5	U	82			
Alkalinity, Total	471-34-1		mg CaCO3/l	253		298				10.3		103			
Solids, Total Dissolved	---		mg/l	290		790		32		79		230		13	U
MCP General Chemistry															
Cyanide, Total	57-12-5	0.03	mg/l	0.005	U	0.006				0.005	U	0.006			
General Chemistry															
Chloride	16887-00-6		mg/l	24		160				19		45			
Nitrogen, Nitrite	---		mg/l	0.05	U	0.05	U			0.05	U	0.05	U		
Nitrogen, Nitrate	14797-55-8		mg/l	0.1	U	1.61				3.21		0.129			
Nitrogen, Nitrate/Nitrite	---		mg/l	0.1	U	1.6				3.2		0.13			
Total Nitrogen	---		mg/l	6.3		11				3.5		5.4			
Nitrogen, Total Kjeldahl	---		mg/l	6.27		9.63				0.3		5.25			
Phosphorus, Total	7723-14-0		mg/l	1.2		0.09				0.039		0.112			
Sulfide	18496-25-8		mg/l	0.1	U	0.1	U			0.1	U	0.1	U		
Sulfate	14808-79-8		mg/l	10	U	37				10		40			
Chemical Oxygen Demand	COD		mg/l	76		190				20	U	22			
Total Organic Carbon	7440-44-0		mg/l	26		57				1		8.6			
Tannin & Lignin	---		mg/l	1.8		5.4				0.2	U	1.6			
Formaldehyde by EPA 8315A															
Formaldehyde	50-00-0		mg/l	0.375	U	0.075	U			0.075	U	0.075	U		
MCP Total Metals															
Arsenic, Total	7440-38-2	0.01	mg/l	0.0391		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Barium, Total	7440-39-3	2	mg/l	0.0283		0.0666				0.01	U	0.0356			
Cadmium, Total	7440-43-9	0.004	mg/l	0.004	U	0.004	U			0.004	U	0.004	U		
Calcium, Total	7440-70-2		mg/l	84.4		70.6				6.99		16.7			
Chromium, Total	7440-47-3	0.1	mg/l	0.01	U	0.01	U			0.01	U	0.01	U		
Copper, Total	7440-50-8	10	mg/l	0.01	U	0.236				0.01	U	0.01	U		
Iron, Total	7439-89-6		mg/l	32.2		0.433				0.05	U	12.2			
Lead, Total	7439-92-1	0.01	mg/l	0.01	U	0.01	U			0.01	U	0.01	U		
Manganese, Total	7439-96-5		mg/l	1.47		13		0.858		1.13		10.7		0.0723	
Mercury, Total	7439-97-6	0.002	mg/l	0.0002	U	0.0002	U			0.0002	U	0.0002	U		
Selenium, Total	7782-49-2	0.05	mg/l	0.01	U	0.01	U			0.01	U	0.01	U		
Silver, Total	7440-22-4	0.007	mg/l	0.007	U	0.007	U			0.007	U	0.007	U		
Sodium, Total	7440-23-5		mg/l	13.1		91.4				11.3		26.8			
Zinc, Total	7440-66-6	0.9	mg/l	0.05	U	0.05	U			0.05	U	0.05	U		
MCP Volatile Organics															
1,1,1,2-Tetrachloroethane	630-20-6	0.005	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,1,1-Trichloroethane	71-55-6	0.2	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,1,2,2-Tetrachloroethane	79-34-5	0.002	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,1,2-Trichloroethane	79-00-5	0.005	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,1-Dichloroethane	75-34-3	0.07	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,1-Dichloroethene	75-35-4	0.007	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,1-Dichloropropene	563-58-6		mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,2,3-Trichlorobenzene	87-61-6		mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,2,3-Trichloropropane	96-18-4	1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,2,4-Trichlorobenzene	120-82-1	0.07	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,2,4-Trimethylbenzene	95-63-6	10	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,2-Dibromo-3-chloropropane	96-12-8	0.1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,2-Dibromoethane	106-93-4	0.00002	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,2-Dichlorobenzene	95-50-1	0.6	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,2-Dichloroethane	107-06-2	0.005	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,2-Dichloroethene, Total	540-59-0		mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,2-Dichloropropane	78-87-5	0.003	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,3,5-Trimethylbenzene	108-67-8	0.1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,3-Dichlorobenzene	541-73-1	0.1	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,3-Dichloropropane	142-28-9	5	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
1,3-Dichloropropene, Total	542-75-6	0.0004	mg/l	0.0004	U	0.004	U			0.0004	U	0.0004	U		0.0004
1,4-Dichlorobenzene	106-46-7	0.005	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
1,4-Dioxane	123-91-1	0.0003	mg/l	0.25	U	2.5	U			0.25	U	0.25	U		0.25
2,2-Dichloropropane	594-20-7		mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
2-Hexanone	591-78-6	1	mg/l	0.005	U	0.05	U			0.005	U	0.005	U		0.005
Acetone	67-64-1	6.3	mg/l	0.005	U	0.05	U			0.005	U	0.005	U		0.005
Benzene	71-43-2	0.005	mg/l	0.0005	U	0.005	U			0.0005	U	0.0005	U		0.0005
Bromobenzene	108-86-1	1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Bromochloromethane	74-97-5		mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Bromodichloromethane	75-27-4	0.003	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
Bromoform	75-25-2	0.004	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Bromomethane	74-83-9	0.007	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Carbon disulfide	75-15-0	1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Carbon tetrachloride	56-23-5	0.002	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
Chlorobenzene	108-90-7	0.1	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
Chloroethane	75-00-3	1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Chloroform	67-66-3	0.05	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
Chloromethane	74-87-3	1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
cis-1,2-Dichloroethene	156-59-2	0.02	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
cis-1,3-Dichloropropene	10061-01-5	0.0004	mg/l	0.0004	U	0.004	U			0.0004	U	0.0004	U		0.0004
Dibromochloromethane	124-48-1	0.002	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
Dibromomethane	74-95-3	5	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Dichlorodifluoromethane	75-71-8	10	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Diethyl ether	60-29-7	1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Diisopropyl Ether	108-20-3	1	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Ethyl-Tert-Butyl-Ether	637-92-3		mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Ethylbenzene	100-41-4	0.7	mg/l	0.001	U	0.01	U			0.001	U	0.001	U		0.001
Hexachlorobutadiene	87-68-3	0.0006	mg/l	0.0006	U	0.006	U			0.0006	U	0.0006	U		0.0006
Isopropylbenzene	98-82-8	10	mg/l	0.002	U	0.02	U			0.002	U	0.002	U		0.002
Methyl ethyl ketone	78-93-3	4	mg/l	0.005	U	0.05	U			0.005	U	0.005	U		0.005
Methyl isobutyl ketone	108-10-1	0.35	mg/l	0.005	U	0.05	U			0.005	U	0.005	U		0.005
Methyl tert butyl ether	1634-04-4	0.07	mg/l	0.002											



