Weston Solutions, Inc.
43 N. Main Street
Concord, NH 03301
www.westonsolutions.com

29 April 2020

Nantucket Town and County Clerk
16 Broad Street
Nantucket, MA 02554

Nantucket Board of Health
3 East Chestnut Street (NRTA Building)
Nantucket, MA 02554

Re: Immediate Response Action Plan Report – **via email**
Nantucket Memorial Airport
14 Airport Road
Nantucket, Massachusetts 02554
MassDEP RTN: 4-28219

To Whom It May Concern:

Pursuant to 310 Code of Massachusetts Regulation 40.1403, Weston Solutions, Inc. is notifying the Town and County Clerk and Board of Health that Release Notification Form has been submitted for the Nantucket Memorial Airport and an Immediate Response Action Plan will be filed with Massachusetts Department of Environmental Protection (MassDEP) by 1 May 2020. Electronic copies are attached and electronic copies of documents submitted to the MassDEP may be obtained from the MassDEP website at https://www.mass.gov/find-out-about-a-contaminated-property.

If you have any questions, please call me or Jim Soukup at (603) 656-5400.

Very truly yours,

WESTON SOLUTIONS, INC.

Lisa Kammer

Lisa L. Kammer, P.G.
Project Manager

LLK:kmc

ec: N. Karberg, ACK
T. Rafter, ACK

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

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Username:	**LISAKAMMER**
Transaction ID:	**1180515**
Document:	**BWSC103 Release Notification & Retraction Form**
Size of File:	**156.26K**
Status of Transaction:	**Submitted**
Date and Time Created:	**4/29/2020:11:54:49 AM**

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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

RELEASE NOTIFICATION & NOTIFICATION RETRACTION FORM
Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)

BWSC 103

Release Tracking Number
4 - 28219

A. RELEASE OR THREAT OF RELEASE LOCATION:

1. Release Name/Location Aid: NANTUCKET MEMORIAL AIRPORT

2. Street Address: 14 AIRPORT ROAD

3. City/Town: NANTUCKET 4. ZIP Code: 025540000

5. Coordinates: a. Latitude: N 41.25746 b. Longitude: W 70.06199

B. THIS FORM IS BEING USED TO: (check one)

- [x] 1. Submit a **Release Notification**
- [ ] 2. Submit a **Revised Release Notification**
- [ ] 3. Submit a **Retraction of a Previously Reported Notification** of a release or threat of release including supporting documentation required pursuant to 310 CMR 40.0335 (Section C is not required)

(All sections of this transmittal form must be filled out unless otherwise noted above)

C. INFORMATION DESCRIBING THE RELEASE OR THREAT OF RELEASE (TOR):

1. Date and time of Oral Notification, if applicable: 3/3/2020 (mm/dd/yyyy) Time: 11:44 (hh:mm) [x] AM [ ] PM

2. Date and time you obtained knowledge of the Release or TOR: 2/28/2020 (mm/dd/yyyy) Time: 02:55 (hh:mm) [ ] AM [x] PM

3. Date and time release or TOR occurred, if known: (mm/dd/yyyy) Time: (hh:mm) [ ] AM [ ] PM

Check all Notification Thresholds that apply to the Release or Threat of Release:
(for more information see 310 CMR 40.0310 - 40.0315)

4. 2 HOUR REPORTING CONDITIONS

- [ ] a. Sudden Release
- [ ] b. Threat of Sudden Release
- [ ] c. Oil Sheen on Surface Water
- [ ] d. Poses Imminent Hazard
- [ ] e. Could Pose Imminent Hazard
- [x] f. Release Detected in Private Well
- [ ] g. Release to Storm Drain
- [ ] h. Sanitary Sewer Release (Imminent Hazard Only)

5. 72 HOUR REPORTING CONDITIONS

- [ ] a. Subsurface Non-Aqueous Phase Liquid (NAPL) Equal to or Greater than 1/2 Inch (.04 feet)
- [ ] b. Underground Storage Tank (UST) Release
- [ ] c. Threat of UST Release
- [ ] d. Release to Groundwater near Water Supply
- [ ] e. Substantial Release Migration

6. 120 DAY REPORTING CONDITIONS

- [ ] a. Release of Hazardous Material(s) to Soil or Groundwater Exceeding Reportable Concentration(s)
- [ ] b. Release of Oil to Soil Exceeding Reportable Concentration(s) and Affecting More than 2 Cubic Yards
- [ ] c. Release of Oil to Groundwater Exceeding Reportable Concentration(s)
- [ ] d. Subsurface Non-Aqueous Phase Liquid (NAPL) Equal to or Greater than 1/8 Inch (.01 feet) and Less than 1/2 Inch (.04 feet)

C. INFORMATION DESCRIBING THE RELEASE OR THREAT OF RELEASE (TOR): (cont.)

7. List below the Oils (O) or Hazardous Materials (HM) that exceed their Reportable Concentration (RC) or Reportable Quantity (RQ) by the greatest amount.

☐ Check here if an amount or concentration is unknown or less than detectable.

O or HM Released	CAS Number, if known	O or HM	Amount or Concentration	Units	RCs Exceeded, if Applicable (RCS-1, RCS-2,RCGW-1, RCGW-2)
PFAS (SUM OF 6 REGULATED COMPOUNDS)	VARIOUS	HM	0.16	UG/L	RCGW-1

☐ Check here if a list of additional Oil and Hazardous Materials subject to reporting, or any other documentation relating to this notification is attached.

D. PERSON REQUIRED TO NOTIFY:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☑ c. change in the person notifying

2. Name of Organization: TOWN OF NANTUCKET-ACTING BY & THROUGH THE NANTUCKET AIRPORT COMMISSION

3. Contact First Name: THOMAS 4. Last Name: RAFTER

5. Street: 14 AIRPORT ROAD 6. Title: AIRPORT MANAGER

7. City/Town: NANTUCKET 8. State: MA 9. ZIP Code: 025540000

10. Telephone: 508-325-5307 11. Ext.: 12. Email: trafter@nantucketairport.com

☐ 13. Check here if attaching names and addresses of owners of properties affected by the Release or Threat of Release, other than an owner who is submitting this Release Notification (required).

E. RELATIONSHIP OF PERSON TO RELEASE OR THREAT OF RELEASE: ☐ Check here to change relationship

☑ 1. RP or PRP ☑ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☐ e. Other RP or PRP Specify:

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Otherwise Required to Notify Specify Relationship:

F. CERTIFICATION OF PERSON REQUIRED TO NOTIFY:

1. I, THOMAS RAFTER, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By : THOMAS RAFTER (Signature) 3. Title: AIRPORT MANAGER

4. For: TOWN OF NANTUCKET-ACTING BY & THROUGH THE NANTUCKE (Name of person or entity recorded in Section D) 5. Date : 4/15/2020 mm/dd/yyyy

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street:

8. City/Town: 9. State: 10. ZIP Code:

11. Telephone: 12. Ext.: 13. Email:

YOU ARE SUBJECT TO ANNUAL COMPLIANCE ASSURANCE FEES FOR EACH BILLABLE YEAR FOR TIER CLASSIFIED DISPOSAL SITES. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Received by DEP on 4/15/2020 4:44:42 PM

IMMEDIATE RESPONSE ACTION PLAN
NANTUCKET MEMORIAL AIRPORT
14 AIRPORT ROAD
NANTUCKET, MASSACHUSETTS

RTN 4-28219

Prepared for:

Nantucket Memorial Airport
Nantucket, Massachusetts

Prepared by:

WESTON SOLUTIONS, INC.
43 N. Main Street
Concord, New Hampshire 03301

29 April 2020

Work Order No. 15295.001.008

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LIST OF ACRONYMS

ACK	Nantucket Memorial Airport
AFFF	aqueous film-forming foam
CFR	Code of Federal Regulation
CMR	Code of Massachusetts Regulations
Commission	Nantucket Memorial Airport Commission
Disposal Site or Site	14 Airport Road Nantucket, Massachusetts
EPA	United States Environmental Protection Agency
FAA	Federal Aviation Administration
ft	feet
GAC	granular activated carbon
IDL	Interim Deadlines
IH	Imminent Hazard
IRA	Immediate Response Action
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
ng/L	nanograms per liter
NORA	Notice of Response Action
PFAS	per- and polyfluoroalkyl substances
POET	point-of-entry treatment
RC	Reportable Concentrations
RFI	Request for Information
RTN	Release Tracking Number
WESTON®	Weston Solutions, Inc.

SECTION 1

INTRODUCTION

1. INTRODUCTION

On behalf of the Nantucket Memorial Airport Commission (the ”Commission”), owner and operator of the Nantucket Memorial Airport (ACK), Weston Solutions, Inc. (WESTON®) has prepared this Immediate Response Action (IRA) Plan for the disposal site associated with Release Tracking Number (RTN) 4-28219. This IRA Plan was prepared in accordance with the Massachusetts Contingency Plan (MCP), 310 Code of Massachusetts Regulations (CMR) 40.0424, and as required by the Massachusetts Department of Environmental Protection (MassDEP). This report is submitted to MassDEP via the electronic online filing system under Transmittal Form BWSC-105.

The person or entity assuming responsibility for conducting the IRA is the current owner of the property:

Nantucket Memorial Airport
c/o Mr. Tom Rafter, Airport Manager
14 Airport Road
Nantucket, MA 02554
(508) 325-5300

1.1 REGULATORY BACKGROUND

MassDEP has an ongoing investigation regarding the historic and current use of aqueous film-forming foam (AFFF) at airports in the state. AFFF are known to contain per- and polyfluoroalkyl substances (PFAS) that are potentially toxic to humans and are persistent in the environment. As of the date of this report, MassDEP considers PFAS hazardous materials under M.G.L. Chapter 21E and the MCP. In December 2019, MassDEP promulgated criteria for PFAS where the GW-1 standard is 20 nanograms per liter (ng/L) for the sum of the concentrations of six PFAS including perfluorodecanoic acid (PFDA), perfluoroheptanoic acid (PFHpA), perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorooctanesulfonic acid (PFOS), and perfluorooctanoic acid (PFOA). Additionally, MassDEP set Reportable Concentrations (RC) for the same six compounds at 20 ng/L each or as the sum of the six compounds.

On 11 March 2019, MassDEP issued a Request for Information (RFI)/Interim Deadlines (IDL) letter to the Commission, requesting the Commission evaluate the usage and/or storage of AFFF at ACK and to determine the existence of any environmental data relative to the releases of AFFF at the Airport. On 2 April 2019, the Commission submitted a response to MassDEP that included documentation on the past and current use of AFFF containing PFAS at the Airport. In it, the Commission documented that from 1989 to present, between 1,910 and 2,535 gallons of AFFF known to contain PFAS had been discharged at eight locations around the Airport in order to comply with Federal Aviation Administration (FAA)-required training and certification requirements. Further, the Commission documented that 1,780 gallons of AFFF concentrate were distributed amongst their reserve supply/store (325 gallons) and readiness supply/active (1,425 gallons).

