IMMEDIATE RESPONSE ACTION PLAN MODIFICATION NO.2

Truro Department of Public Works
17 Town Hall Road
Truro, MA 02666

Release Tracking Number (RTN): 4-0050777

Prepared By:

HRP Associates, Inc.
13 Court Street
Plymouth, MA 02360

HRP #: TRU2501.P2

Issued On: August 9, 2025

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 RESPONSIBLE PARTY 2

3.0 RELEASE BACKGROUND AND SITE CONDITIONS 3

4.0 INVESTIGATION ACTIVITIES 5

4.1 PFAS in Groundwater and Drinking Water Investigation 5
4.2 Soil Boring Investigation 12
4.3 Hydrogeologic Investigation 13

5.0 IRA EVALUATION AND NEED FOR IRA 16

5.1 Substantial Release Migration 16
5.2 Critical Exposure Pathway 16
5.3 Imminent Hazard Evaluation 17
5.4 Need for Immediate Response Action 17

6.0 CONTINUED IRA ACTIVITIES 18

6.1 Permeable Reactive Barrier 19
6.1.1 PRB PFAS Mass Retention Capacity 20
6.1.2 PRB Pilot Test 22
6.1.3 PRB Pilot Monitoring Program 23
6.2 Soil Cap 24

7.0 MANAGEMENT OF REMEDIAL WASTE 26

8.0 ENVIRONMENTAL MONITORING PLAN 27

9.0 FEDERAL, STATE OR LOCAL PERMITS 29

10.0 NAME, LICENSE NUMBER, SIGNATURE, AND SEAL OF THE LSP 30

11.0 OTHER RELEVANT INFORMATION REQUESTED BY THE MASSDEP 31

Figures

Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Priority Resource Map
Figure 4 Groundwater Elevation Map March 10, 2025
Figure 5 Private Well PFAS Sampling Locations
Figure 6 Groundwater Elevation Map, May 22, 2025
Figure 7 Soil Boring Locations
Figure 8 Vertical and Horizontal Extent of PFAS in Soil and Proposed Soil Cap Location
Figure 9 PFAS Detections in Groundwater and Drinking Water

Figure 10 PRB Pilot Injection Locations
Figure 11 Conceptual Full Scale PRB and Soil Cap

Tables

Table 1 Groundwater Analytical Results
Table 2 Drinking Water Analytical Results
Table 3 Groundwater Elevation Data
Table 4 Water Quality Monitoring Parameters
Table 5 Soil Analytical Results
Table 6 POET System Quarterly Testing Results

Appendices

Appendix A Monitoring Well Construction Logs
Appendix B Monitoring Well Survey Data
Appendix C Laboratory Reports
Appendix D Notices of Environmental Sampling
Appendix E POET System Details
Appendix F Aquifer Testing Results
Appendix G Permeable Reactive Barrier Lab Demonstration Results
Appendix H DualSorb Permeable Reactive Barrier Media Information

GENERAL INFORMATION

Site Location:
Truro Department of Public Works
17 Town Hall Road
Truro, MA 02666

RTN: 4-0050777

Consultant Information:
HRP Associates, Inc.
13 Court Street
Plymouth, MA 02360
www.hrpassociates.com
Phone: (781) 210-9840
Project Number: TRU2501.P2

Report Author:

Grant Mershon, PG
Senior Project Manager

LSP of Record and Principal in Charge:

Bryan Massa, LSP
Principal and Regional Manager

1.0 INTRODUCTION

This document presents an Immediate Response Action (IRA) Plan Modification for release tracking number (RTN) 4-50777 in response to the detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Truro Department of Public Works (DPW) facility located at 17 Town Hall Road, Truro, Massachusetts (the "Site"). HRP Associates, Inc. (HRP) prepared this document on behalf of the Town of Truro DPW (the responsible party; RP) and in accordance with the requirements of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000).

The Site location is depicted on **Figure 1** (Site Locus Map). The Site layout is illustrated on **Figure 2** (Site Plan). The DPW facility occupies approximately 3.2 acres on the north side of Town Hall Road and is a portion of a 4.365-acre parcel that includes the Truro Town Hall on the south side of Town Hall Road. For the purposes of this report, the term "Site" refers to the 3.2-acre DPW facility, as indicated on **Figure 2**.

On September 5, 2024, the MassDEP assigned RTN 4-50777 to the Site following notification of the presence of PFAS in groundwater at the Site above applicable Reportable Concentrations. A written IRA plan to conduct assessment actions was submitted to MassDEP on November 5, 2024. Please refer to **Section 3.0** for background information about the release. On January 3, 2025, HRP submitted the first IRA plan Modification in response to a request from the MassDEP to perform additional specific investigation tasks. This is the second IRA Plan Modification for RTN 4-50777 and pertains to proposed remediation measures at the Site.

This IRA Plan Modification is in response to PFAS groundwater impacts migrating off-Site which is impacting residential drinking water wells. It includes details of proposed IRA activities and response actions completed to date so that it can be a stand-alone document. Additional details regarding the PFAS release (both soil and groundwater) and response actions completed and/or planned at the Site are detailed in subsequent portions of this document.

This IRA Plan Modification focuses only on PFAS detected at the Site associated with RTN 4-50777. Please refer to RTN 4-50454 for details on non-PFAS contaminants of concern at the Site that have been investigated and remediated consistent with the MCP. On November 11, 2024, a Permanent Solution Statement with No Conditions was submitted to the Massachusetts Department of Environmental Protection (MassDEP) for RTN 4-50454.

2.0 RESPONSIBLE PARTY

Pursuant to 310 CMR 40.0424 (a), the name, address, telephone number and relationship of the person assuming responsibility for conducting the IRA is set forth below.

Town of Truro Department of Public Works
17 Town Hall Road
Truro, MA 02666
Mr. Jarrod J. Cabral, Director of Public Works
508-214-0400

The Massachusetts Licensed Site Professional (LSP) of Record for this submittal is:

Bryan Massa, LSP #3412
Principal and Regional Manager
HRP Associates, Inc.
13 Court Street
Plymouth, MA

3.0 RELEASE BACKGROUND AND SITE CONDITIONS

An IRA was implemented at the Site in response to the presence of PFAS in groundwater. This IRA is also managing PFAS identified in soil at the Site. *Pursuant to 310 CMR 40.0424(b), a description of the release or threat of release, site conditions, and surrounding receptors is set forth below.*

The approximately 3.2-acre Site is situated on a local topographic high at an elevation of approximately 122 feet above mean sea level and is improved with four structures located in the eastern and central portions of the Site. The buildings are constructed on slab-on-grade foundations and include an office building, an equipment storage building, a salt shed, and a three-bay vehicle maintenance garage. The area surrounding the buildings includes paved and unpaved parking areas, a diesel aboveground storage tank (AST) for municipal vehicle fueling, and vehicle/equipment maintenance and storage areas. The northern approximately 0.7 acres of the Site comprise a steep, north facing, wooded slope that drops approximately 40 feet down to Meetinghouse Road. Topography in the surrounding area generally slopes down to the southwest to the Pamet River estuary.

The Site (**Figure 2**) is in an area of Truro zoned for residential use. Town Hall Road borders the Site to the south and Meetinghouse Road borders the Site to the north. The adjoining property to the south is occupied by the Truro Town Hall. Adjoining properties to the north, east, and west are developed with detached single-family residences and consist mostly of wooded land.

The Site and surrounding properties obtain drinking water from on-property water supply wells. As indicated on **Figure 2**, the Site has a transient non-community public water supply well (Public Water System 4300041) that provides water to the entire Truro Town Hall campus including the DPW facility. According to MassDEP records, the well serves between 50 and 70 people. According to the most recent consumer confidence report, the well provides drinking water that meets the current regulatory standards. The location of this well will be moved during the proposed redevelopment of the DPW portion of the Site in 2026. Prior to movement, the existing Site well will be abandoned and a new well will be installed to the north, across Meeting House Road on an undeveloped portion of land owned by the Town of Truro Conservation Trust (22 and 24 Meeting House Road). PFAS has not been detected in monitoring wells or residential drinking water samples collected from this area.

The Site is located within a mapped medium yield aquifer, an EPA Sole Source Aquifer, within an interim wellhead protection area associated with the Site PWS well, within 500 feet of private water supply wells, and within 500 feet of two areas of protected open space. No wetlands, surface water, or Natural Heritage Endangered Species Priority Habitat or other sensitive environmental areas are located within 500 feet of the Site. A Priority Resource Map is included as **Figure 3**.

In August 2024, groundwater sampling was performed at the DPW following a Limited Subsurface Investigation (LSI) to evaluate if the operation of the Site as a DPW facility since the 1950s resulted in a reportable release of oil and/or hazardous materials (OHM) to the environment. The LSI included completion of a ground penetrating radar (GPR)/electro-magnetic (EM) survey, excavation of test pits, advancement of soil borings, installation of monitoring wells, and collection of soil and groundwater samples for laboratory analysis. Details from the LSI are documented in the report titled "*Immediate Response Action Completion Statement and Permanent Solution Statement-No Conditions*" for RTN 4-50454 dated October 28, 2024 and prepared by HRP.