Massachusetts Department of Environmental Protection Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

Important: When completing this form on a computer, use only the Tab key to move your cursor – not the Return key.



Instructions

Use this form to record and report the results of a Third-Party Operation and Maintenance Inspection conducted pursuant to 310 CMR 19.018. Be sure to obtain the most recent version of this form. All applicable sections of the submitted form must be completed to be accepted by MassDEP.

Pursuant to 310 CMR 19.018(8)(a), the third-party inspector and facility owner/operator must sign this Third-Party Inspection Report form and submit the completed report to the appropriate MassDEP regional office and one copy of each completed report to the board of health of the municipality in which the facility is located.

In the event that this inspection report contains a recommendation for corrective action(s), the owner/operator shall also submit the information required by 310 CMR 19.018(8)(c)2.

Forms and instructions are available online:

<http://www.mass.gov/eea/agencies/massdep/recycle/approvals/solid-waste-applications-and-forms.html#8>

Note: This form does not identify all of the requirements applicable to each solid waste management facility; other requirements and/or policies may apply to the operation, maintenance and monitoring for each facility.

MassDEP Use Only

Rec'd Date:

FMF #:

RO #:

Reviewer:

Comments:

I. Facility Information

Facility Type (check one):

- Transfer Station/Handling Facility
 C&D Waste Processor or C&D Waste Transfer Station
 Municipal Waste Combustor
 Active Landfill
 Closed Landfill
 Other: Wood Waste Reclamation Facility
 Specify _____

Facility:

Cape Sand and Recycling WWRF

Facility Name

Brewster

City/Town

508-255-1550

Telephone Number

MA

State

02631

ZIP Code

298388

Regulated Object Account Number

FMF Number

Operator:

Cape Sand and Recycling, LLC

Operator Name (Doing Business As/Company Name)

508-294-1010

Telephone Number

info@capesandandrecycling.com

Email Address

PO Box 1555

Mailing Address

Brewster

City/Town

MA

State

02631

ZIP Code

Permittee:

Cape Sand and Recycling, LLC

Permittee Name (Entity Identified on Facility Permit)