In addition to MassDEP regulations, ACK is also subject to compliance with FAA requirements and as such, has been required to use and test AFFF on a regular basis. In 2006, FAA required that commercial airports certified under 14 Code of Federal Regulation (CFR) Part 139 purchase only AFFF that is Mil-Spec compliant (FAA 2006; 14 CFR § 139.317). However, the FAA Reauthorization Act of 5 October 2018 directed the FAA to stop requiring the use of AFFF within three (3) years from the date of enactment (4 October 2021). As such, numerous FAA-required testing events and training exercises have been completed since at least 1989 as indicated above.

On 6 December 2019, MassDEP issued a RFI/IDL and Notice of Response Action (NORA) under Enforcement Document Number 00008382, noting that groundwater analytical data discussed during the 17 March 2019 meeting had not been provided to MassDEP. As such, the RFI/IDL and NORA was issued requesting any data and information compiled since May 2019, including any PFAS analytical data for soil and/or groundwater samples collected at ACK.

Following receipt of the NORA, the Commission engaged WESTON to provide environmental consulting and Licensed Site Professional (LSP) services to help address the PFAS-related issues. On 20 December 2019, as required in the NORA, the Commission issued a response to the NORA indicating that:

(1) No soil or groundwater analytical data had been collected;

(2) The Commission engaged WESTON, an LSP with experience conducting response actions;

(3) No drinking water data had been collected;

(4) The Commission also included copies of the Access Agreement sent to property owners and signed Access Agreements obtained at the time of the response; and

(5) A proposed schedule for groundwater and drinking water sampling both on and off-site.

As part of their response, the Commission also requested an extension of the IDL to 10 January 2020 pursuant to 310 CMR 40.0167(2). On 7 January 2020, MassDEP granted the Commission's deadline extension request.

In February 2020, four (4) on-airport groundwater monitoring wells and one (1) residence were sampled. PFAS were discovered in two (2) of the groundwater monitoring wells and in the drinking water supply well at Property UE. PFAS in the drinking water supply well were detected at concentrations exceeding the RCs representing a 2-hour Reportable Condition. MassDEP was notified on 3 March 2020 at 11:44AM, and MassDEP gave verbal approval to perform additional assessments to determine potential impact to other drinking water supply wells and to install a point-of-entry treatment (POET) system at Property UE. The Commission submitted Release Notification Form BWSC-103 15 April 2020. This written IRA Plan is filed within 60 days of the initial notification made on 3 March 2020, as required.

SECTION 2

DESCRIPTION OF THE SITE AND RELEASE

2. DESCRIPTION OF THE SITE AND RELEASE

2.1 GENERAL DISPOSAL SITE INFORMATION

The Disposal Site includes multiple parcels of land comprising approximately 800 acres, the majority of which is in use by ACK. The location of the Disposal Site is presented on **Figure 1** and a detailed site plan is presented as **Figure 2**.

The approximate geographical coordinates for the Disposal Site are as follows:

NAD 1983 UTM (Zone 19)	*NGS 1984 Latitude/Longitude*
Northing (Y) 4567857	Latitude (Y) 41° 15’ 26.07” N
Easting (X) 411062	Longitude (X) 70° 03’ 41.91 E

The Disposal Site is a cleared area that includes runways, taxiways, a fuel farm, numerous buildings related to airport operations (terminal, hangers, maintenance, administration, etc.) and lots occupied by commercial aviation-related tenants. North and west of ACK are residential and commercial properties, while to the east, the land is largely undeveloped. A line of beach-front homes are located to the south, between ACK and the Atlantic Ocean. Wannacomet Water Company supplies municipal water to ACK. Wannacomet obtains its water from four groundwater supply wells located within the Sole Source Aquifer that underlies the entire island of Nantucket. One private water supply well was identified on ACK property and serves a hangar located north of the ACK administration buildings.

2.2 AREA RECEPTORS

The Disposal Site is located within a mapped High Yield and U.S. Environmental Protection Agency (EPA) Sole Source Aquifer, while portions of the Disposal Site are within other protected zones including:

- The northwest portion of the site is within a Zone II.
- The southern portion of the site is within a Rare Wetland Wildlife Habitat zone.
- Protected Open Space is located east of the site.

Estuarine and marine wetland areas are located south relative to ACK along the shoreline, while the Atlantic Ocean is located between 200 and 1400 feet (ft) south of ACK. An area identified as

Nobadeer Pond (which is actually a marsh on the southwest corner of the airport property) is located north of the radar tower and south of Runway 12.

A MassDEP Phase I Site Assessment Map showing the natural resources and environmentally sensitive areas nearby the site is available in **Appendix A**. Based on groundwater elevation measurements collected during monitoring well sampling, groundwater flow is interpreted to be generally to the south across the site, toward the Atlantic Ocean (**Figure 2**).

As many as 21 private drinking water supply wells are located within 500 ft and downgradient (south) of the Airport in a residential area along Madequecham Valley Road. These homes are believed to be seasonal vacation homes inhabited by adult and child receptors during the summer months.

A second residential area that may be serviced by private drinking water wells is located crossgradient (west) of the Airport along Monohansett Road and Okorwaw Avenue. These homes are within close proximity of known AFFF release areas Runway 6 Runup and South Ramp at Taxiway J (**Figure 2**). It is not known if these homes are also seasonal, or if they are occupied year-round.

A daycare center and private school servicing pre-K through eighth grade are located approximately 1,700 ft upgradient (north) of the site.

2.3 DESCRIPTION OF THE RELEASE

At this time, some of the releases are believed to be associated with AFFF that ACK discharged as part of the FAA-required testing and training events described in Section 1. Per 14 CFR §139.315-319, ACK has used AFFF (1) as part of its storage of readiness and reserve; and (2) during required drills, training, testing, and maintenance activities. Under 14 CFR §139.321 and National Fire Protection Association 407, ACK has also stored AFFF for fire suppression readiness at the airport's fuel farm. AFFF is not believed to have been used for any emergencies at the Airport since at least 1989, and no known accidental releases are known to have occurred. Further, as ACK is in the process of switching to fluorine-free foam, any potential release(s) are believed to be historical. Additionally, ACK has recently taken delivery of an E-1 AFFF testing system for

its aircraft rescue and firefighting vehicles, and is converting its fuel farm fire suppression systems to an F3 system. At this point, no future AFFF release to the environment is anticipated unless response to an aircraft incident.

A list of known AFFF release events as well as a general location map is available in **Appendix C**. However, it should be noted that other sources (e.g., upgradient applications of biosolids) of PFAS in groundwater have not been properly investigated and therefore cannot be ruled out. Further investigations will be performed to determine the full nature and extent of the PFAS impacts and identify the source(s) as part of future Comprehensive Response Actions.

In February 2020, an initial assessment of the on-site groundwater monitoring wells was completed to confirm the existence, condition, construction details, depth to water, and accessibility. In March 2020, Town of Nantucket personnel completed a vertical and horizontal elevation survey of site monitoring wells in datum NAD83(2011) Epoch 2010.00. The data collected are presented in **Table 1**. Following this initial assessment, samples were collected from five (5) on-site groundwater monitoring wells and one (1) private drinking water well located on Madequecham Valley Road (Property UE). The monitoring wells were sampled using standard low-flow methods with a stainless steel submersible pump, and the drinking water sample was collected from the kitchen sink after a 10 minute purge of the well. It should be noted that the house was vacant at the time the sample was collected (it was off-season) and so the well had not been used in several months. All samples were submitted Eurofins in Lancaster, Pennsylvania under standard chain-of-custody procedures for analysis of PFAS by EPA Method 537 Version 1.1. The results of this effort identified concentrations of various PFAS compounds at concentrations above the RCGW-1 in both on-site groundwater monitoring wells and off-site drinking water (**Table 2** and **Appendix B**).

On 3 March 2020, WESTON notified MassDEP on behalf of the Commission, of the exceedance of the Category RCGW-1 RC of 20 ng/L for the six PFAS compounds, individually or summed in drinking water. This constituted a 2-hour Reportable Condition pursuant to 310 CMR 40.0311(6); where an oil or hazardous material concentration in a private drinking water supply well is present at concentrations equal or exceeding the RCGW-1 criterion, even though the home was unoccupied at the time of sample collection. In response, MassDEP assigned RTN 4-0028219 to

this release. MassDEP verbally approved initial IRA activities, including design and installation of a POET system for the impacted residence. The detection of PFAS in the drinking water supply represents a Critical Exposure Pathway as defined by the MCP. Of note, the residence is a seasonally-occupied residence and is currently vacant, so bottled water is not being supplied while the POET system is being designed and installed.

Ongoing investigation efforts at the Disposal Site are focused on identifying other private water supply wells that could be impacted by the presence of PFAS in groundwater and mitigating any impacts that are discovered. A complicating factor in this effort is that the homes located downgradient of the Airport are seasonal and are not currently occupied. Many are rental homes where the owner lives out of state. As a result, it has been difficult to locate and notify the owners of the potentially-impacted homes.

SECTION 3

IMMEDIATE RESPONSE ACTION PLAN

3. IMMEDIATE RESPONSE ACTION PLAN

In accordance with the requirements of the MCP as detailed in 310 CMR 40.0420(7)(c), the Commission is submitting this written IRA Plan within 60 days of the initial release notification date. The following sections detail how the Commission will implement the IRA Plan at the Disposal Site.

3.1 REASON FOR AND OBJECTIVES OF THE IRA

Pursuant to 310 CMR 40.0412, an IRA is required to mitigate conditions where the presence of PFAS in drinking water represents a Critical Exposure Pathway and/or condition of Substantial Release Migration. The detected concentrations of the target PFAS in the sample collected from one off-site private water supply well and two on-site groundwater monitoring wells were at concentrations representative of a potential Imminent Hazard (IH) condition if the water were to be consumed.

The objectives for this IRA Plan are to evaluate the potential for additional existing or future IH conditions to current receptors, implement appropriate mitigation measures to protect human health and the environment, assess the nature and extent of the PFAS impacts to groundwater (to the extent needed to identify and mitigate other IH exposures), and mitigate potential on-site sources that may contribute to Substantial Release Migration, a Critical Exposure Pathway, and/or an IH condition. The stated objectives will be met by implementing the tasks outlined below.

3.2 PROPOSED IMMEDIATE RESPONSE ACTION ACTIVITIES

3.2.1 Notification to Residents and Access Agreements

As described in Subsection 2.3, a complicating factor for gaining access to potentially-impacted homes to collect potable water samples is that the homes located downgradient of ACK are seasonal and are not currently occupied. Many are rental homes belonging to out-of-state owners. On 20 December 2019, a total of 21 letters were mailed to the owner of each residence on Madequecham Valley Road downgradient of the ACK via certified mail. Each mailing included a letter that explained the reason for contact, a request for access to their property to obtain drinking water samples, a brief questionnaire about their well construction and use, and how best to contact

them. To date, contact has been made with 11 of the 21 property owners; Access Agreements have been fully executed for nine (9) residents; and two (2) residents have declined to sign an Access Agreement, but have provided a completed questionnaire and indicated they are willing to have their wells tested. Following returned undeliverable mailings from four property owners, the packages were mailed again via regular mail: two of which were returned undeliverable. Following this third mailing, one additional property owner has reached out to WESTON to provide the necessary information and signed Access Agreement.