During the LSI, PFAS was detected in soil and groundwater samples collected from the Site at concentrations above Massachusetts RCS-1 and RCGW-1 Reportable Concentrations. On September 5, 2024, the MassDEP assigned RTN 4-50777 to the Site following notification of the presence of PFAS in groundwater at the Site above applicable Reportable Concentrations within a designated Zone I of a public water supply well and within 500 feet of a private water supply well. HRP also reported the detection of PFAS in soil above the applicable Reportable Concentration (RCS-1) to the MassDEP as a 120-day release notification. MassDEP assigned RTN 4-0050798 in response to the 120-day notification for PFAS in soil. MassDEP subsequently closed RTN 4-0050798 and response actions were consolidated under RTN 4-50777.

4.0 INVESTIGATION ACTIVITIES

Pursuant to 310 CMR 40.0424(c), a description of any Immediate Response Actions undertaken are set forth below.

4.1 PFAS in Groundwater and Drinking Water Investigation

- Between July 29 and August 2, 2024, HRP directed Desmond Well Drilling (Desmond) to install five monitoring wells at the Site, designated MW-1 through MW-5, using a truck-mounted hollow-stem auger drill rig. The wells were advanced to depths between 125 and 127 feet below surface grade (bsg). Groundwater was encountered at depths between approximately 117 to 122 feet below grade. The monitoring well locations are indicated on **Figure 4**.

  The wells were constructed of 2-inch diameter thread-coupled PVC materials. For each well, a 10-foot length of slotted well screen was set at the bottom of the borehole and solid PVC riser was extended to surface grade. The screen section was backfilled with filter sand to at least two feet above the well screen, followed by two feet of bentonite. Native soil and sand were used to fill the remaining annular space around the well casing above the bentonite. The wells were finished at the surface with flush mount traffic-rated road boxes. The monitoring wells were developed after installation and were allowed to equilibrate for a minimum of a week before sampling. Monitoring well construction logs are included in **Appendix A**.

- On August 14 and August 15, 2024, HRP collected groundwater samples using a PFAS-free submersible pump and low-flow sampling techniques. The samples were submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory, in Mansfield, Massachusetts for analysis of PFAS by EPA Method 1633. The analytical results are summarized in **Table 1**. The laboratory reports were included in prior IRA submittals. In general, the groundwater sample laboratory results received on September 4, 2024, identified the following:
  - PFAS6, which is the sum of the concentrations of perfluorodecanoic acid (PFDA), perfluoroheptanoic acid (PFHpA), perfluorooctanoic acid (PFOA), perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), and perfluorooctanesulfonic acid (PFOS), was reported present in the sample collected from MW-3 at a concentration of 0.2996 micrograms per liter (µg/L), and in the sample from MW-2 at 0.0156 µg/L.
  - The concentration of PFAS6 in the MW-3 sample exceeded the Reportable Concentration for GW-1 groundwater (RCGW-1) of 0.02 µg/L.
  - Various other PFAS analytes in addition to PFAS6 were reported present above laboratory reporting limits in groundwater samples from MW-1, MW-2, or MW-3.
  - No PFAS analytes were reported present above laboratory reporting limits in groundwater samples from MW-4 and MW-5.

- On September 5, 2024, Bryan Massa, LSP with HRP, notified the MassDEP, on behalf of the Truro DPW, of a 72-hour reporting obligation in accordance with MCP section 310 CMR

40.0313. MassDEP assigned RTN 4-50777 to the PFAS release. An IRA plan was verbally discussed with MassDEP that included the following tasks:

  - Collection of confirmatory groundwater samples from monitoring wells MW-1, MW-2, and MW-3.
  - Collection of a drinking water sample from the onsite PWS 4300041 supply well.
  - Continued assessment to determine the nature and extent of PFAS impacts at the Site.
  - Survey of monitoring wells to determine location and elevation and to calculate groundwater flow direction.

- On September 6-9, 2024, HRP resampled monitoring wells MW-1, MW-2, and MW-3 for analysis of PFAS by EPA Method 1633 to confirm the results from August 2024. PFAS6 was reported present in the sample from MW-3 at 0.28438 µg/L and the sample from MW-2 at 0.01074 µg/L. Various other PFAS analytes in addition to PFAS6, were reported by the laboratory in samples from MW-1, MW-2, or MW-3 at concentrations above the laboratory reporting limits. MassDEP has not promulgated Method 1 Standards for PFAS compounds other than PFAS6. The September 2024 PFAS groundwater sampling results were consistent with the August 2024 data as indicated on **Table 1**.

- On September 6, 2024, HRP collected a drinking water sample from PWS 4300041 for analysis of PFAS using EPA method 537.1. PFHxS was detected in the drinking water sample at a concentration of 0.00362 µg/L which did not exceed MassDEP's drinking water Maximum Contaminant Level (MMCL) of 0.02 µg/L for the PFAS6 combined concentration. A summary of PFAS analytical results for drinking water samples is included as **Table 2**.

- Between November 12, 2024, and November 14, 2024, HRP directed Desmond to install four 2-inch diameter PVC monitoring wells at the Site, designated as MW-6 through MW-9, using a truck-mounted hollow-stem auger drill rig. Monitoring wells MW-6 through MW-8 were installed in Meetinghouse Road along the north side of the Site. MW-9 was installed in the wooded strip along the west side of the Site. The borings for the wells were advanced to depths between 73 and 127 feet bsg. Groundwater was encountered at depths between approximately 66 to 118 feet below grade. The monitoring well locations are indicated on **Figure 4** and monitoring well construction logs are included in **Appendix A**.

- Between September 9, 2024, and November 26, 2024, HRP collected groundwater samples from monitoring wells MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, MW-8, and MW-9. Prior to sample collection, HRP purged five well volumes from each of the wells and collected groundwater samples using a PFAS-free submersible pump and low-flow sampling techniques. The samples were submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory for analysis of PFAS by EPA Method 1633. Groundwater analytical data are summarized in **Table 1**.

- On November 26, 2024, HRP gauged the depth to groundwater and total well depth at the nine monitoring wells (MW-1 through MW-9) located at the Site using an electronic water level indicator. The depth to water and total well depth are indicated on **Table 3** and the monitoring well locations are shown on **Figure 4**.

- Between December 2, 2024, and December 4, 2024, Alpha Survey Group completed an elevation survey of the nine monitoring wells (MW-1 through MW-9) located at the Site. A copy of the survey details including northing/easting coordinates, ground elevation, casing elevation, and riser elevation is included in **Appendix B**.

- On December 13, 2024, the Town of Truro Health Department sent letters via certified mail to the owners of 21 properties located within 500 feet of the Site as indicated in **Figure 5**. The letters requested access to the properties to collect drinking water samples for analysis of PFAS in relation to ongoing IRA activities. The table below documents the locations requested and if access to sample was granted.

Property Address	Parcel Number	Permission to Sample
3 First Parish Lane	046-278-000	No Response
6 Tryworks Road	046-126-000	Yes
5 Grandpas Road	046-256-000	Yes
6 Grandpas Road	046-257-000	No Response
4 Snow Fields Road	046-250-000	Yes
6 Snow Fields Road	046-249-000	Yes
8 Snow Fields Road	046-258-000	No Response
15 Meeting House Road	046-308-000	Yes
23 Meeting House Road	046-259-000	No Response
25 Meeting House Road	046-260-000	No Response
27 Meeting House Road	046-261-000	Yes
21 Castle Road	050-122-000	No Response
25 Castle Road	050-239-000	Yes
27 Bridge Road	050-230-000	Yes
32 Bridge Road	050-121-000	Yes
11 Town Hall Road	046-272-000	Yes
15 Town Hall Road	046-270-000	Yes
21 Town Hall Road	046-267-000	No Response
25 Town Hall Road	046-266-000	Yes
28 Town Hall Road	050-061-000	Yes
30 Town Hall Road	050-060-000	Yes

- Between January 13, 2025, and January 15, 2025, HRP collected 14 drinking water samples from the residences indicated above consistent with the MassDEP Field Sampling Guidelines for PFAS using EPA Method 537 or 537.1, dated June 2021. The samples were submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory for analysis of PFAS by EPA Method 537.1. Residential drinking water analytical data are summarized in **Table 2**. Locations of the residential properties tested along with the approximate location of their drinking water well are indicated on **Figure 5**. Laboratory reports not included in previous IRA submittals are in **Appendix C**. Notices of Environmental sampling are included in **Appendix D**.

As indicated on **Table 2**, PFAS6 was detected above the GW-1 standard but below the GW-3 standard at 30 Town Hall Road. PFAS was detected in samples from 28 Town Hall Road and 25 Castle Road above the laboratory reporting limit but below the applicable Method 1 standards. PFAS were not reported present at concentrations above the laboratory reporting limit in the samples collected from the other tested residences.

The Town of Truro contacted the owners of 28 Town Hall Road, 30 Town Hall Road, and 25 Castle Road and provided them with bottled water.