PO Box 1555

Mailing Address

Brewster

City/Town

MA

State

02631

ZIP Code

Responsible Official for the Facility:

Jay Merchant

Responsible Official Name (Individual)

Cape Sand and Recycling, LLC

Responsible Official Company Name

theo@capesandandrecycling.com

Responsible Official Email Address

508-294-1010

Responsible Official Telephone Number



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

II. Third-Party Inspector

Peter Flood
Third-Party Inspector Name
SW48-000045
MassDEP Third-Party Inspector Identification Number
508-888-6034
Telephone Number
114 State Road Building B
Mailing Address
Sagamore Beach
City/Town

Green Seal Environmental, LLC
Company Name
06/01/2025
MassDEP Third-Party Inspector Expiration Date (MM/DD/YYYY)
peter@gseenv.com
Email Address
MA
State
02562
ZIP Code

Construction and Demolition Waste (C&D Waste) Processing Facility or C&D Waste Transfer Station Only:

Identify the qualified individual that conducted the observation of incoming waste loads and collection of samples of suspect asbestos-containing materials during the inspection [pursuant to 310 CMR 19.018(6)(f)]. If the entire inspection was conducted by the third-party inspector listed above, then check the box and enter only the Asbestos Inspector Certification Number.

Same as above. **Provide Asbestos Certification Number** ►

AI-014709
MA Dept. of Labor Standards Asbestos Inspector Certification Number

Asbestos Inspector Name
Telephone Number
Mailing Address
City/Town

Company Name
Email Address
State
ZIP Code

III. Inspection Details

A. FREQUENCY

Indicate the scheduled inspection frequency for this facility as required by 310 CMR 19.018(6)(b), or a more frequent schedule set forth in the Facility Permit/Other Approval:

Bi-Monthly Quarterly Semi-Annual Annual Biennial
 Other (include permit/approval type and date of issuance):

B. DATE, TIME & PERSONNEL

Inspection Date (MM/DD/YYYY): 07/07/2023
Inspection Start Time: 7:55 AM PM
Facility Representatives in Attendance During Inspection: Theo Mintz and several CSR employees

C. CONDITIONS

Air Temperature: <i>Approximately 74 degrees F.</i>	Wind Direction (direction from which the wind is blowing):									
Weather: <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Partly Cloudy <input type="checkbox"/> Cloudy <input checked="" type="checkbox"/> Dry <input type="checkbox"/> Rain <input type="checkbox"/> Snow	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td><input type="checkbox"/> NW</td> <td><input type="checkbox"/> N</td> <td><input type="checkbox"/> NE</td> </tr> <tr> <td><input type="checkbox"/> W</td> <td style="background-color: #cccccc;">Wind</td> <td><input type="checkbox"/> E</td> </tr> <tr> <td><input checked="" type="checkbox"/> SW</td> <td><input type="checkbox"/> S</td> <td><input type="checkbox"/> SE</td> </tr> </table>	<input type="checkbox"/> NW	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> W	Wind	<input type="checkbox"/> E	<input checked="" type="checkbox"/> SW	<input type="checkbox"/> S	<input type="checkbox"/> SE
<input type="checkbox"/> NW		<input type="checkbox"/> N	<input type="checkbox"/> NE							
<input type="checkbox"/> W		Wind	<input type="checkbox"/> E							
<input checked="" type="checkbox"/> SW	<input type="checkbox"/> S	<input type="checkbox"/> SE								
Wind Speed: <input type="checkbox"/> Calm <input checked="" type="checkbox"/> Breeze <input type="checkbox"/> Moderate <input type="checkbox"/> Strong										



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

IV. Pre-Inspection Preparation

A. FACILITY-SPECIFIC O&M REQUIREMENTS

During each third-party inspection, the third-party inspector shall examine and evaluate the facility’s solid waste activities, equipment, operations, practices, procedures, and records relevant to the type of third-party inspection being conducted in order to determine the facility’s compliance with all applicable requirements as set forth in 310 CMR 19.018(6)(a)1.

Therefore, pursuant to 310 CMR 19.018(6)(a)1, prior to conducting a third-party facility operation and maintenance inspection, the third-party inspector shall, without limitation, complete all of the following:

- Review and become familiar with the regulations set forth at 310 CMR 19.000 – *Massachusetts Solid Waste Regulations*.
- Identify, review and become familiar with all solid waste permits, plans, approvals, and orders (or other enforcement documents issued to the facility by the Department), and the solid waste requirements applicable to the operation and maintenance of the facility.