Because of the COVID-19 pandemic and the relatively mild winter and early spring, it is possible that the seasonal residents will begin to arrive earlier than usual. In an effort to contact residents as soon as they arrive, the Commission has hand-delivered a copy of a brief letter outlining the background of the situation, a request to contact WESTON to collect a sample, and a recommendation to use bottled water until the results of that sample are collected to each residence.

WESTON and the Commission will continue to attempt to contact potentially-impacted residents that have been unresponsive by going door-to-door when on-site during sampling activities, once that is acceptable under the COVID-19 restrictions.

3.2.2 Drinking Water Supply Well Sampling

Drinking water supply sampling will be conducted at all residences that have granted access in response to our attempts to contact them as described above. It is likely that drinking water supply sampling may need to occur in phases, as not all homes are occupied year-round and the timing of when the homes are opened for the season may vary substantially. It is anticipated that a subsequent round of residential sampling will be performed in later summer, after all the homes have been occupied for several months and the water supply wells have been in continuous operation. Samples collected in the spring, after the wells have been out of service for several months may not be representative of worst-case conditions. Additional water supply sampling may be required in residences located west of ACK, along Monohansett Road and Okorwaw Avenue, if it is determined that those residences are not supplied with municipal water.

The drinking water sampling procedure will include purging the water from the supply well via an unfiltered inside tap or exterior water spigot. Samples will be collected before any kind of

filtrations or esthetic improvement mechanisms (i.e., sediment filter, water softener, reverse osmosis filtration, aerator cap on faucets, etc.). The samples will be packed in an ice-filled cooler and submitted under standard chain-of-custody procedures to a State-certified laboratory for analysis of PFAS via EPA Method 537 Version 1.1. As indicated in Subsection 2.3, a drinking water sample was collected from Property UE in February 2020 following the procedure outlined above.

Drinking water supply well sampling is expected to occur beginning at the end of May 2020 as the seasonal residences are opened for the season. Of note, current Stay at Home Advisories[1,2] issued by state and local governments due to the COVID-19 pandemic may alter the plans for property owners with seasonal residences on Nantucket, as well as the willingness of property owners to allow WESTON sampling staff to enter their homes. Every measure will be taken to ensure proper precautions are taken to address both COVID-19 social distancing, personal protective equipment (face masks and gloves), and other precautionary procedures as well as the potential PFAS impacts to drinking water supplies.

3.2.3 Drinking Water Supply Well Mitigation Measures

Immediately upon identification of PFAS in drinking water at concentrations above RCGW-1 standards, the affected residents will be verbally notified of the analytical results and instructed to cease use of the water for consumptive purposes. The Commission will arrange the free delivery of bottled water to all such homes. Subsequently, a written letter will be mailed to the property owner summarizing the analytical results, providing a copy of the laboratory analytical report specific to that residence along with instructions on how to proceed and who to contact with questions.

Once any impacted residents are provided with bottled water, each affected residence will be evaluated for a POET system. Two treatment media alternatives are available, the selection of

[1] https://www.mass.gov/news/dph-public-health-advisory-stay-at-home-advisory

[2] https://www.nantucket-ma.gov/1657/Coronavirus-Disease-2019

which will depend on a variety of factors including whether or not the residence is occupied year-round versus seasonally, available space in the home, access to the preferred location for the system, detected concentrations, etc. For example, if a residence is occupied seasonally and has space limitations, resin absorptive media may be preferred because the resin vessels are approximately one-third the size of the granular activated carbon (GAC) vessels and the resin can be stored over the winter, disinfected, and reused in the spring. Conversely, if the residence is occupied year-round and space is not a concern, a carbon-based GAC may be preferable.

As discussed in Subsection 2.3, PFAS were detected at a concentration exceeding the RCGW-1 for PFAS at Property UE (**Table 2**). As a result, a POET system was installed to treat the private drinking water supply well. Because the home is seasonally occupied and access to the system location is tight, resin vessels were installed. On 9 April 2020, WESTON completed a site evaluation for the purpose of designing and sizing the POET system. In addition to assessing the specifications of the well (i.e., yield) and system location information, a water supply sample was collected in duplicate for analysis of total calcium, iron, magnesium, manganese, and sodium via MCP Method 6020B; total hardness and chloride by EPA Method 300.0; nitrate/nitrite and nitrogen by EPA Method 353.2, pH by SM 4500; total alkalinity by SM 2320; total coliform-colilert by SM 9223; total dissolved solids by SM 2540; and radon. The second sample was put on hold pending the results of the first sample.

Once the POET systems are installed, a confirmatory sample will be collected to ensure the systems are functioning as designed. The POET systems will require performance monitoring to establish breakthrough curves that will aid in determining the lifespan of the media and replacement schedule. Sample ports will be installed at locations prior to the first vessel (raw water from the well), between the first and second vessel (partially treated), and after the treatment system (finished water for consumption). Samples collected for performance monitoring will be collected from all three sampling locations at each POET and analyzed via EPA Method 537 at a state-certified analytical laboratory. Performance monitoring at locations occupied year-round will occur on a quarterly basis for at least the first year. Performance monitoring at locations occupied seasonally will occur at least twice (once at the start of the season and once before the system is winterized). Additionally sampling between these two endpoints may occur depending on the

length of time the residence is occupied, number of occupants, influent PFAS concentrations, etc. Based on the findings of the performance testing during the first year, a long-term operation and maintenance schedule will be developed. Additional information will be collected at each visit including total volume treated since prior visit (via a totalizing flow meter) and observations of required maintenance. Following receipt of analytical results indicating the POET is functioning as designed, bottled water delivery will be suspended.

3.2.4 Soil Sampling at Taxiway Echo

As part of normal capital planning Taxiway Echo, located parallel to Runway 6, is scheduled for reconstruction beginning late 2020 (**Figure 2**). Although the physiochemical properties of PFAS suggest a low affinity to adsorb to the presumed inorganic sands at the Disposal Site, an assessment of PFAS concentrations in soils underlying planned work areas along Taxiway Echo will be completed prior to commencement of construction activities. Selected areas for investigation include those in close proximity to areas of documented historical deployment or storage of AFFF, including Runway 6 Runup, South Ramp at J, and South Ramp at B (**Figure 3**). Based on a conference call with representatives of MassDEP on 24 March 2020, it is understood that the asphalt and subbase materials may be removed and managed as planned without sampling for PFAS compounds.

Shallow soil samples will be collected just off the edge of pavement and no further out than the limit of excavation. A hand auger will be used to advance to a maximum depth of 2 ft below ground surface in conjunction with the maximum depth of excavation. It is anticipated that up to four (4) samples will be collected from each of the three (3) target areas. The sample locations will be selected based on existing overland flow paths off of the paved areas mimicking the likely flow of AFFF during training and certification exercises. Up to one (1) sample location within each of the three (3) target areas may be selected as a "background" sample and be collected from an area within 20 ft of the limit of excavation. Quality control samples will include one duplicate, one field blank, one equipment blank, and one trip blank. The samples will be placed in an ice filled cooler and submitted under standard chain-of-custody protocol to a State-certified analytical laboratory for analysis of PFAS via EPA Method 537. Following sample collection, each hand auger location will be backfilled with the soil cuttings from that location. Based on the small required sample

volume, off-site soil will not be needed to backfill the borings to grade. If a small volume of additional soil is needed, it will be scraped from the surface in a nearby area.

3.2.5 Remediation Waste

To-date, no remediation waste has been generated from the IRA activities completed other than groundwater monitoring well purge water, which is discharged to the ground surface in the vicinity of the well. However, spent sorption media will be generated from the POET system(s). Although spent GAC and resin are considered hazardous waste under current state and federal regulations, it will be managed as a remediation waste pursuant to 310 CMR 40.0034. As such, spent media will be removed from the vessels, consolidated with like wastes, and either sent off-site for regeneration or for treatment and disposal. The consolidated wastes can be temporarily stored at ACK for up to 120 days, if needed. Because resin may be stored over the winter, disinfected, and put back into the service, it will not be considered remediation waste until its useful life has been spent and requires regeneration or destruction. As such, storage will likely exceed 120-days.

Soils determined to be impacted with PFAS and are excavated as part of the Taxiway Echo project will be handled in accordance with 310 CMR 40.0030 *Management Procedures for Remediation Wastes*.

Details regarding any management of remediation wastes will be included in future IRA submittals.

3.2.6 Permit Requirements

Permits will be required from the Town of Nantucket for the plumbing work associated with the installation of the POET systems in private residences. No other permitting requirements are anticipated.

3.2.7 Schedule and IRA Status Reports

Drinking water sampling is expected to begin in early May and continue through June 2020, as seasonal residences are opened for the summer. If residents are found to have returned to the island earlier than anticipated, they will be sampled as early as is feasible given current restrictions

created by the COVID-19 emergency. Installation of the POET system at Property UE will be completed by May 3. Any additional POET systems that may be required based on residential sampling results will be installed as expeditiously as possible. Bottled water will be provided to impacted residents immediately upon receipt of laboratory results that indicate an exceedance of the RCGW-1 standards.

Taxiway Echo reconstruction is scheduled to begin in Fall 2020. Soil sampling for PFAS analysis is likely to occur in early to mid-Summer 2020.

Pursuant to 310 CMR 40.0425(2), IRA Status Reports will be submitted on a monthly basis to MassDEP via eDEP under BWSC-105 Immediate Response Action Transmittal Form until all IH conditions have been addressed.

3.3 LICENSED SITE PROFESSIONAL OPINION

Under the LSP of record (James J. Soukup, #5888), this IRA Plan was prepared in accordance with 310 CMR 40.0424. His seal and signature are included on the Immediate Response Action Transmittal Form BWSC-105 submitted concurrently with this IRA Plan via the eDEP online filing system.

SECTION 4

REFERENCES

4. REFERENCES

14 C.F.R. §139.315-319 and §139.321

Federal Aviation Administration, 2006. *National Part 139 CertAlert No. 16-05: Update on Mil-Spec Aqueous Film Forming Foam (AFFF).* September 1.

Massachusetts Department of Environmental Protection (MassDEP). 2014. *310 CMR 40: Massachusetts Contingency Plan.* April 25.

MassDEP Bureau of Waste Site Cleanup, Phase I Site Assessment Map. http://maps.massgis.state.ma.us/images/dep/mcp/mcp.htm. Accessed April 13, 2020.

Town and County of Nantucket. *Online GIS Maps*. https://www.nantucket-ma.gov/151/GIS-Maps. Accessed March and April 2020.