- On March 26, 2025, H_2O Care installed a point of entry treatment (POET) system at 25 Castle Road as an Active Exposure Pathway Mitigation Measure. The POET System includes a sediment pre-filter, three mixed media tanks in series each containing approximately 1.5 cubic feet of SIR-110-HP anion resin and 0.5 cubic feet of coconut shell-based granular activated carbon (GAC), sampling ports before and after each tank, and a water meter to record total flow volume. Based on the influent concentration of PFAS, it is assumed that over 100,000 gallons of water can be processed before breakthrough occurs at tank 1. Upon breakthrough, tank 1 will be replaced by tank 2, and tank 3 will be moved to the tank 2 position. A new tank will then be installed at the tank 3 position. The spent tank will be disposed of at an appropriate facility by H_2O Care. Refer to **Appendix E** for additional details on the POET system.

  H_2O Care collected a drinking water sample from the operating POET system at 25 Castle Road upon installation for laboratory analysis of PFAS by EPA Method 537.1. As indicated in the laboratory report included in **Appendix C**, PFAS was not detected above the laboratory reporting limit. The laboratory reporting limit was less than the applicable Method 1 Standards.

  Bottled water will be provided to residences with PFAS detections until at least one quarter of analytical testing from all three POET system sample ports (Tank 1, Tank 2, and Tank 3) have no PFAS detections. Quarterly sampling for PFAS will be conducted after each media tank for a minimum of one year before determining if less frequent sampling is needed. At a minimum, the POET system will be inspected and serviced annually by H_2O Care. Spent tanks will be disposed of at an appropriate facility by H_2O Care.

- Between February 18, 2025, and February 24, 2025, HRP directed Redox Tech, LLC to install six monitoring wells at the Site, designated as MW-10, MW-11s, MW-11m, MW-11d, MW-12, and MW-13 using a rotosonic drilling rig. The borings for the wells were advanced to depths between approximately 45 and 132 feet bsg. Groundwater was encountered at depths between approximately 36 to 120 feet below grade. Monitoring well MW-10 was installed on the north side of Town Hall Road at the driveway for 25 Town Hall Road. The MW-11 well cluster was installed in the Castle Road right-of-way (ROW) at a location inferred to be downgradient of the DPW facility. MW-12 and MW-13 were installed in the Castle Road ROW further to the west and east, respectively. The monitoring well locations are indicated on **Figure 4**.

  All six wells were constructed of 2-inch diameter thread-coupled PVC materials. Monitoring wells MW-11s, MW-12, and MW-13 were constructed with a 10-foot length of slotted well

screen intersecting the water table observed at the time of installation. Wells MW-11m and MW-11d were constructed with 5-foot screen lengths located approximately 20 and 40 feet below the water table, respectively. PVC riser was extended to surface grade. Sand was added to at least two feet above the well screen, followed by two feet of bentonite. The remaining annular space around the well casings above the bentonite was filled with grout. Flush mount road boxes were installed at each well. The monitoring wells were developed after installation and were allowed to equilibrate for a minimum of a week before sampling. Monitoring well construction logs are included in **Appendix A**.

- Between February 25, 2024, and March 14, 2025, HRP collected groundwater samples from monitoring wells MW-1 through MW-13. Prior to sample collection, HRP purged five well volumes from each of the wells and collected groundwater samples using a PFAS-free submersible pump and low-flow sampling techniques. The samples were kept cold on ice and submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory for analysis of PFAS by EPA Method 1633. Groundwater analytical data are summarized in **Table 1** and laboratory reports are included in **Appendix C**.

- On March 10, 2025, HRP gauged all of the monitoring wells at the Site and surrounding area. On that same date, Alpha Survey Group completed an elevation survey of wells MW-10 through MW-13. The gaging data are summarized on **Table 3**. A copy of the survey details including northing/easting coordinates, ground elevation, casing elevation, and riser elevation is included in **Appendix B**.

- On March 20, 2025, the Town of Truro Health Department sent letters via certified mail to 18 property owners seeking permission to collect drinking water samples, including the seven residences that did not respond to the initial request and 11 additional properties located downgradient of the three residential properties where PFAS were detected. The contacted properties are illustrated on **Figure 5**. The letters requested access to the properties to collect drinking water samples for analysis of PFAS by EPA Method 537.1 in relation to ongoing IRA activities between April 28 through April 30, 2025, and June 3, 2025. As indicated below, a total of 13 residents gave permission to sample.

  A request to sample at the locations where no response was previously provided and from six new locations was mailed on July 16, 2025. The sampling will be completed on August 25-27, 2025 and September 8-10, 2025 from all locations where permission is provided.

Property Address	Parcel Number	Permission to Sample
3 First Parish Lane	046-278-000	Yes
6 Grandpas Road	046-257-000	No Response Previously, New Request to Sample in August or September 2025 mailed on July 16, 2025
8 Snow Fields Road	046-258-000	Yes
23 Meeting House Road	046-259-000	Yes
25 Meeting House Road	046-260-000	No Response Previously, New Request to Sample in August

Property Address	Parcel Number	Permission to Sample
		or September 2025 mailed on July 16, 2025
21 Town Hall Road	046-267-000	No Response Previously, New Request to Sample in August or September 2025 mailed on July 16, 2025
32 Town Hall Rd	050-059-000	Yes
21 Castle Road	050-122-000	Yes
22 Castle Road	050-078-000	Yes
28 Castle Road	050-068-000	No Response Previously, New Request to Sample in August or September 2025 mailed on July 16, 2025
30 Castle Road	050-067-000	Yes
32 Castle Road	050-066-000	Yes
4 Castle Hill Lane	050-226-000	Yes
6 Castle Hill Lane	050-074-000	No Response Previously, New Request to Sample in August or September 2025 mailed on July 16, 2025
1 Bridge Lane	050-075-000	Yes
3 Bridge Lane	050-076-000	Yes
4 Bridge Lane	050-077-000	Yes
6 Bridge Lane	050-083-000	Yes
13 Meeting House Road	050-058-000	Request to sample in August or September 2025 mailed on July 16, 2025
31 Castle Road	050-057-000	Request to sample in August or September 2025 mailed on July 16, 2025
8 Castle Hill Lane	050-073-000	Request to sample in August or September 2025 mailed on July 16, 2025
10 Castle Hill Lane	050-082-000	Request to sample in August or September 2025 mailed on July 16, 2025
12 Slade Hill Lane	050-081-000	Request to sample in August or September 2025 mailed on July 16, 2025

- Between April 28, 2025 and April 30, 2025, and on June 3, 2025 HRP collected one round of drinking water samples from 13 residences as indicated above consistent with the MassDEP Field Sampling Guidelines for PFAS using EPA Method 537 or 537.1, dated June 2021. The samples were submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory for analysis of PFAS by EPA Method 537.1. Residential drinking water analytical

data are summarized in **Table 2**. Laboratory reports are included in **Appendix C**. Notices of Environmental sampling are included in **Appendix D** .

- As indicated on **Table 2**, PFAS was detected at 3 Bridge Lane above the laboratory reporting limit but below the applicable Method 1 standards. This property borders the Pamet River. The resident with the detection was subsequently contacted by the Town of Truro Health Department and provided with bottled water. The other tested residences did not have PFAS detections above the laboratory reporting limit. Residential drinking water analytical data are summarized in **Table 2**. Laboratory reports are included in **Appendix C**. Notices of Environmental sampling are included in **Appendix D** .

- On June 18, 2025, H_2O Care installed POET systems at 30 Town Hall Road and 3 Bridge Lane as an Active Exposure Pathway Mitigation Measure. Refer to **Appendix E** for additional details on the POET system. H2O Care collected drinking water samples from the operating POET systems at 30 Town Hall Road at 3 Bridge Lane upon installation for laboratory analysis of PFAS by EPA Method 537.1. Residential drinking water analytical data are summarized in **Table 2**. Laboratory reports are included in **Appendix C**. Notices of Environmental sampling are included in **Appendix D** .

- As indicated on **Table 3**, HRP calculated groundwater elevations based on the survey details provided by Alpha Survey Group (**Appendix B**). HRP used this information to estimate groundwater flow direction at the Site. As indicated on **Figure 4** and **Figure 6**, groundwater at the Site is estimated to flow to the southwest.

- Between May 19, 2025, and May 21, 2025, HRP collected groundwater samples from monitoring wells MW-1 through MW-13, MW-11m, and MW-11d. Prior to sample collection, HRP purged five well volumes from each of the wells and collected groundwater samples using a PFAS-free submersible pump and low-flow sampling techniques. The samples were kept cold on ice and submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory for analysis of PFAS by EPA Method 1633. Groundwater analytical data are summarized in **Table 1** and laboratory reports are included in **Appendix C**.

- Between May 28, 2025, and June 11, 2025, HRP directed Redox Tech, LLC to install monitoring wells MW-9m, MW-9d, MW-12m, MW-12d, MW-13m, MW-14s, MW-14m, and MW-14d using a rotosonic drilling rig. The borings for the wells were advanced to depths between 60 and 159 feet bsg. Groundwater was encountered at depths between approximately 36 and 122 feet below grade. The monitoring well locations are indicated on **Figure 6**.