Relevant requirements may include, without limitation, specific practices and procedures for the operation, maintenance and monitoring of the facility, waste acceptance/storage limits, and other requirements related to the facility’s solid waste activities. Without limitation, these facility-specific requirements may be contained in the Facility Permit, Authorization to Construct, Authorization to Operate, Operation and Maintenance Plan, Closure/Post-Closure Plans and Approvals, Facility Modification Approvals, Beneficial Use Determinations, Administrative Consent Orders, and other determinations, authorizations or enforcement actions issued by the Department.

I, Peter Flood, have identified, reviewed and understand all of the aforementioned requirements that are applicable to this facility and the following are my observations and recommendations related to the facility-specific requirements.

► PF
Inspector Initials

B. SOLID WASTE PERMITS, PLANS, APPROVALS & ORDERS

List all relevant solid waste permits, plans, approvals, orders or other enforcement actions issued to the facility by the Department that contain specific practices, procedures and other requirements still in effect for the operation, maintenance and monitoring or closure/post-closure of the facility. Where applicable, provide the plan or issue date for each item. For enforcement actions, include the document number, effective date, and status of implementation by the facility.

Discussion: MassDEP (#234209) Sequence Change GW Monitoring (#X234209) – October 19, 2010; MassDEP ATO (#W229293) - December 29, 2009; MassDEP ATC (#W227916), February 10, 2009.



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

V. Performance Standards

Examine and evaluate the facility's solid waste activities, equipment, operations, practices, procedures and records relevant to the type of solid waste facility.

Using the tables below, identify all areas evaluated by the inspector during the inspection by checking the box in the first column. Describe all deviations noted during the inspection in the third column. Provide recommendations for corrective action to return to compliance with the applicable performance standard in the fourth column.

Facility Type	Performance Standards
Transfer Station/Handling Facility (Including C&D Facility)	Complete Section A. If C&D Handling/ Processing Facility, then also complete Section B.
Municipal Waste Combustor	Complete Section A.
Active Landfill	Complete Sections C. and F. If active ash landfill, then also complete Section D.
Closed Landfill	Complete Sections E. and F.

A. TRANSFER STATION, HANDLING FACILITY, OR MUNICIPAL WASTE COMBUSTOR (INCLUDING C&D FACILITY)

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
<input type="checkbox"/>	19.205(1) Storm Water Controls.		
<input type="checkbox"/>	19.205(2) Equipment.		
<input type="checkbox"/>	19.205(3) Weighing Facilities.		
<input type="checkbox"/>	19.207(1) General.	Discuss in Section VI.	Discuss in Section VI.
<input type="checkbox"/>	19.207(2) Supervision of Operation.		
<input type="checkbox"/>	19.207(3) Access to Facilities.		
<input type="checkbox"/>	19.207(4) Security.		
<input type="checkbox"/>	19.207(5) Posting of Handling Facility.		
<input type="checkbox"/>	19.207(6) Unloading of Refuse.		
<input type="checkbox"/>	19.207(7) Special Wastes.		
<input type="checkbox"/>	19.207(8) Banned/Restricted Wastes.		
<input type="checkbox"/>	19.207(9) Hazardous Waste.		
<input type="checkbox"/>	19.207(10) Household Hazardous Waste and Waste Oil Collections.		
<input type="checkbox"/>	19.207(11) Bulky Waste.		
<input type="checkbox"/>	19.207(12) Liquid Wastes.		



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
<input type="checkbox"/>	19.207(13) Bird Hazards.		
<input type="checkbox"/>	19.207(14) Dust Control.		
<input type="checkbox"/>	19.207(15) Vector Control.		
<input type="checkbox"/>	19.207(16) Control of Wind-blown Litter.		
<input type="checkbox"/>	19.207(17) Staffing.		
<input type="checkbox"/>	19.207(18) Employee Facilities.		
<input type="checkbox"/>	19.207(19) Accident Prevention/Safety.		
<input type="checkbox"/>	19.207(20) Fire Protection.		
<input type="checkbox"/>	19.207(21) Recycling Operations.		
<input type="checkbox"/>	19.207(22) Records for Operational and Plan Execution.		
<input type="checkbox"/>	19.207(23) Screening and/or Fencing.		
<input type="checkbox"/>	19.207(24) Open Burning.		
<input type="checkbox"/>	19.207(25) Inspections.		
<input type="checkbox"/>	19.207(26) End-of-Life Mercury-added Products.		