FIGURES

SCALE:

0 5,000 10,000 20,000

Feet

TITLE:

NANTUCKET MEMORIAL AIRPORT
SITE LOCATION MAP

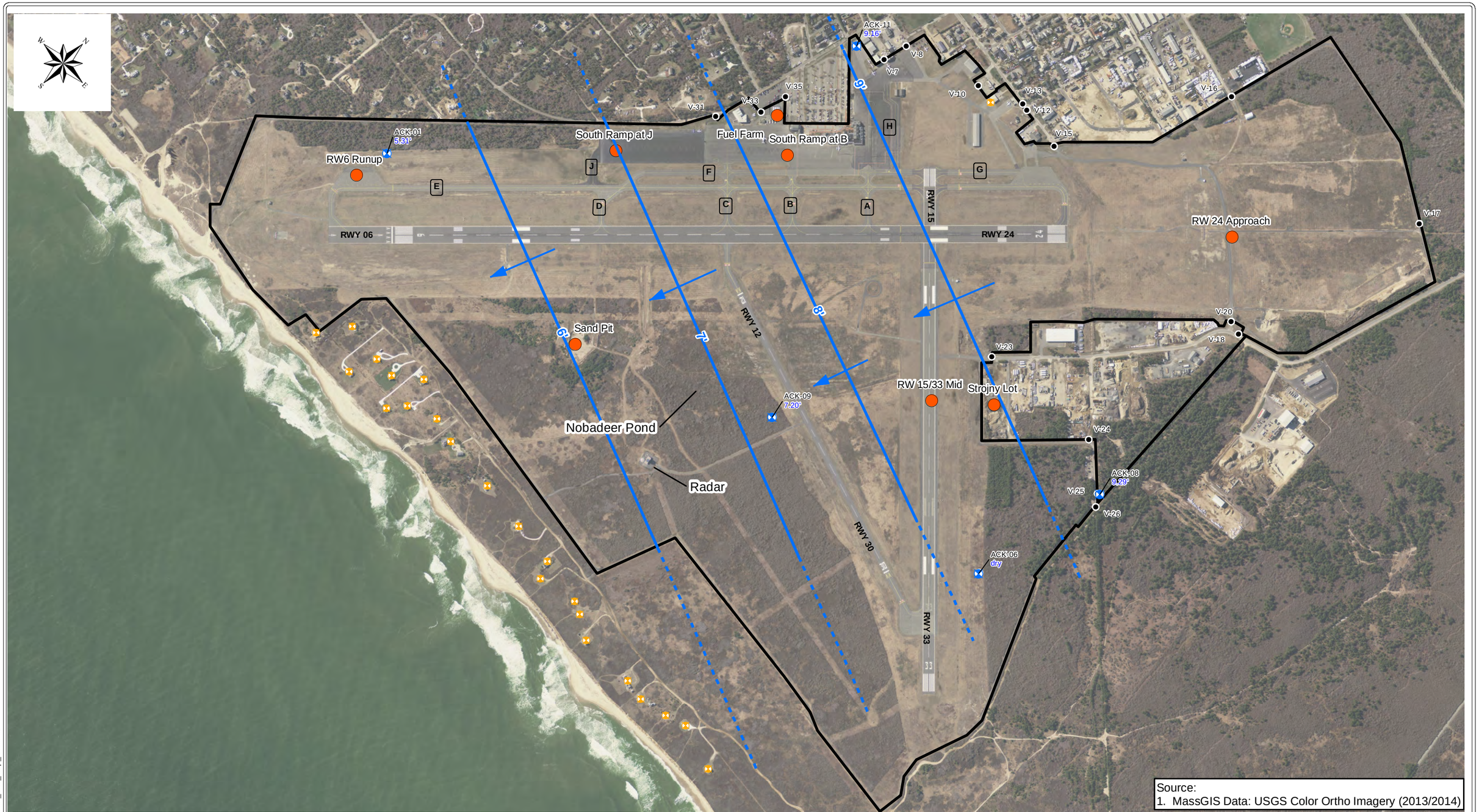
PROJECT:
NANTUCKET MEMORIAL AIRPORT
14 AIRPORT RD, NANTUCKET, MA 02554

CLIENT NAME:
NANTUCKET MEMORIAL AIRPORT

WESTON SOLUTIONS

DATE:
4/15/2020

FIGURE #:
1



Legend

- Drinking Water Well
- Monitoring Well
- Gate
- Site Fence
- Known AFFF Release Areas
- RWY 12 Runway
- A Taxiway
- 7.20' Groundwater Elevation (feet)
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Groundwater Flow Direction

SCALE: 800 400 0 800 Feet

PROJECT: NANTUCKET MEMORIAL AIRPORT
14 AIRPORT RD, NANTUCKET, MA 02554

CLIENT NAME: NANTUCKET MEMORIAL AIRPORT

TITLE: NANTUCKET MEMORIAL AIRPORT SITE MAP

WESTON SOLUTIONS SM

DATE: 4/15/2020

FIGURE #: 2

Path: P:\Nantucket_Airport\mxd\25421_NMA_Site_Map_GW.mxd

Approximate Proposed Soil Sampling Locations

RW6 Runup

ACK-01

ACK-11

ACK-09

RW 15/33 Mid

Strojny Lot

Fuel Farm

Sand Pit

South Ramp at J

South Ramp at B

GATE 8

GATE 31

GATE XX

HAUL ROUTE PHASES II–IV

HAUL ROUTE PHASE I

HAUL ROUTE PHASE V

OS

CONTRACTOR STAGING AREA

TAXIWAY J

TAXIWAY F

TAXIWAY H

TAXIWAY G

TAXIWAY E

TAXIWAY A

TAXIWAY B

TAXIWAY C

TAXIWAY D

TERMINAL APRON

PHASE III

PHASE IIIA

PHASE IV

PHASE IVA

PHASE I

PHASE IA

PHASE II

PHASE IIA

PHASE V (ADD. ALT. #1)

PHASE VA

INSTALL LIGHTED AND CLOTH 'X'S ON RUNWAY 6 AND 24 ENDS DURING PHASES IA, IIA, IIIA, IVA AND VA

IB

UE

TD

VT

KH

MP

PR

QO

HL

RN

LEGEND

- HAUL ROUTE
- LIGHTED BARRICADES
- RUNWAY CLOSURE MARKERS
- PHASE I/IA
- PHASE II/IIA
- PHASE III/IIIA
- PHASE IV/IVA
- PHASE V/VA
- Drinking Water Well
- Monitoring Well
- Known AFFF Release Areas

Source:
1. Jacobs Engineering Group, Overall Phasing Plan. January 2020.

SCALE: 500 250 0 500 Feet

TITLE: Taxiway Echo Proposed Soil Sampling Plan

PROJECT: NANTUCKET MEMORIAL AIRPORT
14 AIRPORT RD, NANTUCKET, MA 02554

CLIENT NAME: NANTUCKET MEMORIAL AIRPORT

WESTON SOLUTIONS SM

DATE: 4/21/2020

FIGURE #: 3

Path: P:\Nantucket_Airport\mxd\25437_NMA_Proposed_Soil_Sampling.mxd

TABLES

Table 1
Groundwater Elevation and Monitoring Well Information
Nantucket Memorial Airport
14 Airport Road, Nantucket, MA
RTN: 4-28219

Well ID	Date	Coordinates NAD83 Northing	Coordinates NAD83 Easting	Elevation (ft amsl)	Measured Depth to Bottom	Depth to Water (ft)	Groundwater Elevation (ft amsl)
ACK-01	2/11/2020	91049.68	1757826.52	20.98	24.49	15.65	5.33
	2/18/2020					15.67	5.31
ACK-06	2/11/2020	92345.30	1763710.81	40.81	32.92	Dry	Dry
ACK-08	2/11/2020	93278.90	1764265.01	46.06	51.02	36.78	9.28
	2/17/2020					36.77	9.29
ACK-09	2/11/2020	91893.61	1761872.25	34.09	38.86	26.90	7.19
	2/18/2020					26.89	7.20
ACK-11	2/11/2020	94618.41	1760033.25	39.88	41.36	30.60	9.28
	2/18/2020					30.72	9.16

Notes

Well elevation survey completed by Town of Nantucket on March 11, 2020. Survey datum NAD 83 (2011) Epoch 2010.00.

Definitions

RTN = Release Tracking Number

ft = foot/feet

amsl = above mean sea level

Dry = well was observed to be dry

NAD = North American Datum

Table 2
Summary of Per- and Polyfluoroalkyl Substances in Groundwater and Drinking Water
Nantucket Memorial Airport
14 Airport Road, Nantucket, MA 02554

Sample Location ID	Sample Date	Carboxylic Acids							Sulfonates / Sulfonic Acids					Potential Precursors	Parameter Calculations		
		Perfluorobutanoic Acid (PFBA) [4]	Perfluoropentanoic Acid (PFPeA) [5]	Perfluorohexanoic Acid (PFHxA) [6]	Perfluoroheptanoic Acid (PFHpA) [7]	Perfluoro-Octanoic Acid (PFOA) [8]	Perfluorononanoic Acid (PFNA) [9]	Perfluorodecanoic Acid (PFDA) [10]	Perfluorobutanesulfonic Acid (PFBS) [4S]	Perfluoropentanesulfonate [5S]	Perfluorohexanesulfonic Acid (PFHxS) [6S]	Perfluoroheptanesulfonic Acid (PFHpS) [7S]	Perfluorooctanesulfonic Acid (PFOS) [8S]	4:2-Fluorotelomersulfonic acid (4:2 FtS)	Total of 6 Regulated Compounds	Total Measured PFAS	% 6 Regulated Compounds vs. Total PFAS
	CAS No.	375-22-4	2706-90-3	307-24-4	375-85-9	335-67-1	375-95-1	335-76-2	375-73-5	2706-91-4	355-46-4	375-92-8	1763-23-1	757124-72-4	na	na	na
	DW (ng/L)	na	na	na	20	20	20	20	na	na	20	na	20	na	20	na	na
	GW-1 (ng/L)	na	na	na	20	20	20	20	na	na	20	na	20	na	20	na	na
Field Samples - Groundwater																	
ACK-01	2/18/2020	<1.7	**2.3**	**8.5**	**1.4 J**	**1.3 J**	<0.42	<0.42	**3.2**	**5.6**	**57**	<0.42	**1.9**	**1.3 J**	**61.6**	**83**	74.7%
ACK-06	2/18/2020	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	na	na	na
ACK-08	2/17/2020	<1.7	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	ND	ND	na
ACK-09	2/18/2020	<1.7	**0.88 J**	**0.71 J**	<0.43	<0.43	<0.43	<0.43	<0.43	**0.49 J**	**5.6**	<0.43	**2.9**	<0.43	**8.5**	**11**	80.3%
	2/18/2020 (DUP)	<1.7	**0.84 J**	**0.62 J**	<0.43	<0.43	<0.43	<0.43	<0.43	**0.45 J**	**5.2**	<0.43	**2.7**	<0.43	**7.9**	**9.8**	80.5%
ACK-11	2/18/2020	**2.7 J**	**6.1**	**8.7**	**3.2**	**5.6**	**0.96 J**	**0.47 J**	**2.2**	**2.4**	**54**	**1.4 J**	**36**	<0.43	**100**	**124**	81.0%
Field Samples - Drinking Water																	
Property UE	2/18/2020	--	--	**160**	**56**	**11**	**5.6**	**2.3**	**2.3**	--	**37**	--	**48**	--	**160**	**322**	49.6%
	2/18/2020 (DUP)	--	--	**170**	**55**	**11**	**5.5**	**2.4**	**2.4**	--	**39**	--	**50**	--	**163**	**335**	48.6%
Field Quality Control Samples																	
EQUIP BLANK (submersible pump)	2/17/2020	<1.8	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	ND	ND	na
FIELD BLANK	2/17/2020 (Kanarek)	<1.7	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	ND	ND	na
TRIP BLANK	2/11/2020 (gw)	<1.7	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	ND	ND	na
	2/11/2020 (dw)	--	--	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	--	<0.46	--	<0.46	--	ND	ND	na

Definitions:

[4] = Number of fluorinated carbon chains for perfluorinated carboxylic acids

[4S] = Number of fluorinated carbon chains for perfluorinated sulfonates

ng/L = nanogram per liter, equivalent to parts per trillion

CAS No. = Chemical Abstract Service registry number

na = not applicable/standard has not been established

-- = Analysis not conducted

PFAS = per- and polyfluoroalkyl substances

ND = Not detected

J = Estimated value is greater than or equal to the Method Detection Limit and less than the reporting limit

DUP = duplicate sample

ns = location not sampled due to dry conditions

gw = groundwater dw = drinking water

Notes:

Gray shading indicates detected concentration meets or exceeds GW-1.