  All wells were constructed of 2-inch diameter thread-coupled PVC materials. Monitoring well MW-14s was constructed with a 10-foot length of slotted well screen intersecting the water table observed at the time of installation. Wells MW-9m, MW-9d, MW-12m, MW-12d, MW-13m, MW-14m, and MW-14d were constructed with 5-foot screen lengths. PVC riser was extended to surface grade. Sand was added to at least two feet above the well screen, followed by two feet of bentonite. The remaining annular space around the well casings above the bentonite was filled with grout. Wells MW-9m and MW-9d were completed with aboveground protective casings, while the other wells were completed with flush mount road

boxes. The monitoring wells were developed after installation and were allowed to equilibrate for a minimum of a week before sampling. Boring logs and monitoring well construction logs are included in **Appendix A**.

- Between June 12, 2025 and June 19, 2025, HRP collected groundwater samples from monitoring wells MW-3, MW-9, MW-9m, MW-9d, MW-12m, MW-12d, MW-13m, MW-14s, MW-14m, and MW-14d. Prior to sample collection, HRP purged five well volumes from each of the wells and collected groundwater samples using a PFAS-free submersible pump and low-flow sampling techniques. The samples were kept cold on ice and submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory for analysis of PFAS by EPA Method 1633. Groundwater analytical data are summarized in **Table 1** and laboratory reports are included in **Appendix C**.

- On June 24, 2025 HRP collected the first quarterly POET system PFAS monitoring at 25 Castle Road. The testing identified PFAS in untreated raw water above the laboratory reporting limit. PFAS was not detected above the laboratory reporting limits after T1, T2, T3, the T1 duplicate sample, or in the field blank. The laboratory data confirms that the POET system is effectively removing PFAS to undetectable levels before leaving T1. POET analytical data is summarized in **Table 6**, laboratory reports are included in **Appendix B**, and POET system details including sample points are included in **Appendix E**.

- Between June 17, 2025 and July 10, 2025, HRP collected groundwater samples from MW-3, MW-9, MW-9m, MW-9d, MW-14s, MW-14m, MW-14d for general field and laboratory water quality parameters. Groundwater analytical data are summarized in **Table 4** and laboratory reports are included in **Appendix C**.

4.2 Soil Boring Investigation

As indicated above, HRP initially reported the detection of PFAS in soil above the applicable Reportable Concentration to the MassDEP as a 120-day release notification. MassDEP subsequently issued RTN 4-0050798 in response to the notification. MassDEP subsequently closed the RTN and requested HRP to include details on the ongoing assessment of PFAS in soil as part of the IRA associated with RTN 4-0050777. Details concerning the soil boring investigations conducted at the Site to date are set forth below.

- As indicated on **Figure 7**, 47 soil borings were advanced to delineate the vertical and horizontal extent of PFAS impacts in soil. The soil borings were advanced using a combination of direct push, hollow stem auger, and rotosonic drilling techniques. Soil boring logs for all locations will be included in a future IRA status report.

- A total of 67 soil samples were collected from the 47 soil borings. The soil samples were kept cold on ice and/or frozen and submitted under chain-of-custody procedures to Alpha Analytical, a Pace Laboratory for analysis of PFAS by EPA Method 1633. Soil analytical data is summarized in **Table 5** and laboratory reports are included in **Appendix C**.

- As indicated on **Figure 8**, the vertical and horizontal extent of PFAS in soil have been delineated to the northeastern corner of the Site.

4.3 Hydrogeologic Investigation

To determine the hydrogeological characteristics at the Site, HRP calculated the hydraulic gradient and completed a series of drawdown tests to determine hydraulic conductivity and groundwater velocity. Details of the hydrogeological investigation are set forth below.

Hydraulic Gradient

As indicated above, Alpha Survey Group surveyed the locations and elevations of monitoring wells located at the Site. HRP collected depth to groundwater readings on March 10, 2025 from the 2-inch diameter monitoring wells. In general, groundwater at the Site flows to the southwest toward the Pamet River as indicated on **Figure 4**. Groundwater elevations, measured by HRP throughout the project are also included in **Table 3**. Based upon the groundwater elevations, the estimated hydraulic gradient is set forth below.

Upgradient Well	Downgradient Well	Groundwater Elevation Change (Feet)	Distance Between Wells (Feet)	Hydraulic Gradient (Feet/Foot)
MW-2	MW-10	0.10	357	0.0003
MW-5	MW-10	0.21	434	0.0005
MW-5	MW-4	0.16	273	0.0006
MW-9	MW-11s	0.55	776	0.0007
MW-9	MW-12	0.57	862	0.0007
MW-10	MW-11s	0.42	515	0.0008
MW-10	MW-12	0.44	655	0.0007
MW-8	MW-12	0.64	919	0.0007
MW-2	MW-11s	0.52	869	0.0006
MW-2	MW-12	0.54	1,006	0.0005
MW-2	MW-13	0.39	862	0.0005
			Average:	**0.0006**

The hydraulic gradients calculated for the Site are relatively low (flat). To determine the hydraulic conductivity, HRP completed a series of drawdown pumping tests using methods outlined by Robbins et al (2009).[1] HRP used a submersible pump paired with a pressure transducer to monitor drawdown at 0.5-second intervals with a resolution of 0.01-foot. The volumetric discharge from the pump was estimated by timing fill rates of graduated 5-gallon buckets. The tests were conducted over durations ranging between approximately 15 and 50 minutes at estimated pumping rates ranging between approximately 1.2 and 2.0 gallons per minute (gpm). Between 30 and 65 gallons of groundwater were withdrawn during each test. **Appendix F** provides the worksheets that include the data and formulas used to calculate hydraulic conductivity. Details from the pumping tests are discussed below.

[1] Robbins, G., Aragon-Jose, A., and Romero A. (2009), "Determining Hydraulic Conductivity Using Pumping Data from Low-Flow Sampling," Ground Water, Vol. 47, No. 2.

Groundwater velocity at the Site is estimated by the following equation:

$$V = Ki/\phi$$

V = Linear Flow Velocity (feet/day)
K = Hydraulic Conductivity (feet/day)
i = Hydraulic Gradient (vertical feet/ horizontal foot)
ϕ = Formation porosity (dimensionless)

Geologic materials at the Site and surrounding area dominantly consist of medium to coarse sand. According to Freeze and Cherry (1979) [2], the hydraulic conductivity of sandy soils ranges from $5x10^{-5}$ to $1x10^{-2}$ (0.00005 to 0.01) meters per second, or approximately 14 feet per day to 2,800 feet per day. The effective porosity is assumed to be 33 percent (25-50 percent, Freeze and Cherry, 1979).

The pumping test results are summarized below and include hydraulic gradient information for the Site.

Parameter/Units	MW-1	MW-3	MW-9	MW-11s	MW-11m	Averages
Well Depth (feet bTOC)	125	124	127.2	45	60	--
Screen Depth (feet bTOC)	115 - 125	114 - 124	117.2 - 127.2	35 - 45	55 - 60	--
Screen Placement	Water Table	Water Table	Water Table	Water Table	Below Water Table	--
Depth to Water (feet bTOC)	117.32	117.5	118.93	35.7	36.83	--
Pumping Rate (gallons/min)	1.78	1.69	2.06	1.22	2.00	--
Pumping Interval Duration (minutes)	37	39	15	53	30	--
Pumped Volume (gallons)	65	65	30	65	60	--
Drawdown (feet)	0.16	0.06	0.07	0.07	0.04	--
Hydraulic Conductivity (K, ft/day)	144	379	342	200	1,299	**473**
K (m/sec)	5.E-04	1.E-03	1.E-03	7.E-04	5.E-03	2.E-03
Hydraulic Gradient (i) (ft/foot)	0.0003	0.0003	0.0007	0.0008	0.0008	0.0006

[2] Freeze, F. and Cherry, J. (1979) *Groundwater*, Prentice-Hall, Inc., 604 p.

Parameter/Units	MW-1	MW-3	MW-9	MW-11s	MW-11m	Averages
Porosity (ϕ) (dimensionless)	0.33	0.33	0.33	0.33	0.33	0.33
Linear Velocity (V, ft/day)	0.13	0.34	0.73	0.48	3.15	0.97
Linear Velocity (V, ft/year)	47.78	125.76	264.79	176.97	1,149	**353**

feet bTOC = feet below top of well casing

Geologic materials at the Site appear to be highly permeable and transmissive, but the low hydraulic gradient moderates the overall flow velocity. The results show that the estimated hydraulic conductivity values from the aquifer testing are consistent with the expected literature values. The average hydraulic conductivity for aquifer materials at the water table (MW-1, MW-3, MW-9, and MW-11s) was approximately 265 feet per day. Calculated linear groundwater flow velocities range between approximately 50 and 175 feet per year at the water table with an average velocity of approximately 120 feet per year. The water supply wells in the vicinity of the Site appear to be screened across the water table.