B. CONSTRUCTION AND DEMOLITION (C&D) WASTE PROCESSING FACILITY OR C&D WASTE TRANSFER STATION

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
<input type="checkbox"/>	19.206(1) Enclosed Operations.		
<input type="checkbox"/>	19.206(2) Storage.		
<input type="checkbox"/>	19.206(3) Contact Water.		
<input type="checkbox"/>	Suspect Asbestos-Containing Material (ACM) Inspection and Management Protocol.		
<input type="checkbox"/>	Sample collection of suspect ACM from incoming loads.	Discuss sample results: ▶ <input type="checkbox"/> Attach analytical reports.	



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

C. ACTIVE LANDFILL

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
<input checked="" type="checkbox"/>	19.130(1) General.	Discuss in Section VI.	Discuss in Section VI.
<input checked="" type="checkbox"/>	19.130(2) Operator Supervision.	None observed	Facility care and maintenance under the supervision of a qualified operator.
<input checked="" type="checkbox"/>	19.130(3) Special Wastes.	Not applicable	Facility does not accept or manage Special Wastes
<input checked="" type="checkbox"/>	19.130(4) Banned/Restricted Wastes.	None observed	Facility accepts stumps and brush for recycling.
<input checked="" type="checkbox"/>	19.130(5) Hazardous Waste.	Not applicable	Facility does not accept Hazardous Waste
<input checked="" type="checkbox"/>	19.130(6) Bulky Wastes.	Not applicable	Facility does not accept Bulky Wastes
<input checked="" type="checkbox"/>	19.130(7) Liquid Wastes.	Not applicable	Facility does not accept Liquid Wastes
<input checked="" type="checkbox"/>	19.130(8) Solid Waste Handling.	None observed	Yard manager/load inspector directly supervising waste handling
<input checked="" type="checkbox"/>	19.130(9) Bird Hazards.	None observed	There was no indication of bird hazards and/or bird congregation at the time of the inspection
<input checked="" type="checkbox"/>	19.130(10) Equipment and Shelter.	None observed	Facility has enough on-site mobile equipment to properly run the WWRF. Significant quantities of spare equipment exist on-site as part of the construction entity of the facility
<input checked="" type="checkbox"/>	19.130(11) Staffing.	None observed	Adequate staff on site to properly run the facility
<input checked="" type="checkbox"/>	19.130(12) Employee Facilities.	None observed	Full facilities are provided to staff in the office building, scale house and maintenance building
<input checked="" type="checkbox"/>	19.130(13) Accident Prevention/Safety.	None observed	Employees reportedly participate in regular safety training
<input checked="" type="checkbox"/>	19.130(14) Spreading and Compacting of Solid Waste.	Not applicable	Although permitted to do so, the facility is not currently landfilling materials. Stumps and brush are stockpiled and chipped on the surface
<input checked="" type="checkbox"/>	19.130(15) Cover Material.	None observed	Sufficient quantities of cover material are available on site if needed
<input checked="" type="checkbox"/>	19.130(16) Vector, Dust and Odor Control.	None observed	No vector, dust or odor issues noted on the day of inspection. Dust is controlled by reducing vehicle speeds through the WWRF and wetting of access roads.



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
<input checked="" type="checkbox"/>	19.130(17) Litter Control.	None observed	No windblown materials were observed on and/or off-site from the WWRF operations during inspection. Facility in excellent condition
<input checked="" type="checkbox"/>	19.130(18) Top Slope and Side Slopes.	None observed	Facility not currently landfilling stumps and brush. Stockpiles of stumps, brush and tailings noted were neat and orderly
<input checked="" type="checkbox"/>	19.130(19) Storm Water Drainage.	None observed	Controls consist of loose permeable sands, and directing stormwater to lower portions of the WWRF
<input checked="" type="checkbox"/>	19.130(20) Erosion Control.	None observed	Controls consist of grading to lower portions of the site.
<input checked="" type="checkbox"/>	19.130(21) Boundary/Elevation Markers.	None observed	No landfilling/sloping taking place, only temporarily stockpiling of materials
<input checked="" type="checkbox"/>	19.130(22) Access Roads.	None observed	Paved surfaces appeared to be in excellent condition on the day of inspection. Dirt roads within the WWRF area were properly graded to promote safe and easy access
<input checked="" type="checkbox"/>	19.130(23) Security.	None observed	Gates, berms and fencing were in good condition and observed to be functioning properly to limit unauthorized access to the facility
<input checked="" type="checkbox"/>	19.130(24) Posting of the Landfill.	None observed	Appropriate signage posted at entrance to WWRF. Signs direct users to unloading areas.
<input checked="" type="checkbox"/>	19.130(25) Open Burning.	Not applicable	No open burning exists on-site
<input checked="" type="checkbox"/>	19.130(26) Fire Protection and Control.	None observed	Facility in compliance with requirements. Extinguishers mounted strategically around the facility as well as in mobile equipment as needed.
<input checked="" type="checkbox"/>	19.130(27) Convenience and Recycling Drop-off Areas at Landfills.	Not applicable	
<input checked="" type="checkbox"/>	19.130(28) Waste Oil Collections at Landfills.	Not applicable	Waste oil is not accepted at this facility
<input checked="" type="checkbox"/>	19.130(29) Household Hazardous Waste Collections at Landfills.	Not applicable	Household hazardous waste collection does not occur at this