APPENDIX A

BUREAU OF WASTE SITE CLEANUP
PHASE I SITE ASSESSMENT MAP

MassDEP - Bureau of Waste Site Cleanup

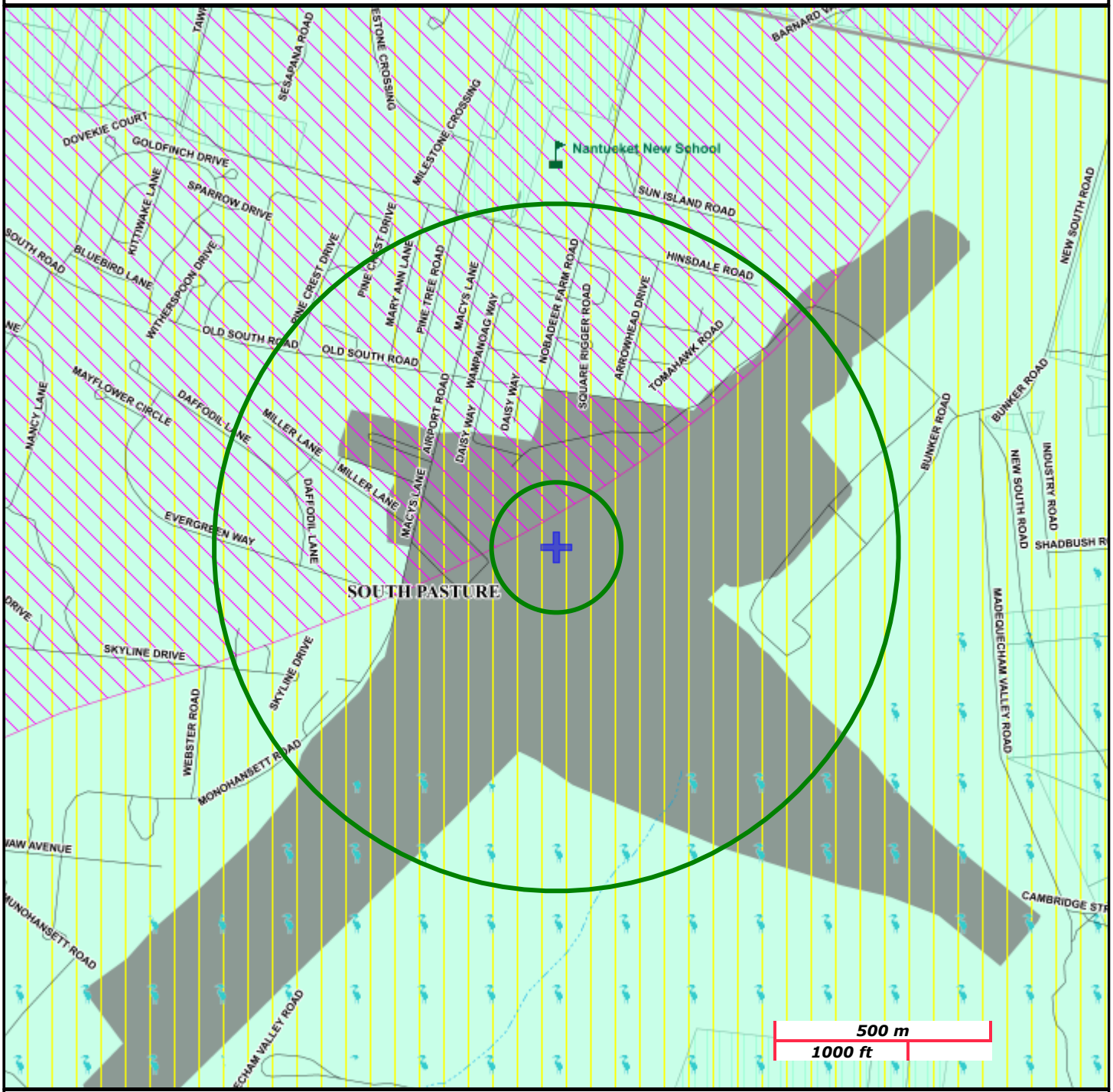
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
NANTUCKET MEMORIAL AIRPORT (ACK)
14 AIRPORT ROAD NANTUCKET, MA
4-000028219

NAD83 UTM Meters:
4567883mN , 411049mE (Zone: 19)
April 13, 2020

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

APPENDIX B

LABORATORY ANALYTICAL DATA

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Weston Solutions, Inc.
43 N Main St
Concord NH 03301

Report Date: March 02, 2020 11:49

Project: Nantucket

Account #: 31222
Group Number: 2088743
PO Number: 0102971
State of Sample Origin: MA

Electronic Copy To Weston Solutions, Inc. Attn: Lisa Krammer

Respectfully Submitted,

Elizabeth M. Zanar
Project Manager

(717) 556-7290

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
Trip Blank Water	02/11/2020 13:10	1263636
Field Blank Grab Water	02/17/2020 13:15	1263637
Equip Blank Grab Water	02/17/2020 13:35	1263638
ACK-08-0220 Grab Groundwater	02/17/2020 15:50	1263639
ACK-09-0220 Grab Groundwater	02/18/2020 08:35	1263640
ACK-GW1-0220 Grab Groundwater	02/18/2020 08:35	1263641
ACK-11-0220 Grab Groundwater	02/18/2020 10:23	1263642
ACK-01-0220 Grab Groundwater	02/18/2020 11:33	1263643

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: **Trip Blank Water**
Nantucket

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/11/2020 13:10

Weston Solutions, Inc.
ELLE Sample #: GW 1263636
ELLE Group #: 2088743
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.41	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.41	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.41	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.83	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	N.D.	0.41	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.7	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.83	1
14473	HFPODA[1]	13252-13-6	N.D.	0.41	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.41	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.83	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.83	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.50	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.83	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.83	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	N.D.	0.41	1
14473	Perfluorobutanoic acid[1]	375-22-4	N.D.	1.7	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.41	1
14473	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.41	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.41	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.41	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	N.D.	0.41	1
14473	Perfluoroheptanoic acid[1]	375-85-9	N.D.	0.41	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.83	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	N.D.	0.41	1
14473	Perfluorohexanoic acid[1]	307-24-4	N.D.	0.41	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.41	1
14473	Perfluorononanoic acid[1]	375-95-1	N.D.	0.41	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.83	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.41	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	N.D.	0.41	1
14473	Perfluorooctanoic acid[1]	335-67-1	N.D.	0.41	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	N.D.	0.41	1

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Analysis Report

Sample Description: **Trip Blank Water**
Nantucket

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/11/2020 13:10

Weston Solutions, Inc.
ELLE Sample #: GW 1263636
ELLE Group #: 2088743
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	N.D.	0.41	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.41	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.41	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.41	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/24/2020 20:12	Devon M Whooley	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

Sample Description: **Field Blank Grab Water**
Nantucket

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/17/2020 13:15

Weston Solutions, Inc.
ELLE Sample #: GW 1263637
ELLE Group #: 2088743
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.42	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.42	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.42	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.83	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	N.D.	0.42	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.7	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.83	1
14473	HFPODA[1]	13252-13-6	N.D.	0.42	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.42	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.83	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.83	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.50	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.83	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.83	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	N.D.	0.42	1
14473	Perfluorobutanoic acid[1]	375-22-4	N.D.	1.7	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.42	1
14473	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.42	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.42	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.42	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	N.D.	0.42	1
14473	Perfluoroheptanoic acid[1]	375-85-9	N.D.	0.42	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.83	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	N.D.	0.42	1
14473	Perfluorohexanoic acid[1]	307-24-4	N.D.	0.42	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.42	1
14473	Perfluorononanoic acid[1]	375-95-1	N.D.	0.42	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.83	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.42	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	N.D.	0.42	1
14473	Perfluorooctanoic acid[1]	335-67-1	N.D.	0.42	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	N.D.	0.42	1

Sample Description: **Field Blank Grab Water Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/17/2020 13:15

Weston Solutions, Inc.
ELLE Sample #: GW 1263637
ELLE Group #: 2088743
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	N.D.	0.42	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.42	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.42	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.42	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/24/2020 20:21	Devon M Whooley	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

Sample Description: **Equip Blank Grab Water Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/17/2020 13:35

Weston Solutions, Inc.
ELLE Sample #: GW 1263638
ELLE Group #: 2088743
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.44	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.44	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.44	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.88	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	N.D.	0.44	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.8	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.88	1
14473	HFPODA[1]	13252-13-6	N.D.	0.44	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.44	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.88	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.88	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.53	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.88	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.88	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	N.D.	0.44	1
14473	Perfluorobutanoic acid[1]	375-22-4	N.D.	1.8	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.44	1
14473	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.44	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.44	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.44	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	N.D.	0.44	1
14473	Perfluoroheptanoic acid[1]	375-85-9	N.D.	0.44	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.88	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	N.D.	0.44	1
14473	Perfluorohexanoic acid[1]	307-24-4	N.D.	0.44	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.44	1
14473	Perfluorononanoic acid[1]	375-95-1	N.D.	0.44	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.88	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.44	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	N.D.	0.44	1
14473	Perfluorooctanoic acid[1]	335-67-1	N.D.	0.44	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	N.D.	0.44	1

Sample Description: **Equip Blank Grab Water Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/17/2020 13:35

Weston Solutions, Inc.
ELLE Sample #: GW 1263638
ELLE Group #: 2088743
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	N.D.	0.44	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.44	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.44	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.44	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/26/2020 10:19	Katie Renfro	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