The pumping test results suggest that groundwater at deeper levels below the expected water supply well intake depths may flow substantially faster. The estimated hydraulic conductivities for deeper parts of the aquifer approximately 25 feet below the water table were almost five times higher than at the depth of the water table. The results obtained for MW-11m indicated a velocity of almost 1,300 feet per year. Nonetheless, the higher velocity at depth indicated by the result for MW-11m is significant and will be further evaluated in subsequent pump tests. Averaging all of the available data yields a linear flow velocity of approximately 350 feet per year.

Consistent with 310 CMR 40.0006, a groundwater velocity exceeding 200 feet per year is a condition of substantial release migration. The condition of Substantial Release Migration was included in the Release Notification Form submitted to the MassDEP and has been discussed in previous reports submitted to the MassDEP.

5.0 IRA EVALUATION AND NEED FOR IRA

Pursuant to 40.0424 (d), the evaluation of potential applicable IRA conditions (Substantial Release Migration, Critical Exposure Pathway, and Imminent Hazard) and the need for an IRA is set forth below.

5.1 Substantial Release Migration

The Site is in a mapped medium yield productive aquifer. Geologic materials in the aquifer consist of medium to coarse sand with a reported typical hydraulic conductivity of approximately 125 feet/day[3]. PFAS are generally mobile in saturated strata. Therefore, HRP believes that hydrogeologic conditions at the Site have the potential to facilitate advective migration of more than 200 feet per year. Consequently, a condition of Substantial Release Migration exists at the Site as defined by 310 CMR 40.0006.

5.2 Critical Exposure Pathway

Pursuant to 310 CMR 40.0006, a Critical Exposure Pathway (CEP) is defined as "those routes by which oil and/or hazardous material(s) released at a disposal site are transported, or are likely to be transported, to human receptors via: (a) vapor-phase emissions of measurable concentrations of oil and/or hazardous materials into the living or working space of a preschool, daycare, school or occupied residential dwelling; or (b) ingestion, dermal absorption or inhalation of measurable concentrations of oil and/or hazardous materials from drinking water supply wells located at and servicing a preschool, daycare, school or occupied residential dwelling."

PFAS has been detected in groundwater samples from the Site above the Method 1 Standard and PFAS has been identified in four residential drinking water samples (28 Town Hall Road, 30 Town Hall Road, 25 Castle Road, and 3 Bridge Lane) collected down-gradient of the Site at concentrations both exceeding and less than the applicable Method 1 Standard. Therefore, an apparent CEP exists in connection with the Site.

PFAS has been identified in a sample collected from the public water supply well 4300041 that serves the DPW facility and the Town Hall complex. However, the drinking water well is not associated with a preschool, daycare, school or occupied residential dwelling. Therefore, a Critical Exposure Pathway is not present in relation to this well. HRP notes that drinking water from this well currently meets regulatory standards.

The Town of Truro has requested access to test drinking water wells for the potential presence of PFAS at all properties located within 500 feet of the Site and additional properties located 500 feet downgradient of the PFAS detection as indicated on **Figure 5**. Should PFAS from the Site be detected in these wells above the laboratory reporting limit, the Town of Truro will provide bottled water and/or installation of a POET System to mitigate or eliminate the CEP pursuant to 310 CMR 40.0414.

The Town of Truro will continue to sample private wells based on analytical data and groundwater flow direction until PFAS is not detected above the laboratory reporting limit. If PFAS from the Site

[3] "*Investigation of Effects of Ground Water Withdrawals from the Pamet and Chequesset Aquifers, Cape Cod National Seashore*," National Park Service, Water Resources Division, Technical Report NPS/NRWRD/NRTR-93/14, February 1993

is detected in the private wells, the residences will also be provided with bottled water and/or installation of a POET System to mitigate or eliminate the CEP pursuant to 310 CMR 40.0414. The Town of Truro will work with resident(s) to determine an appropriate quantity of bottled water to provide per month until a more permanent solution such as a POET System is installed.

As indicated above, all four of the residents identified so far with a PFAS detection have been provided with bottled water and a POET system has been installed at three locations (25 Castle Road, 30 Town Hall Road, and 3 Bridge Lane) as an Active Exposure Pathway Mitigation Measure to eliminate a CEP. A POET system is currently being installed at 28 Town Hall Road and installation details will be included in a future IRA submittal.

Analytical results for drinking water samples collected after the POET system was installed (25 Castle Road, and 3 Bridge Lane) showed PFAS had been removed to below the laboratory detection limit (**Appendix C**). Data from the other recently installed system at 30 Town Hall Road is pending. Bottled water is still being provided to all four residences with PFAS detections until at least one quarter of analytical testing from all three POET system sample ports (Tank 1, Tank 2, and Tank 3) have no PFAS detections.

The first quarter of POET testing at 25 Castle Road identified PFAS above the laboratory reporting limit in the untreated raw water. PFAS was not detected above the laboratory reporting limit after T1, T2, T3 or in the field blank or T1 duplicate sample. POET analytical data are summarized in **Table 6**, laboratory reports are included in **Appendix C**, and POET system details including sample port locations are included in **Appendix E.**

5.3 Imminent Hazard Evaluation

HRP believes that available information about Site conditions does not indicate the presence of an existing or potential imminent hazard as defined by 310 CMR 40.0006.

5.4 Need for Immediate Response Action

HRP believes that the IRA is necessary at the Site because pursuant to 310 CMR 40.0412(2), a 72-hour release condition was identified at the Site. Specifically, the reportable conditions include OHM in groundwater exceeding RCGW-1 criteria at a location likely to be within 500 feet of an existing private water supply well (310 CMR 40.0313(3)(b)); and also, a Substantial Release Migration condition exists at the Site (310 CMR 40.0313(4)).

6.0 CONTINUED IRA ACTIVITIES

Pursuant to 310 CMR 40.0424 (e), the objective(s), Specific plan(s) and proposed schedule for the Immediate Response Action, including, as appropriate, plans and/or sketches of the site and any proposed investigative and/or remedial installations are set forth below.

The objective of future IRA activities is to assess whether PFAS detected in groundwater at 17 Town Hall Road is migrating off-Site towards private residences and implement appropriate mitigation or remedial actions. To determine this, future IRA activities will include the installation of additional monitoring well(s) off-Site, sampling of select monitoring wells, and the sampling of select residential drinking water wells. All drinking water samples will be analyzed by PFAS via EPA Method 537.1. Soil and groundwater samples will be analyzed for PFAS via EPA Method 1633.

Should PFAS from the Site be detected in private drinking water wells above the laboratory reporting limit, the Town of Truro will provide bottled water and/or installation of a POET System to mitigate or eliminate the CEP pursuant to 310 CMR 40.0414. As indicated above, the Town of Truro will continue to sample private wells based on analytical data and groundwater flow direction until PFAS is not detected above the laboratory reporting limit. These additional locations will also be provided with bottled water and/or installation of a POET System to mitigate or eliminate the CEP pursuant to 310 CMR 40.0414. The Town of Truro will work with resident(s) to determine an appropriate quantity of bottled water to provide per month until a more permanent solution such as a POET System is installed.

As indicated on **Figure 8**, the vertical and horizontal extent of PFAS in soil have been delineated to the northeastern corner of the Site. The PFAS detected in soil is believed to be from the historical placement of fill material in the northeastern portion of the Site, behind the current DPW office building as indicated on **Figure 2**. Fill material in this area is believed to have included street sweeping and catch basin sediments collected throughout the Town of Truro that were placed in the northwestern corner of the Site between 1995 and 2000. The DPW also repairs and maintains Town fire trucks but does not have any records suggesting that aqueous film forming foam (AFFF) from the trucks was discharged at the Site. Nevertheless, it is possible that the PFAS detections could also be related to DPW staff maintaining fire trucks if maintenance required draining AFFF holding tanks for welding repairs or other necessary repairs.

As indicated on **Figure 9**, the presence of PFAS has been delineated vertically and horizontally in groundwater. Considering that PFAS was not detected in significant concentrations in groundwater upgradient to the Site, the source of the PFAS in groundwater is presumed to be related to PFAS detections in soil at the Site (**Figure 8**). PFAS in groundwater in proximity to MW-3 appears to migrate approximately 20 feet vertically as it travels 100 feet horizontally in a westerly direction from MW-3 to MW-9m. The vertical migration may be related to a gravel seam encountered between 128 feet and 138 feet below grade at the adjacent MW-9d location. The vertical migration in such a short distance is significant and will be further evaluated in future pump tests. A photograph of the soil recovered from the boring for MW-9d containing the gravel seam is shown below.



HRP is proposing to modify the existing IRA to include installation of a permeable reactive barrier (PRB) to contain impacted groundwater and reduce PFAS concentrations downgradient of the Site, paired with a source-area impermeable cap to reduce ongoing inputs of PFAS to groundwater due to infiltration and leaching from impacted soil. Details on the two additional IRA activities are included below.