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
			facility
<input checked="" type="checkbox"/>	19.130(30) Leachate Collection, Treatment and Disposal.	Not applicable	
<input checked="" type="checkbox"/>	19.130(31) Phase Completion of the Landfill.	Not applicable	
<input checked="" type="checkbox"/>	19.130(32) Disruption of Landfilled Areas.	None observed	Facility is permitted for active stump recovery and recycling
<input checked="" type="checkbox"/>	19.130(33) Construction of Buildings.	Not applicable	
<input checked="" type="checkbox"/>	19.130(34) Records for Operational and Plan Execution.	None observed	Maintained and accessible in the scalehouse and/or office. Annual reporting done by facility personnel.
<input checked="" type="checkbox"/>	19.130(35) Inspections.	None observed	Inspections performed by a MassDEP approved 3rd party inspector per 310 CMR 19.018
<input checked="" type="checkbox"/>	19.130(36) Re-circulation of Leachate.	Not applicable	
<input checked="" type="checkbox"/>	19.130(37) End-of-Life Mercury-added Products.	None observed	Facility only accepts stumps and brush

D. ASH LANDFILL

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
<input type="checkbox"/>	19.131(1) General.	Discuss in Section VI.	Discuss in Section VI.
<input type="checkbox"/>	19.131(2) Fugitive Emissions.		
<input type="checkbox"/>	19.131(3) Ash Moisture Content.		
<input type="checkbox"/>	19.131(4) Spreading/Compacting of Ash.		
<input type="checkbox"/>	19.131(5) Vehicle Washdown / Wheelwash / Other Measures.		



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

E. CLOSED LANDFILL

Evaluated	Performance Standard	Deviation(s)	Comments/Observations and Recommended Corrective Action(s)
<input type="checkbox"/>	19.016 Post-closure Use.		
<input type="checkbox"/>	19.142(1) General.	Discuss in Section VI.	Discuss in Section VI.
<input type="checkbox"/>	19.142(2) Post-closure Period.		
<input type="checkbox"/>	19.142(3) Post-closure Period Waiver.		
<input type="checkbox"/>	19.142(4) Post-closure Period Extension.		
<input type="checkbox"/>	19.142(5) Post-closure Requirements.		
<input type="checkbox"/>	19.142(6) Inspection Requirements.		
<input type="checkbox"/>	19.142(7) Additional Measures.		
<input type="checkbox"/>	19.142(8) Termination of the Post-Closure Period.		
<input type="checkbox"/>	19.143(1) Applicability.		
<input type="checkbox"/>	19.143(2) Submission of Post-closure Use Plans.		
<input type="checkbox"/>	19.143(3) Criteria for Approval of Post-closure Use.		
<input type="checkbox"/>	19.143(4) Post-closure Construction.		



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

F. ADDITIONAL LANDFILL REQUIREMENTS

Evaluated	Performance Standard	Comments/Observations and Recommended Corrective Action(s)
<input checked="" type="checkbox"/>	19.132 Environmental Monitoring Requirements.	Groundwater monitoring and reporting conducted by Bennett Environmental Associates.
	Is the monitoring of surface water, ground water, landfill gas and any other media as determined by the Department, including without limitation, soil and sediment, being conducted on the schedule established in the permit or as otherwise required by the Department? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
	Are the analytical results of the environmental monitoring submitted to the Department within 60 days after the date of sample collection or as otherwise specified by the Department? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<input checked="" type="checkbox"/>	19.133 Maintenance of Environmental Control and Monitoring Systems.	
	Are the facility operations conducted in a manner which protects all environmental control systems as approved in the Operation and Maintenance plan and monitoring systems as approved in the Operation and Maintenance plan or permit? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
	Is regular maintenance of all landfill environmental control systems performed as approved in the Operation and Maintenance plan or permit? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
	Has the Department been notified of the existence and extent of damaged or destroyed environmental control systems, monitoring devices, or surface water sampling location markers in accordance with 310 CMR 19.133(1)(c) and/or 19.133(1)(e)? <input checked="" type="checkbox"/> N/A (if no damage to report) <input type="checkbox"/> YES <input type="checkbox"/> NO	