Sample Description: **ACK-08-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/17/2020 15:50

Weston Solutions, Inc.
ELLE Sample #: GW 1263639
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.43	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.43	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.43	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.85	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	N.D.	0.43	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.7	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.85	1
14473	HFPODA[1]	13252-13-6	N.D.	0.43	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.43	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.85	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.85	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.51	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.85	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.85	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	N.D.	0.43	1
14473	Perfluorobutanoic acid[1]	375-22-4	N.D.	1.7	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.43	1
14473	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.43	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.43	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.43	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	N.D.	0.43	1
14473	Perfluoroheptanoic acid[1]	375-85-9	N.D.	0.43	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.85	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	N.D.	0.43	1
14473	Perfluorohexanoic acid[1]	307-24-4	N.D.	0.43	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.43	1
14473	Perfluorononanoic acid[1]	375-95-1	N.D.	0.43	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.85	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.43	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	N.D.	0.43	1
14473	Perfluorooctanoic acid[1]	335-67-1	N.D.	0.43	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	N.D.	0.43	1

Sample Description: **ACK-08-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/17/2020 15:50

Weston Solutions, Inc.
ELLE Sample #: GW 1263639
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	N.D.	0.43	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.43	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.43	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.43	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/24/2020 20:39	Devon M Whooley	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

Sample Description: **ACK-09-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 08:35

Weston Solutions, Inc.
ELLE Sample #: GW 1263640
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.43	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.43	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.43	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.85	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	N.D.	0.43	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.7	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.85	1
14473	HFPODA[1]	13252-13-6	N.D.	0.43	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.43	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.85	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.85	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.51	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.85	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.85	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	N.D.	0.43	1
14473	Perfluorobutanoic acid[1]	375-22-4	N.D.	1.7	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.43	1
14473	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.43	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.43	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.43	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	N.D.	0.43	1
14473	Perfluoroheptanoic acid[1]	375-85-9	N.D.	0.43	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.85	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	5.6	0.43	1
14473	Perfluorohexanoic acid[1]	307-24-4	0.71 J	0.43	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.43	1
14473	Perfluorononanoic acid[1]	375-95-1	N.D.	0.43	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.85	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.43	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	2.9	0.43	1
14473	Perfluorooctanoic acid[1]	335-67-1	N.D.	0.43	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	0.49 J	0.43	1

Sample Description: **ACK-09-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 08:35

Weston Solutions, Inc.
ELLE Sample #: GW 1263640
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	0.88 J	0.43	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.43	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.43	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.43	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/24/2020 20:48	Devon M Whooley	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

Sample Description: **ACK-GW1-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 08:35

Weston Solutions, Inc.
ELLE Sample #: GW 1263641
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.43	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.43	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.43	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.86	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	N.D.	0.43	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.7	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.86	1
14473	HFPODA[1]	13252-13-6	N.D.	0.43	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.43	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.86	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.86	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.52	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.86	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.86	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	N.D.	0.43	1
14473	Perfluorobutanoic acid[1]	375-22-4	N.D.	1.7	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.43	1
14473	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.43	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.43	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.43	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	N.D.	0.43	1
14473	Perfluoroheptanoic acid[1]	375-85-9	N.D.	0.43	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.86	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	5.2	0.43	1
14473	Perfluorohexanoic acid[1]	307-24-4	0.62 J	0.43	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.43	1
14473	Perfluorononanoic acid[1]	375-95-1	N.D.	0.43	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.86	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.43	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	2.7	0.43	1
14473	Perfluorooctanoic acid[1]	335-67-1	N.D.	0.43	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	0.45 J	0.43	1

Sample Description: **ACK-GW1-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 08:35

Weston Solutions, Inc.
ELLE Sample #: GW 1263641
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	0.84 J	0.43	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.43	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.43	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.43	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/24/2020 20:57	Devon M Whooley	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

Sample Description: **ACK-11-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 10:23

Weston Solutions, Inc.
ELLE Sample #: GW 1263642
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.43	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.43	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.43	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.87	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	N.D.	0.43	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.7	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.87	1
14473	HFPODA[1]	13252-13-6	N.D.	0.43	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.43	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.87	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.87	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.52	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.87	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.87	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	2.2	0.43	1
14473	Perfluorobutanoic acid[1]	375-22-4	2.7 J	1.7	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.43	1
14473	Perfluorodecanoic acid[1]	335-76-2	0.47 J	0.43	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.43	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.43	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	1.4 J	0.43	1
14473	Perfluoroheptanoic acid[1]	375-85-9	3.2	0.43	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.87	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	54	0.43	1
14473	Perfluorohexanoic acid[1]	307-24-4	8.7	0.43	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.43	1
14473	Perfluorononanoic acid[1]	375-95-1	0.96 J	0.43	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.87	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.43	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	36	0.43	1
14473	Perfluorooctanoic acid[1]	335-67-1	5.6	0.43	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	2.4	0.43	1

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Sample Description: **ACK-11-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 10:23

Weston Solutions, Inc.
ELLE Sample #: GW 1263642
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	6.1	0.43	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.43	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.43	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.43	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/24/2020 21:06	Devon M Whooley	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

Sample Description: **ACK-01-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 11:33

Weston Solutions, Inc.
ELLE Sample #: GW 1263643
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	9Cl-PF3ONS[1]	756426-58-1	N.D.	0.42	1
	9Cl-PF3ONS is the acronym for Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid				
14473	11Cl-PF3OUdS[1]	763051-92-9	N.D.	0.42	1
	11Cl-PF3OUdS is the acronym for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid				
14473	DONA[1]	919005-14-4	N.D.	0.42	1
	DONA is the acronym for 4,8-dioxa-3H-perfluorononanoic acid, the free acid form of ADONA.				
14473	10:2Fluorotelomersulfonic acid[1]	120226-60-0	N.D.	0.85	1
14473	4:2-Fluorotelomersulfonic acid[1]	757124-72-4	1.3 J	0.42	1
14473	6:2-Fluorotelomersulfonic acid[1]	27619-97-2	N.D.	1.7	1
14473	8:2-Fluorotelomersulfonic acid[1]	39108-34-4	N.D.	0.85	1
14473	HFPODA[1]	13252-13-6	N.D.	0.42	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid				
14473	NEtFOSAA[1]	2991-50-6	N.D.	0.42	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA[1]	4151-50-2	N.D.	0.85	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE[1]	1691-99-2	N.D.	0.85	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA[1]	2355-31-9	N.D.	0.51	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA[1]	31506-32-8	N.D.	0.85	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE[1]	24448-09-7	N.D.	0.85	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid[1]	375-73-5	3.2	0.42	1
14473	Perfluorobutanoic acid[1]	375-22-4	N.D.	1.7	1
14473	Perfluorodecanesulfonic acid[1]	335-77-3	N.D.	0.42	1
14473	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.42	1
14473	Perfluorododecanesulfonic acid[1]	79780-39-5	N.D.	0.42	1
14473	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.42	1
14473	Perfluoroheptanesulfonic acid[1]	375-92-8	N.D.	0.42	1
14473	Perfluoroheptanoic acid[1]	375-85-9	1.4 J	0.42	1
14473	Perfluorohexadecanoic acid[1]	67905-19-5	N.D.	0.85	1
14473	Perfluorohexanesulfonic acid[1]	355-46-4	57	0.42	1
14473	Perfluorohexanoic acid[1]	307-24-4	8.5	0.42	1
14473	Perfluorononanesulfonic acid[1]	68259-12-1	N.D.	0.42	1
14473	Perfluorononanoic acid[1]	375-95-1	N.D.	0.42	1
14473	Perfluorooctadecanoic acid[1]	16517-11-6	N.D.	0.85	1
14473	Perfluorooctanesulfonamide[1]	754-91-6	N.D.	0.42	1
14473	Perfluorooctanesulfonic acid[1]	1763-23-1	1.9	0.42	1
14473	Perfluorooctanoic acid[1]	335-67-1	1.3 J	0.42	1
14473	Perfluoropentanesulfonate[1]	2706-91-4	5.6	0.42	1

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Analysis Report

Sample Description: **ACK-01-0220 Grab Groundwater Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:11
Collection Date/Time: 02/18/2020 11:33

Weston Solutions, Inc.
ELLE Sample #: GW 1263643
ELLE Group #: 2088743
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	Perfluoropentanoic acid[1]	2706-90-3	2.3	0.42	1
14473	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.42	1
14473	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.42	1
14473	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.42	1

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS 36 Cpds	EPA 537 Version 1.1 Modified	1	20052003	02/24/2020 21:24	Devon M Whooley	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	20052003	02/21/2020 09:58	Broch Clinton	1

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Quality Control Summary

Client Name: Weston Solutions, Inc. Group Number: 2088743
Reported: 03/02/2020 11:49

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	ng/l	ng/l
Batch number: 20052003	Sample number(s): 1263636-1263643	
9Cl-PF3ONS	N.D.	0.50
11Cl-PF3OUdS	N.D.	0.50
DONA	N.D.	0.50
10:2Fluorotelomersulfonic acid	N.D.	1.0
4:2-Fluorotelomersulfonic acid	N.D.	0.50
6:2-Fluorotelomersulfonic acid	N.D.	2.0
8:2-Fluorotelomersulfonic acid	N.D.	1.0
HFPODA	N.D.	0.50
NEtFOSAA	N.D.	0.50
NEtPFOSA	N.D.	1.0
NEtPFOSAE	N.D.	1.0
NMeFOSAA	N.D.	0.60
NMePFOSA	N.D.	1.0
NMePFOSAE	N.D.	1.0
Perfluorobutanesulfonic acid	N.D.	0.50
Perfluorobutanoic acid	N.D.	2.0
Perfluorodecanesulfonic acid	N.D.	0.50
Perfluorodecanoic acid	N.D.	0.50
Perfluorododecanesulfonic acid	N.D.	0.50
Perfluorododecanoic acid	N.D.	0.50
Perfluoroheptanesulfonic acid	N.D.	0.50
Perfluoroheptanoic acid	N.D.	0.50
Perfluorohexadecanoic acid	N.D.	1.0
Perfluorohexanesulfonic acid	N.D.	0.50
Perfluorohexanoic acid	N.D.	0.50
Perfluorononanesulfonic acid	N.D.	0.50
Perfluorononanoic acid	N.D.	0.50
Perfluorooctadecanoic acid	N.D.	1.0
Perfluorooctanesulfonamide	N.D.	0.50
Perfluorooctanesulfonic acid	N.D.	0.50
Perfluorooctanoic acid	N.D.	0.50
Perfluoropentanesulfonate	N.D.	0.50
Perfluoropentanoic acid	N.D.	0.50
Perfluorotetradecanoic acid	N.D.	0.50
Perfluorotridecanoic acid	N.D.	0.50
Perfluoroundecanoic acid	N.D.	0.50

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Weston Solutions, Inc. Group Number: 2088743
Reported: 03/02/2020 11:49