6.1 Permeable Reactive Barrier

The primary source of PFAS discharge to groundwater at the Site appears to be an area of soil impacts located in the northeastern corner of the property, as indicated on **Figure 8**. This is also evident by the highest PFAS detection in groundwater located at MW-3, approximately 125 feet downgradient of the soil impacts area.

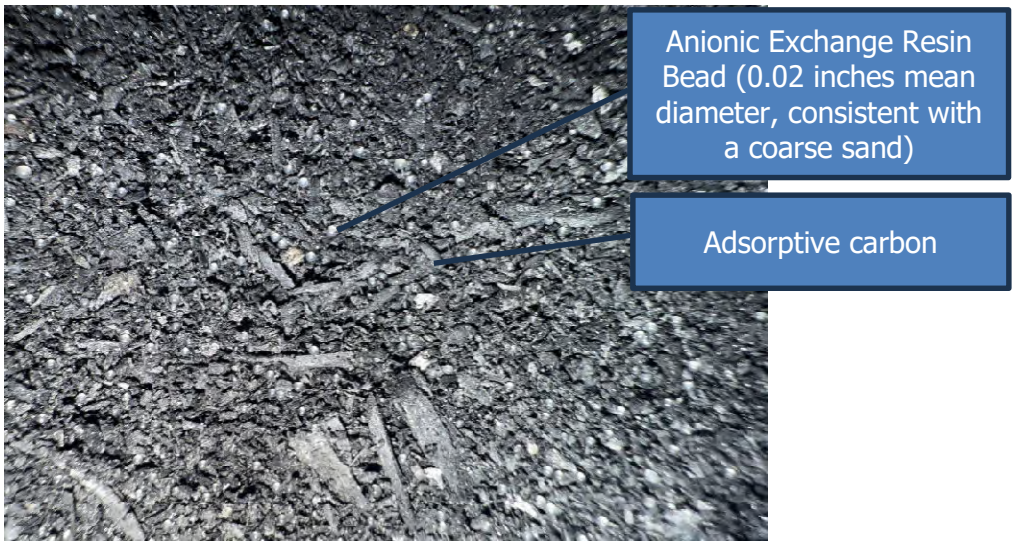
To prevent the further migration of PFAS impacted groundwater off-site, HRP is proposing to install a PRB to intercept impacted groundwater as it leaves the Site. A conceptual plan of the full scale PRB (subject to change based on the results of the pilot study) is indicated on **Figure 11**.

The PRB will be constructed by injecting a product known as DualSorb consisting of adsorptive carbon sourced from coconut shells, pecan shells, and softwood and a potable water-grade anionic exchange resin (Purolite, **Appendix H**). The DualSorb will include approximately 80 percent adsorptive carbon and 20 percent anionic exchange resin. Because PFAS can desorb from adsorptive carbon under certain groundwater conditions, any PFAS that may desorb from the carbon will be exchanged and absorbed by the anionic exchange resin. PFAS that is absorbed by the anionic exchange resin will not desorb under naturally occurring groundwater conditions. A strong base such as sodium hydroxide is needed to release PFAS from the anionic exchange resin. The anionic exchange resin is ultimately responsible for all immobilization of PFAS and the carbon is helpful for slowing down PFAS and removing other organics from the groundwater. A bench-scale demonstration (**Appendix G**) of the proposed DualSorb[4] PRB product using groundwater collected from MW-3 showed that all Method 1633 PFAS analytes were sorbed from the groundwater resulting in no detection of PFAS above the laboratory reporting limit.

[4] Water quality sample created by placing 1 liter of dry DualSorb in 4 liters of water, thoroughly shaking, and then decanting the water for laboratory analysis. This 1:4 ratio is consistent with what will be injected in each of the five pilot test injection locations (200 gallons of DualSorb [1 cubic yard] in 800 gallons of water).

Additionally, the product does not swell and is unlikely to decrease the hydraulic conductivity of the aquifer. Refer to **Table 4** for general water quality parameters of the DualSorb and from monitoring wells in proximity to the proposed PRB pilot location (**Figure 10**). According to information provided by Redox Tech, a company specializing in designing and installing PRBs, and included in **Appendix H**, DualSorb does not contain any persistent, bio-accumulative, or toxic ingredients that could enter the environment upon injection.

DualSorb is injected into the subsurface using only PFAS free water as a carrier. The varying relatively large particle size (silt to coarse sand) makes it unlikely to migrate significantly with groundwater flow. A photograph of DualSorb is shown below.



The PRB will be installed before the construction of the source area cap detailed in **Section 6.2**.

6.1.1 PRB PFAS Mass Retention Capacity

To evaluate the potential lifespan of the DualSorb PRB at the Site, HRP calculated the holding capacity of the anionic exchange resin which is approximately 0.7 equivalents per liter (Eq/L). We recognize that PFAS is composed of many compounds, so we will focus on the PFAS compounds detected in MW-3, which is representative of the source area. The nine PFAS detected in the this well along with the associated molecular weights and resin holding capacity are indicated below.

PFAS Analyte	Molecular Weight[1] (grams/mole)	Holding capacity[2] (grams/liter)
Perfluorobutanoic acid (PFBA)	213	149
Perfluoropentanoic acid (PFPeA)	263	184
Perfluorohexanoic acid (pFHxA)	313	219
Perfluoroheptanoic acid (PFHpA)	363	254
Holding Perfluorooctanoic acid (PFOA)	414	299
Perfluorobutanesulfonic acid (PFBS)	299	209
Perfluoropentanesulfonic acid (PFPeS)	350	245

PFAS Analyte	Molecular Weight[1] (grams/mole)	Holding capacity[2] (grams/liter)
Perfluorohexanesulfonic acid (PFHxS)	400	280
Perfluorooctanesulfonic acid (PFOS)	500	350
Average		243

1. Molecular weight obtained from EPA CompTox Chemical Dashboard
2. Holding compacity is calculated by multiplying molecular weight by Purolite equivalents (0.7 Eq/L)

For the proposed full-scale PRB implementation, we are proposing to inject DualSorb with a pre-design total volume of 38,000 liters (dry) of an anionic exchange resin (or approximately 45 tons of DualSorb product). Assuming an average PFAS analyte holding capacity of 243 grams, the injected anionic exchange resin can theoretically hold approximately 9,234 kilograms of PFAS analytes:

243 g PFAS/ liter of DualSorb x 0.001 kg/g x 38,000 liters = 9,234 kg PFAS retention capacity

To estimate the mass of PFAS analytes that may be leaching from the aquifer on a continuous basis (assuming a steady state), we calculate the volume of water that is available and multiply that by the porosity and concentration of total PFAS in groundwater. Total PFAS is the sum of all detected PFAS analytes in the source area (represented here by groundwater samples from MW-3). The concentration of PFAS in groundwater is assumed to be in equilibrium with PFAS in soil.

Although the calculation is relatively unsophisticated, the underlying assumptions are conservative and likely overestimate the mass of PFAS. Consequently, the calculation provides a useful approximation of the useful life of the DualSorb. The calculation is shown below.

- Aquifer Area: 86,000 square feet (extent of the DPW area with PFAS detections in groundwater)
- Impacted saturated thickness: 20 feet (estimated maximum thickness of plume in source area.
- Porosity: 0.33 (dimensionless, the fraction of void or pore space in soil that can hold water compared to total volume)
- Total PFAS (highest detection): 0.35 µg/L, equivalent to $3.5e^{-7}$ g/L

$$86{,}000\ ft^2 \times 20\ ft \times 0.33 \times 3.5e^{-7} g/l \times 28.317\ liters/ft^3 = 56\ g$$

Therefore, under steady state conditions, groundwater underlying the impacted areas of the Site (one pore volume) is estimated to contain 56 grams of total PFAS at any given time. As groundwater flows onto the Site, PFAS will desorb from the soil into groundwater, gradually reducing the amount of available PFAS.

Groundwater containing PFAS will migrate downgradient with advective flow. Groundwater in this area is conservatively moving at approximately one foot per day (an overestimate; refer to section 4.3 for more information). Groundwater at the Site flows along an approximately 300-foot-long path from the source area in the northeast corner of the Site to the western property line. Therefore, HRP estimates that the Site groundwater volume will be replaced every 300 days on average, or stated another way, 1.2 pore volumes will migrate through the Site per year (365 days divided by 300 days per pore volume equals 1.2 pore volumes) containing 68 grams of PFAS. That groundwater will flow through the proposed full-scale PRB at the Site before exiting the Site (see **Figure 11**).

The proposed anionic exchange resin in the DualSorb PRB columns can absorb PFAS mass that is several orders of magnitude greater than is present in Site groundwater. As presented above, each dry liter of anionic exchange resin in the PRB can theoretically bind 243 grams of PFAS. Based on the amount of anionic exchange resin contained in one PRB column (160 liters), each PRB column can retain approximately 38,000 grams of PFAS. There are likely other compounds in the groundwater that will reduce the capacity of the anionic exchange resin, but redundant curtains of PRB columns (see **Figure 11**) and applying a contamination reduction multiplier of 0.1 are proposed to account for this effect. Therefore, we conservatively estimate the PRB to effectively endure for at least fifty years. The actual lifespan of the PRB will be determined through monitoring and mass flux modeling. Additional details on the DualSorb product are included in **Appendix H**.