Continue to Next Page ►



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

F. ADDITIONAL LANDFILL REQUIREMENTS – Continued

Evaluated	Performance Standard	Comments/Observations and Recommended Corrective Action(s)
<input type="checkbox"/>	<p>19.121(4) Landfill Gas Recovery Operation and Maintenance Requirements.</p> <hr/> <p>Is condensate generation kept to a minimum and condensate recirculation, if proposed, performed in accordance with the permit? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <hr/> <p>Are the sampling and analysis of condensate conducted on the schedule established in the permit or as otherwise required by the Department? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <hr/> <p>Are the analytical results of condensate monitoring reported to the Department as established in the permit or as otherwise required by the Department? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <hr/> <p>Is an annual report on the operation of the landfill gas recovery facility submitted to the Department as specified in the permit? <input type="checkbox"/> YES <input type="checkbox"/> NO</p>	<p>N/A</p>



Massachusetts Department of Environmental Protection

Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

VI. Inspection Observations

A. FACILITY CONDITION AND OPERATIONS

Examine and evaluate the facility condition and operations as observed during the inspection, including the following:

- Describe any evidence of the following conditions observed at the time of the inspection:
 - Unpermitted discharges to air, water, land or other natural resources of the Commonwealth; and
 - Dust, odors, litter, and/or other nuisance conditions.
 - Document and discuss all deviations from any specific requirements for the facility that are not addressed in the previous section (*Section V. – Performance Standards*), including without limitation, the requirements set forth in the facility's operation and maintenance plan, orders or other enforcement documents, and other solid waste permits, approvals, and authorizations issued to the facility by MassDEP.
 - List the types and estimated quantities of all waste and materials stored at the facility at the time of the inspection.
 - Provide a narrative that describes the overall status of the general condition, operation and performance of the facility as observed at the time of the inspection.
- ⇒ Attach photographs taken during the inspection that depict the general condition and operation of the facility. At a minimum, include photographs, as applicable, of the waste unloading (tipping) area, waste storage areas, recyclable material storage and, for transfer stations, the waste reloading activity.

Discussion: No unpermitted discharges to air, water or land were noted on site on the day of inspection. No deviations were noted from the facility operation and maintenance plan. The facility appeared to be in excellent condition on the day of inspection. Stockpiles of loam, mulch, wood chips, stumps brush and tailings were noted neat and orderly on the day of inspection.

Several material product stockpiles (loam, mulch and wood chips) were noted across the site from recent processing on the day of inspection. Wood waste reclamation activities are ongoing in the previous deposition areas. Conditionally exempt ABC stockpile was well below the permitted volume of 3,000 cubic.

B. RECORD REVIEW

Examine and evaluate the facility's record-keeping. Without limitation, document the status of the facility's compliance with, and any deviations from, the record-keeping required by 310 MCR 19.000; the facility's operation and maintenance plan; orders or other enforcement documents issued to the facility; and other solid waste permits, approvals, determinations and authorizations issued to the facility by the Department, including the following:

- Discuss the evaluation of the Facility's "daily log" such as, daily tonnage records.
- List and discuss any special incidents that have occurred since the previous inspection such as exceedances of the facility's permitted waste acceptance limits, nature and outcome of complaints reported to the facility operator (including the identity of the complainant, if known), fires, emergencies, or other disruptions to the routine operation of the facility.

Discussion: Inbound and outbound tonnage and volumes are maintained in the scalehouse and is orderly and up to date. Annual reports prepared and submitted by CSR. No special incidents were reported to GSE since the previous inspection of the facility.



Massachusetts Department of Environmental Protection Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

VII. Summary and Recommendations

Pursuant to 310 CMR 19.018(6)(a)4., where a third-party inspector observes that the operation or maintenance of the facility deviates from the aforementioned applicable requirements, he or she shall document all such deviations and recommend corrective actions for the facility to take to return to compliance.

A. INSPECTION RESULTS

Based on the examinations and evaluations conducted in Sections V. and VI., please summarize the inspection results by checking one of the following determinations:

No deviations from the applicable performance standards or additional requirements listed at 310 CMR 19.018(6) were identified during this inspection.

If no deviations were identified during the inspection, check this box and proceed to Section VII.B.