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 20052003	Sample number(s): 1263636-1263643								
9Cl-PF3ONS	23.84	23.34	23.84	22.09	98	93	52-147	6	30
11Cl-PF3OUdS	24.12	21.45	24.12	22.72	89	94	47-145	6	30
DONA	24.12	24.27	24.12	23.32	101	97	52-160	4	30
10:2Fluorotelomersulfonic acid	24.68	23.16	24.68	27.91	94	113	45-143	19	30
4:2-Fluorotelomersulfonic acid	23.92	22.51	23.92	21.74	94	91	61-131	4	30
6:2-Fluorotelomersulfonic acid	24.28	24.8	24.28	23.26	102	96	56-140	6	30
8:2-Fluorotelomersulfonic acid	24.52	21.68	24.52	24.35	88	99	58-143	12	30
HFPODA	25.6	21.63	25.6	19.58	84	76	38-151	10	30
NEtFOSAA	25.6	28.27	25.6	26.94	110	105	53-140	5	30
NEtPFOSA	25.6	26.09	25.6	25.4	102	99	56-136	3	30
NEtPFOSAE	25.6	22.13	25.6	22.48	86	88	56-130	2	30
NMeFOSAA	25.6	25.67	25.6	27.39	100	107	59-141	6	30
NMePFOSA	25.6	25.39	25.6	23.76	99	93	49-134	7	30
NMePFOSAE	25.6	23.75	25.6	23.52	93	92	61-133	1	30
Perfluorobutanesulfonic acid	22.64	22.41	22.64	22.51	99	99	67-135	0	30
Perfluorobutanoic acid	25.6	27.71	25.6	28.04	108	110	63-160	1	30
Perfluorodecanesulfonic acid	24.64	24.77	24.64	25.21	101	102	62-135	2	30
Perfluorodecanoic acid	25.6	23.59	25.6	24.48	92	96	66-141	4	30
Perfluorododecanesulfonic acid	24.8	22.4	24.8	23.78	90	96	57-134	6	30
Perfluorododecanoic acid	25.6	22.83	25.6	22	89	86	65-143	4	30
Perfluoroheptanesulfonic acid	24.36	23.52	24.36	23.97	97	98	67-138	2	30
Perfluoroheptanoic acid	25.6	28.22	25.6	26.91	110	105	69-144	5	30
Perfluorohexadecanoic acid	25.6	24.2	25.6	22.45	95	88	60-148	8	30
Perfluorohexanesulfonic acid	24.2	22.17	24.2	21.76	92	90	63-132	2	30
Perfluorohexanoic acid	25.6	23.62	25.6	24.18	92	94	69-139	2	30
Perfluorononanesulfonic acid	24.56	25.64	24.56	26.87	104	109	70-137	5	30
Perfluorononanoic acid	25.6	25.5	25.6	27.65	100	108	66-144	8	30
Perfluorooctadecanoic acid	25.6	25.8	25.6	23.68	101	93	47-159	9	30
Perfluorooctanesulfonamide	25.6	25.12	25.6	25.13	98	98	67-126	0	30
Perfluorooctanesulfonic acid	24.48	21.85	24.48	22.9	89	94	53-129	5	30
Perfluorooctanoic acid	25.6	24.9	25.6	24.35	97	95	67-139	2	30
Perfluoropentanesulfonate	24	24.5	24	26.18	102	109	73-134	7	30
Perfluoropentanoic acid	25.6	27.02	25.6	25.52	106	100	73-135	6	30
Perfluorotetradecanoic acid	25.6	26.22	25.6	23.86	102	93	69-141	9	30
Perfluorotridecanoic acid	25.6	25.1	25.6	24.21	98	95	66-146	4	30
Perfluoroundecanoic acid	25.6	24.72	25.6	23.63	97	92	66-140	4	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Weston Solutions, Inc. Group Number: 2088743
Reported: 03/02/2020 11:49

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS 36 Cpds
Batch number: 20052003

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C2-4:2-FTS	13C5-PFHxA	13C3-PFHxS
1263636	80	79	78	82	81	79
1263637	83	79	78	88	79	80
1263638	93	94	87	137	97	94
1263639	86	104	114	94	80	78
1263640	83	87	89	90	82	80
1263641	84	91	93	97	89	91
1263642	82	83	78	93	78	80
1263643	85	98	103	72	67	82
Blank	97	95	85	94	99	105
LCS	86	86	84	94	91	92
LCSD	84	85	80	91	88	90
Limits:	43-130	38-150	23-175	22-169	36-137	35-143

	13C4-PFHpA	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA
1263636	78	93	83	75	79	80
1263637	78	96	87	85	87	83
1263638	93	113	96	97	99	89
1263639	86	106	87	90	94	80
1263640	80	98	86	86	88	84
1263641	83	107	90	90	93	87
1263642	80	103	84	75	79	83
1263643	78	103	84	85	85	85
Blank	96	100	99	96	87	98
LCS	87	101	91	87	89	89
LCSD	89	102	93	89	88	91
Limits:	33-140	29-182	52-124	52-121	48-130	50-124

	13C2-8:2-FTS	d3-NMeFOSAA	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA
1263636	83	84	90	100	86	76
1263637	95	90	92	108	81	80
1263638	153	92	78	114	55	83
1263639	89	82	88	102	80	78
1263640	90	83	88	93	81	78
1263641	103	88	95	101	87	82
1263642	98	90	92	107	79	85
1263643	85	85	83	86	81	83
Blank	103	121	109	134	111	104
LCS	96	96	93	98	88	83
LCSD	94	93	101	104	98	95

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Weston Solutions, Inc. Group Number: 2088743
Reported: 03/02/2020 11:49

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS 36 Cpds
Batch number: 20052003

Limits:	37-169	36-143	44-128	42-149	36-127	21-134
	13C8-PFOSA	d7-NMePFOSAE	d3-NMePFOSA	d9-NEtPFOSAE	d5-NEtPFOSA	13C3-HFPODA
1263636	76	56	42	56	38	82
1263637	88	66	41	66	37	75
1263638	75	50	35	33	22	92
1263639	82	73	39	78	39	85
1263640	82	76	43	77	42	71
1263641	89	80	51	86	50	84
1263642	85	80	50	82	47	77
1263643	82	76	60	81	61	83
Blank	114	106	67	109	69	84
LCS	86	83	59	88	61	79
LCSD	90	87	64	86	60	97
Limits:	10-134	10-137	10-107	10-135	10-107	24-147

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 31222 Group # 2088743 Sample # 12636636-43

COC #602145

Client Information

Client: Weston Solutions, Inc.

Acct. #: 31222

Project Name/#: Nantucket

PWSID #:

Project Manager: Lisa Kammer

P.O. #:

Sampler: Michael Kanarek

Quote #: 221624A

State where samples were collected: MA

For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐ Water ☒ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ____

Analysis Requested

Preservation and Filtration Codes

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	0 PFAS 36 Cpds EPA 537 V. 1.1 Mod.
TRIP BLANK	2/11/20	1310	X		2	X
FIELD BLANK	2/17/20	1315	X		2	X
EQUIP BLANK	2/17/20	1335	X		2	X
ACK-08-0220	2/17/20	1550	X		2	X
ACK-09-0220	2/18/20	0835	X		2	X
ACK-GW1-0220	2/18/20	0835	X		2	X
ACK-11-0220	2/18/20	1023	X		2	X
ACK-01-0220	2/18/20	1133	X		2	X

For Lab Use Only

FSC:

SCR#: 255561

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Remarks

Michael Kanarek
monsoon pump

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: 10

E-mail address: lisa.kammer@westonsolutions.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	2-11-20	1235	[signature]	2/13/20	1405
[signature]	2/14/20	1700	FedEx		

EDD Required? Yes No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS ____ FedEx ✓ Other ____

Temperature upon receipt 0.3/0.6 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 276241

Group Number(s):

Client: Weston Solutions, Inc.

2088743

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Date:	02/20/2020
Number of Packages:	2	Number of Projects:	2
State/Province of Origin:	MA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	2
Samples Chilled:	Yes	Trip Blank Type:	UNP
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jessenia Colon Martinez

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.6	DT	Wet	Y	Bagged	N
2	DT146	0.3	DT	Wet	Y	Bagged	N

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Lancaster, PA 17605-2425

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Weston Solutions, Inc.
43 N Main St
Concord NH 03301

Report Date: February 28, 2020 13:14

Project: Nantucket

Account #: 31222
Group Number: 2088744
PO Number: 0102971
State of Sample Origin: MA

Electronic Copy To Weston Solutions, Inc. Attn: Lisa Krammer

Respectfully Submitted,

Elizabeth M. Zanar
Project Manager

(717) 556-7290

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
Trip Blank Water	02/11/2020 06:56	1263644
60MADVALRD-0220 Grab Potable Water	02/18/2020 09:20	1263645
ACK-DW1-0220 Grab Potable Water	02/18/2020 09:20	1263646

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: **Trip Blank Water**
Nantucket

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:20
Collection Date/Time: 02/11/2020 06:56

Weston Solutions, Inc.
ELLE Sample #: PW 1263644
ELLE Group #: 2088744
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1**		**ng/l**	**ng/l**	
14070	NEtFOSAA[1]	2991-50-6	N.D.	0.46	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14070	NMeFOSAA[1]	2355-31-9	N.D.	0.46	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14070	Perfluorobutanesulfonic acid[1]	375-73-5	N.D.	0.46	1
14070	Perfluorodecanoic acid[1]	335-76-2	N.D.	0.46	1
14070	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.46	1
14070	Perfluoroheptanoic acid[1]	375-85-9	N.D.	0.46	1
14070	Perfluorohexanesulfonic acid[1]	355-46-4	N.D.	0.46	1
14070	Perfluorohexanoic acid[1]	307-24-4	N.D.	0.46	1
14070	Perfluorononanoic acid[1]	375-95-1	N.D.	0.46	1
14070	Perfluorooctanesulfonic acid[1]	1763-23-1	N.D.	0.46	1
14070	Perfluorooctanoic acid[1]	335-67-1	N.D.	0.46	1
14070	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.46	1
14070	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.46	1
14070	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.46	1

A field reagent blank was not submitted with this sample.

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	20052016	02/26/2020 05:46	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	20052016	02/21/2020 16:00	Isaac Phillips-Cary	1

Sample Description: **60MADVALRD-0220 Grab Potable Water Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:20
Collection Date/Time: 02/18/2020 09:20

Weston Solutions, Inc.
ELLE Sample #: PW 1263645
ELLE Group #: 2088744
Matrix: Potable Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1**		**ng/l**	**ng/l**	
14070	NEtFOSAA[1]	2991-50-6	N.D.	0.45	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14070	NMeFOSAA[1]	2355-31-9	N.D.	0.45	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14070	Perfluorobutanesulfonic acid[1]	375-73-5	2.3	0.45	1
14070	Perfluorodecanoic acid[1]	335-76-2	2.3	0.45	1
14070	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.45	1
14070	Perfluoroheptanoic acid[1]	375-85-9	56	0.45	1
14070	Perfluorohexanesulfonic acid[1]	355-46-4	37	0.45	1
14070	Perfluorohexanoic acid[1]	307-24-4	160	4.5	10
14070	Perfluorononanoic acid[1]	375-95-1	5.6	0.45	1
14070	Perfluorooctanesulfonic acid[1]	1763-23-1	48	0.45	1
14070	Perfluorooctanoic acid[1]	335-67-1	11	0.45	1
14070	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.45	1
14070	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.45	1
14070	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.45	1

A field reagent blank was not submitted with this sample.