6.1.2 PRB Pilot Test

To determine the field effectiveness of the DualSorb as the PRB material, HRP will partner with Redox Tech to complete a pilot study at the Site. The pilot test will be conducted using five injection points in the vicinity of MW-3. Two injection points will be installed adjacent to MW-3 and three injection points will be installed downgradient of MW-3 as indicated on **Figure 10**. The pilot study will include the injection of one cubic yard of DualSorb dispersed in 800 gallons of potable water into each of the five proposed injections points (total of 5 cubic yards and 4,000 gallons of PFAS free water). The DualSorb product will be injected from approximately 3 feet above groundwater to 12 feet below the water table (15 vertical feet total), or approximately between 115 feet and 130 feet below surface grade (bsg). The injection radius of influence (ROI) is anticipated to be approximately 10 to 15 feet horizontally from the injection point.

Monitoring well cluster MW-14 (**Figure 9**) was installed in June 2025 approximately 25 feet downgradient of MW-3 to monitor the effectiveness and potential water quality impacts in proximity to the pilot-scale the injection. Water quality will also be evaluated at additional monitoring wells located downgradient and cross-gradient of the injection points. The following table identifies the proposed monitoring points for the pilot test.

Monitoring Well ID	Approximate Distance from PRB (feet)	General Hydrogeological Relationship to PRB Pilot	Screen or Injection Length (feet)	Screen or Injection Interval Elevation (feet above MSL)	Groundwater Elevation (feet above MSL; June 2025)
PRB Columns	0	Not Applicable	15	7.1 to -7.9	4.06
MW-1	200	Up Gradient, East	10	6.0 to -4.0	3.84
MW-3	0	Within PRB	10	6.2 to -3.8	4.06
MW-2	200	Cross Gradient, Southeast	10	8.8 to -1.2	3.81
MW-7	130	Cross Gradient, North	10	7.2 to -2.8	3.96

Monitoring Well ID	Approximate Distance from PRB (feet)	General Hydrogeological Relationship to PRB Pilot	Screen or Injection Length (feet)	Screen or Injection Interval Elevation (feet above MSL)	Groundwater Elevation (feet above MSL; June 2025)
MW-14s	25	Down Gradient, West	10	6.0 to -4.0	3.97
MW-14m	25	Down Gradient, West	5	-14.0 to -19.0	3.99
MW-14d	25	Down Gradient, West	5	-29.2 to -34.2	3.47
MW-9	130	Down Gradient, West	10	5.6 to -4.4	3.83
MW-9m	130	Down Gradient, West	5	-10.4 to -15.4	3.86
MW-9d	130	Down Gradient, West	5	-24.0 to -29.0	3.96

The monitoring well screened depths are located at and below the target injection depth of the DualSorb PRB product. Impacts to groundwater quality from the pilot test injections are expected to be apparent at MW-3 almost immediately. Impacts at the MW-14 well cluster should be apparent within approximately two weeks after injection.

Based on the average calculated groundwater velocity (350 feet/year) and the closest residential well receptor (280 feet away) from the PRB pilot test monitoring well cluster (MW-14s, m, d), the Town of Truro would have approximately nine months to conduct response actions to address potential water quality issues should any arise as a result of the PRB pilot test.

6.1.3 PRB Pilot Monitoring Program

To document the effectiveness of the PRB pilot injection, HRP will evaluate groundwater samples for the following parameters using a combination of field testing and laboratory analyses of the following parameters.

Temperature
Dissolved Oxygen
Specific Conductance
Turbidity
Oxidation Reduction Potential
pH

Ferric Iron
Ferrous Iron (Total and Dissolved)
Iron (Total and Dissolved)
Manganese (Total and Dissolved)
Organic Carbon (Total and Dissolved)
Heterotrophic Plate Count
PFAS by EPA Method 1633

- HRP will collect groundwater samples from monitoring wells MW-3, MW-4, MW-9, MW-9m, MW-9d, MW-14s, MW-14m, and MW-14d approximately two days before the pilot injections to establish baseline conditions. HRP also will conduct hydraulic conductivity testing (pumping tests) at these wells.

- After the DualSorb pilot injections, HRP will collect groundwater quality samples from the pilot test monitoring well network on approximately days 10, 15, 30, and 60 days to document PFAS reduction and changes to water quality. Aquifer testing will be repeated on approximately 30 days and 60 days post-injection to document potential changes in hydraulic conductivity, if any.

- A soil boring will be performed in the pilot injection area to observe the effective dispersion of the DualSorb material in the subsurface and document the injection ROI. The borehole will be backfilled with DualSorb in the treatment target depth.

Given the prosed target depths of the injections (greater than 100 feet below grade), HRP does not expect any impact or erosion to the ground surface or surface breakout of the DualSorb product except for potentially small amounts of injection borehole returns. Additionally, considering the relatively large particle size of the DualSorb product, HRP does not expect significant migration of the product in the subsurface (i.e., beyond injection ROI).

HRP plans to begin the pilot study injections (**Figure 10**) during the summer of 2025 after receiving approval from MassDEP.

In the extremely unlikely event PRB media injections cause or will potentially impact downgradient groundwater availability or quality above Massachusetts maximum concentration levels (MMCLs) or secondary maximum concentration levels (SMCLs), the Town of Truro is prepared to provide the following measures to provide safe and adequate drinking water to impacted residents:

- Install additional monitoring wells to track migration;
- Provide temporary bottled drinking water;
- Install or modify POET system(s); or
- Install replacement drinking water well(s) to a deeper elevation within the aquifer.

The closest residential water supply well is located approximately 250 feet from the pilot test injection location. As noted in section 6.1.2, The monitoring locations and physical and analytical testing associated with the PRB pilot test are anticipated to provide ample warning of potential negative impacts to groundwater quality.

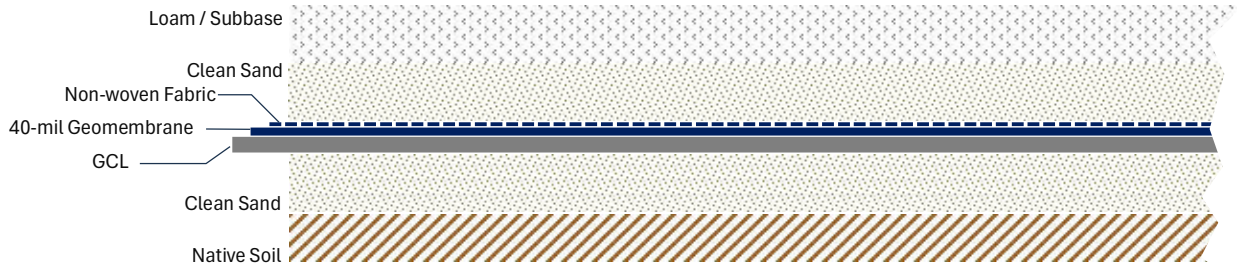
Assuming favorable results from the pilot study, the injection performance and post-injection monitoring data will be used to design a full scale PRB planned for installation in the winter of 2025 or spring of 2026. Design details will be based on the results of the pilot test and will be included in a future IRA Status report submitted prior to the full-scale installation. HRP will coordinate with MassDEP prior to conducting the full-scale installation.

6.2 Soil Cap

HRP proposes to install a soil cap, at a minimum, over the area of PFAS in soil above the applicable Method 1 soil standard as indicated on **Figure 8**. The proposed cap will reduce infiltration in this area to mitigate impacts to groundwater. In general, the proposed cap will be constructed as follows from bottom to top:

- Clean sand free of debris
- Geosynthetic clay liner (GCL) geotextile sheets
- 40-mil seam-welded geomembrane liner
- Non-woven fabric
- Clean sand free of debris
- Loam and seed and/or appropriate subbase for a building or parking area

The cap components are illustrated below.



Prior to constructing the cap, a sample of each of the construction materials detailed above will be collected from the applicable material's manufacturing lot or soil borrow area for PFAS testing by EPA method 1633. Only materials with no PFAS detected above the laboratory reporting limit (2 ng/L for SPLP testing or 0.3 µg/kg for soil) will be used. Samples will be collected prior to construction from material lots or borrow materials that have been put aside pending testing to ensure that the laboratory results are representative of the materials used on-site.

All monitoring wells located within the cap areas will be retained. A conceptual plan (subject to change) showing the approximate location of the proposed cap in relation to the proposed PRB is included as **Figure 8**. Information documenting materials anticipated to be used in the cap construction is contained in **Appendix H.** The cap design will be included in a future IRA status report prior to construction. HRP will coordinate with MassDEP prior to conducting the cap installation.

7.0 MANAGEMENT OF REMEDIAL WASTE

Pursuant to 310 CMR 40.0424 (f), a statement as to whether Remediation Waste will be excavated, collected stored, treated or re-used at the Site is set forth below.

No remediation waste was generated as part of the completed IRA activities. Soil from drill cuttings was used to grade the surface area around the wells. Purge water from well development and groundwater sampling was discharged to the ground surface adjacent to the point of origin in accordance with the MCP.