Deviations from the applicable performance standards or additional requirements listed at 310 CMR 19.018(6) were identified during this inspection and are discussed further in this report.

If deviations were identified during the inspection, check this box and ensure that each deviation and the recommended corrective actions are discussed in the applicable section(s) below.

B. STATUS OF PREVIOUS RECOMMENDATIONS FOR CORRECTIVE ACTION

If a previous inspection report identified deviations with recommendations for corrective action, please describe the action(s) taken since the last inspection to return the facility to compliance with the applicable requirements.

Discussion: N/A

C. RECOMMENDATIONS FOR CORRECTIVE ACTION

Based on the results of this inspection, please list all deviations noted during the inspection and provide recommendations for corrective action to return to compliance with the applicable requirement.

Recommendations: None at this time

D. ADDITIONAL COMMENTS

Comments: None at this time.

VIII. Additional Information Checklist

Attach the following additional information, as applicable, to complete the inspection report.*

Attach photographs taken during the inspection that depict the general condition and operation of the facility, as required in Section VI.A.

For C&D Waste facilities only, attach the analytical results, as required in Section V.B.

*Note: Pursuant to 310 CMR 19.018(8), MassDEP may request additional information.

Continue to Certification Statement on Next Page ►



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance

IX. Certification – THIRD-PARTY INSPECTOR

"I attest under the pains and penalty of perjury that:

1. I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification statement;
2. Based on my inquiry of those persons responsible for obtaining the information, the information contained in this submittal is, to the best of my knowledge, true, accurate and complete;
3. I have been able to conduct the third-party inspection and prepare the third-party inspection report without being influenced by the facility owner or operator and, (if I am a municipal employee) without being influenced by my municipal employer, by any coworker or by any elected or appointed official of the municipality; and
4. I am aware that there are significant penalties, including, but not limited to, possible administrative and civil penalties for submitting false, inaccurate, or incomplete information and possible fines and imprisonment for knowingly submitting false, inaccurate, or incomplete information."

Peter Flood

Peter Flood
Print Full Name

Green Seal Environmental, LLC
Company Name

07/07/2023
Date (MM/DD/YYYY)

X. Certification – FACILITY OWNER/OPERATOR

Does the facility maintain a Financial Assurance Mechanism (FAM) pursuant to 310 CMR 19.051?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
If yes: • Enter the amount of the current FAM:	\$37,500
• Enter the date of the last revision of the FAM amount, pursuant to 310 CMR 19.051(6):	
<i>As a reminder, pursuant to 310 CMR 19.051(6), the estimate of the cost of closure and post-closure maintenance must be revised every year, and every second year shall be submitted to the Department.</i>	

"I certify under the penalty of law:

1. That I have personally examined and am familiar with the information submitted in this third-party inspection report, including but not limited to the statements above concerning the financial assurance mechanism in place in accordance with any facility permit and 310 CMR 19.051, and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties both civil and criminal for submitting false information including possible fines and imprisonment.
2. That, in the event that this inspection report contains a recommendation for corrective action(s), I have completed and attached to this report a Corrective Action Plan and Schedule*, pursuant to 310 CMR 19.018(8)(c)2."

Jay A. Merchant

Signature of Responsible Official

Jay A. Merchant
Print Full Name

President
Title

07/12/2023
Date (MM/DD/YYYY)

► Pursuant to 310 CMR 19.018(8)(c), a copy of each third-party inspection report shall be maintained at the facility in accordance with the requirements of 310 CMR 19.000. The owner and operator shall make third-party inspection reports available to personnel or authorized representatives of the Department for review at the facility upon request.

**Note: The owner or operator may elect to correct deviations identified in the Third-Party Inspection Report in a manner that is different than that recommended by the Third-Party Inspector, so long as the facility is brought back into compliance with applicable requirements.*

Within 30 days of the inspection date:	<ul style="list-style-type: none"> • Mail this completed form to the MassDEP Regional Office that serves the municipality in which the facility is located. (Attention: Solid Waste Management) • Send one copy to the local board of health for the municipality in which the facility is located. 	<p>A list of municipalities and MassDEP Regional Offices is available online at: http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html</p>
---	---	--



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance



Facility entrance – scalehouse and scale



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance



Access roads



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance



Excavators in operation



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance



Tub grinder for stump and brush processing



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance



Stumps to be processed.



**Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management**

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance



Finished landscape products and stormwater controls



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention / Solid Waste Management

Third-Party Inspection Report – 310 CMR 19.018(8)
Operation & Maintenance