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	20052016	02/26/2020 05:57	Marissa C Drexinger	1
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	20052016	02/26/2020 21:21	Marissa C Drexinger	10
14381	DW PFAS Prep	EPA 537 Version 1.1	1	20052016	02/21/2020 16:00	Isaac Phillips-Cary	1

Sample Description: **ACK-DW1-0220 Grab Potable Water Nantucket**

Project Name: **Nantucket**

Submittal Date/Time: 02/20/2020 10:20
Collection Date/Time: 02/18/2020 09:20

Weston Solutions, Inc.
ELLE Sample #: PW 1263646
ELLE Group #: 2088744
Matrix: Potable Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1**		**ng/l**	**ng/l**	
14070	NEtFOSAA[1]	2991-50-6	N.D.	0.45	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14070	NMeFOSAA[1]	2355-31-9	N.D.	0.45	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14070	Perfluorobutanesulfonic acid[1]	375-73-5	2.4	0.45	1
14070	Perfluorodecanoic acid[1]	335-76-2	2.4	0.45	1
14070	Perfluorododecanoic acid[1]	307-55-1	N.D.	0.45	1
14070	Perfluoroheptanoic acid[1]	375-85-9	55	0.45	1
14070	Perfluorohexanesulfonic acid[1]	355-46-4	39	0.45	1
14070	Perfluorohexanoic acid[1]	307-24-4	170	4.5	10
14070	Perfluorononanoic acid[1]	375-95-1	5.5	0.45	1
14070	Perfluorooctanesulfonic acid[1]	1763-23-1	50	0.45	1
14070	Perfluorooctanoic acid[1]	335-67-1	11	0.45	1
14070	Perfluorotetradecanoic acid[1]	376-06-7	N.D.	0.45	1
14070	Perfluorotridecanoic acid[1]	72629-94-8	N.D.	0.45	1
14070	Perfluoroundecanoic acid[1]	2058-94-8	N.D.	0.45	1

A field reagent blank was not submitted with this sample.

Sample Comments

State of Massachusetts Laboratory Certification M-PA009

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	20052016	02/26/2020 06:09	Marissa C Drexinger	1
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	20052016	02/26/2020 21:33	Marissa C Drexinger	10
14381	DW PFAS Prep	EPA 537 Version 1.1	1	20052016	02/21/2020 16:00	Isaac Phillips-Cary	1

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Quality Control Summary

Client Name: Weston Solutions, Inc. Group Number: 2088744
Reported: 02/28/2020 13:14

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	ng/l	ng/l
Batch number: 20052016	Sample number(s): 1263644-1263646	
NEtFOSAA	N.D.	0.50
NMeFOSAA	N.D.	0.50
Perfluorobutanesulfonic acid	N.D.	0.50
Perfluorodecanoic acid	N.D.	0.50
Perfluorododecanoic acid	N.D.	0.50
Perfluoroheptanoic acid	N.D.	0.50
Perfluorohexanesulfonic acid	N.D.	0.50
Perfluorohexanoic acid	N.D.	0.50
Perfluorononanoic acid	N.D.	0.50
Perfluorooctanesulfonic acid	N.D.	0.50
Perfluorooctanoic acid	N.D.	0.50
Perfluorotetradecanoic acid	N.D.	0.50
Perfluorotridecanoic acid	N.D.	0.50
Perfluoroundecanoic acid	N.D.	0.50

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 20052016	Sample number(s): 1263644-1263646								
NEtFOSAA	20.48	18.67	20.48	19.08	91	93	70-130	2	30
NMeFOSAA	20.48	18.37	20.48	19.87	90	97	70-130	8	30
Perfluorobutanesulfonic acid	18.12	16.71	18.12	16.73	92	92	70-130	0	30
Perfluorodecanoic acid	20.48	19.38	20.48	19.88	95	97	70-130	3	30
Perfluorododecanoic acid	20.48	18.82	20.48	20.25	92	99	70-130	7	30
Perfluoroheptanoic acid	20.48	18.74	20.48	19.55	91	95	70-130	4	30
Perfluorohexanesulfonic acid	18.68	17.56	18.68	17.32	94	93	70-130	1	30
Perfluorohexanoic acid	20.48	18.17	20.48	19.21	89	94	70-130	6	30
Perfluorononanoic acid	20.48	18.74	20.48	19.94	92	97	70-130	6	30
Perfluorooctanesulfonic acid	18.96	17.3	18.96	18.24	91	96	70-130	5	30
Perfluorooctanoic acid	20.48	18.22	20.48	18.89	89	92	70-130	4	30
Perfluorotetradecanoic acid	20.48	18.3	20.48	18.94	89	92	70-130	3	30
Perfluorotridecanoic acid	20.48	17.93	20.48	19.64	88	96	70-130	9	30
Perfluoroundecanoic acid	20.48	18.9	20.48	20.5	92	100	70-130	8	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Weston Solutions, Inc. Group Number: 2088744
Reported: 02/28/2020 13:14

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Drinking Water
Batch number: 20052016

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
1263644	90	95	87
1263645	89	92	87
1263646	89	99	88
Blank	96	103	86
LCS	95	98	90
LCSD	92	94	85
Limits:	70-130	70-130	70-130

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 31222 Group # 2000744 Sample # 1263644-46

COC # 602146

Client Information

Client: Weston Solutions, Inc.	Acct. #: 31222
Project Name/#: Nantucket	PWSID #:
Project Manager: Lisa Kammer	P.O. #:
Sampler: Michael Kunarek	Quote #: 221624A
State where samples were collected: MA	For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water: Potable ☒ Ground ☐ Surface ☐ NPDES ☐ | Other: ____

Analysis Requested

Preservation and Filtration Codes

PFAS 14 ods EPA 537 v.1.1

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	Preservation
TRIP BLANK	2/11/20	0656	X		2	X
60MADVALRD-0220	2/18/20	0920	X		2	X
ACK-DW1-0220	2/18/20	0920	X		2	X

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Remarks

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT ~~is subject to~~ laboratory approval and surcharge.)

Requested TAT in business days: 10

E-mail address: lisa.kammer@westonsolutions.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
NJ DKQP
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	2/19/20	1700	FedEx		
			NVR	2/20/20	1020

EDD Required? (Yes) No

If yes, format: Excel

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx X Other _____

Temperature upon receipt 0.3 / 0.6 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 276241

Group Number(s):

Client: Weston Solutions, Inc.

2089744

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Date:	02/20/2020
Number of Packages:	2	Number of Projects:	2
State/Province of Origin:	MA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	2
Samples Chilled:	Yes	Trip Blank Type:	TRIZMA
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jessenia Colon Martinez

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.6	DT	Wet	Y	Bagged	N
2	DT146	0.3	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T : 717-656-2300
F : 717-656-2681
www.LancasterLabs.cor

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

APPENDIX C

HISTORICAL AFFF INFORMATION

A B C D E F G H I J K L

1 2 3 4 5 6 7

South Ramp @ J

Fuel Farm

Fuel Farm

South Ramp @ B

RW 24 Approach

RW6 Runup

RW 15/33 Mid

Sand Pit

Strojny Lot

Fuel Farm

V-33

V-35

V-7

V-8

V-10

V-13

V-12

V-16

V-30

V-31

V-15
Primary Staging Area

V-17

V-29

V-28

V-23

V-24

V-25

V-26

V-27

V-20

V-18

Radar

Pit

Maint. & NRTA

Gate 9

NEC Generators

Yates & Ramos Gas

Isolation Area

RWY 06

RWY 12

RWY 24

RWY 30

RWY 33

E J F H G D C B A

Legend

Ditch

Fence

Known AFFF Application Area

200 0 600

Feet

Nantucket Memorial Airport
AFFF Application Areas

Document Path: P:\2013\E2X67300 - Nantucket Airport Master Plan\Drawings\ArcMap\ACK Emergency Plan update.mxd

ACK AFFF Detailed Application History, 2013-Present

Vehicle	Purpose	Date	*Gal. Conc. AFFF	*Gal. Finished Foam	*Gal. Process Water	AFFF Brand	Notes
Airport-1	FAA Testing	10/15/2018	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	10/10/2018	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	4/24/2018	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	4/13/2018	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	4/6/2018	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	10/20/2017	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	10/17/2017	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	10/11/2017	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	6/14/2017	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	6/2/2017	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	4/3/2017	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	10/20/2016	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	10/19/2016	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	9/2/2016	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	8/3/2016	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	4/7/2016	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	4/5/2016	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	11/15/2015	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	11/5/2015	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	10/26/2015	25	1,000	2,000	Chemguard/National Foam	
Airport-3	FAA Testing	6/8/2015	25	1,000	2,000	Chemguard/National Foam	New Equipment Acceptance Test
Airport-1	FAA Testing	3/23/2015	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	3/23/2015	25	1,000	2,000	Chemguard/National Foam	
Airport-1	Training Exercise	10/9/2014	25	1,000	2,000	Chemguard/National Foam	May not have used AFFF
Airport-2	FAA Testing	8/12/2014	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	8/11/2014	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	2/19/2014	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	2/18/2014	25	1,000	2,000	Chemguard/National Foam	
Airport-1	FAA Testing	7/9/2013	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	7/9/2013	25	1,000	2,000	Chemguard/National Foam	
Airport-2	FAA Testing	8/16/2012	25	1,000	2,000	Chemguard/National Foam	
Airport-1	Training Exercise	UNK 2011	25	1,000	2,000	Chemguard/National Foam	May not have used AFFF

ACK AFFF Application, Approximate Summary, 1989-Present

Location	Start Year	End Year	Purpose	Frequency	Est. Total AFFF Conc applied	AFFF Brand	Notes
Sand Pit	1989	1994	Training/Testing	1-2 applications/yr	150-300 gal	UNK	
Sand Pit	2008	2008	Triennial Drill	1x	10 gal	National Foam	Single event
RW6 Runup	1995	2015	Training/Testing	1-2 total applications	25-50 gal	UNK, National Foam	
Strojny Lot	2015	Current	Training/Testing	6 annual applications	600-750 gal	National Foam, Chemguard	2 tests per ARFF truck
South Ramp @ J	2015	2018	Training/Testing	1-2 total applications	25-50 gal	National Foam	
RW 24 Approach	1995	2015	Training/Testing	1-2 applications/yr	275-550 gal	UNK, National Foam	1 truck until 2001, then 2 after 2001
Fuel Farm	1998	2013	Testing	Every 2 years	200 gal	UNK, National Foam	
RW 15/33 Mid	1989	2013	Certification Drill	annual	625 gal	UNK, National Foam	Certification Inspection