8.0 ENVIRONMENTAL MONITORING PLAN

Pursuant to 310 CMR 40.0424 (g), when appropriate, a proposed environmental monitoring plan, for implementation during and/or after the IRA.

HRP will continue to investigate and delineate the extent of PFAS in soil, groundwater and drinking water. In general, the following tasks will be completed as part of the Environmental Monitoring Plan:

- IRA status reports will be prepared and submitted every four months to the MassDEP as stipulated in prior departmental approvals of response actions for RTN 4-50777. At this time, HRP anticipated submitting status reports in September, December, March, and June pending submittal of a permanent solution or appropriate MCP phase status reports.
- Additional soil borings and/or monitoring wells will be installed to determine the vertical and horizontal extent of PFAS. Soil and groundwater samples will be analyzed for PFAS via EPA Method 1633.
- HRP will monitor groundwater elevations and collect groundwater samples for PFAS analysis, as necessary.
- HRP will collect drinking water samples for PFAS analysis via EPA Method 537.1 initially from the properties as indicated on **Figure 5**. Additional residences may be added until PFAS is not detected above the laboratory reporting limit. Drinking water samples will be analyzed in duplicate and field blanks will be collected. Field blanks will only be analyzed when PFAS is detected above the laboratory reporting limit in a sample.
- As indicated above, the Town of Truro will continue to sample private wells based on analytical data and groundwater flow direction until PFAS is not detected above the laboratory reporting limit. Should PFAS from the Site be detected in private drinking water wells above the laboratory reporting limit, the Town of Truro will provide bottled water and/or arrange for installation of a POET system to mitigate or eliminate the CEP pursuant to 310 CMR 40.0414. The Town of Truro will work with resident(s) to determine an appropriate quantity of bottled water to provide per month.
- Bottled water will be provided to residences with PFAS detections until at least one quarter of analytical testing from all three POET system sample ports (Tank 1, Tank 2, and Tank 3, **Appendix E**) have no PFAS detections. Quarterly sampling for PFAS will be conducted after each media tank for a minimum of one year before determining if less frequent sampling is needed. At a minimum, POET systems will be inspected and serviced annually by H_2O Care. Spent tanks will be disposed of at an appropriate facility by H_2O Care.
- A pilot test will be completed at the Site to determine if the installation of a PRB will reduce the migration of PFAS in groundwater towards residential drinking water wells. PRB pilot monitoring will be completed consistent with the details proved in **Section 6.1** and **Section 6.1**.
- Assuming the pilot is successful, the PRB will be designed and installed. Design details will be included in a future IRA status report. Groundwater samples will be collected analyzed for PFAS from select wells to document the performance and effectiveness of the PRB.

- A soil cap will be designed and installed to reduce the infiltration of PFAS from soil into groundwater. Design details will be included in a future IRA status report. Groundwater monitoring from select wells will be completed to document the effectiveness of the cap. Refer to **Section 6.2** for additional information.
- Hydraulic conductivity testing will be completed on select wells to document no significant change in groundwater flow velocity before and after the PRB pilot test and full scale PRB installation.

If additional assessments or mitigation activities are warranted by the data developed during performance of this IRA, appropriate response actions will be included in an IRA Plan Modification.

9.0 FEDERAL, STATE OR LOCAL PERMITS

Pursuant to 310 CMR 40.0424 (h), a listing of federal, state or local permits that will likely be needed to conduct the Immediate Response Action is set forth below.

No Federal, state or local permits were needed to conduct the Immediate Response Action at the Site and none are anticipated to implement proposed IRAs.

10.0 NAME, LICENSE NUMBER, SIGNATURE, AND SEAL OF THE LSP

Pursuant to 310 CMR 40.0424(i), the name, license number, signature, and seal of the Licensed Site Professional (LSP) who prepared the Immediate Response Action Plan is set forth on the MassDEP Transmittal Form (BWSC105) that is being submitted concurrently with this report.

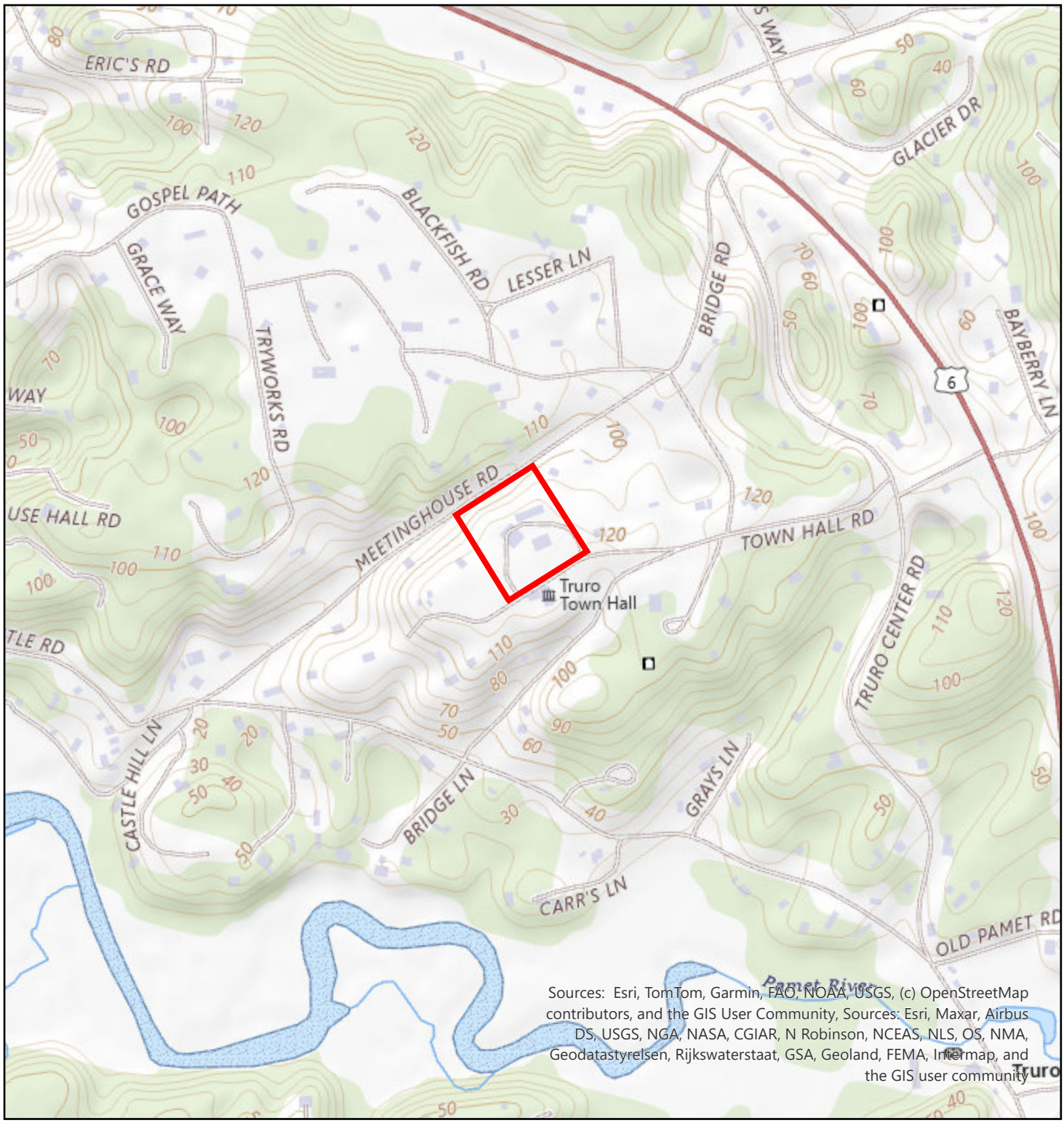
The LSPs signature and stamp on BWSC105 confirms that the IRA is being conducted in conformance with the IRA Plan and MassDEP approval conditions.

11.0 OTHER RELEVANT INFORMATION REQUESTED BY THE MASSDEP

Pursuant to 310 CMR 40.0424 (j), such other information as the Department may deem appropriate and necessary, based on site specific conditions, in order to review and evaluate the Immediate Response Action Plan in question.

Except for those details provided in Section 1, the MassDEP has not requested any other information that it has deemed appropriate or necessary to review and evaluate the IRA plan.

FIGURES



0 375 750 1,500 2,250 3,000 Feet

N

Legend

Property Boundary

Figure 1
Site Locus Map
17 Town Hall Road
Truro, Massachusetts
HRP # TRU2501.P2

HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

Path: V:\Data-MA\T\TRUTO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx



HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

North

0 40 80
Feet

Revisions					
No.	Date				

Designed By: CEB	Drawn By: CEB	Reviewed By: GRM
Issue Date: 04/30/2025	Project No: TRU2500.P2	Sheet Size: 11x17

Site Plan

Truro, Massachusetts

Figure No.

2

Path: V:\Data-MA\T\TRUTO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx

MassDEP - Bureau of Waste Site Cleanup

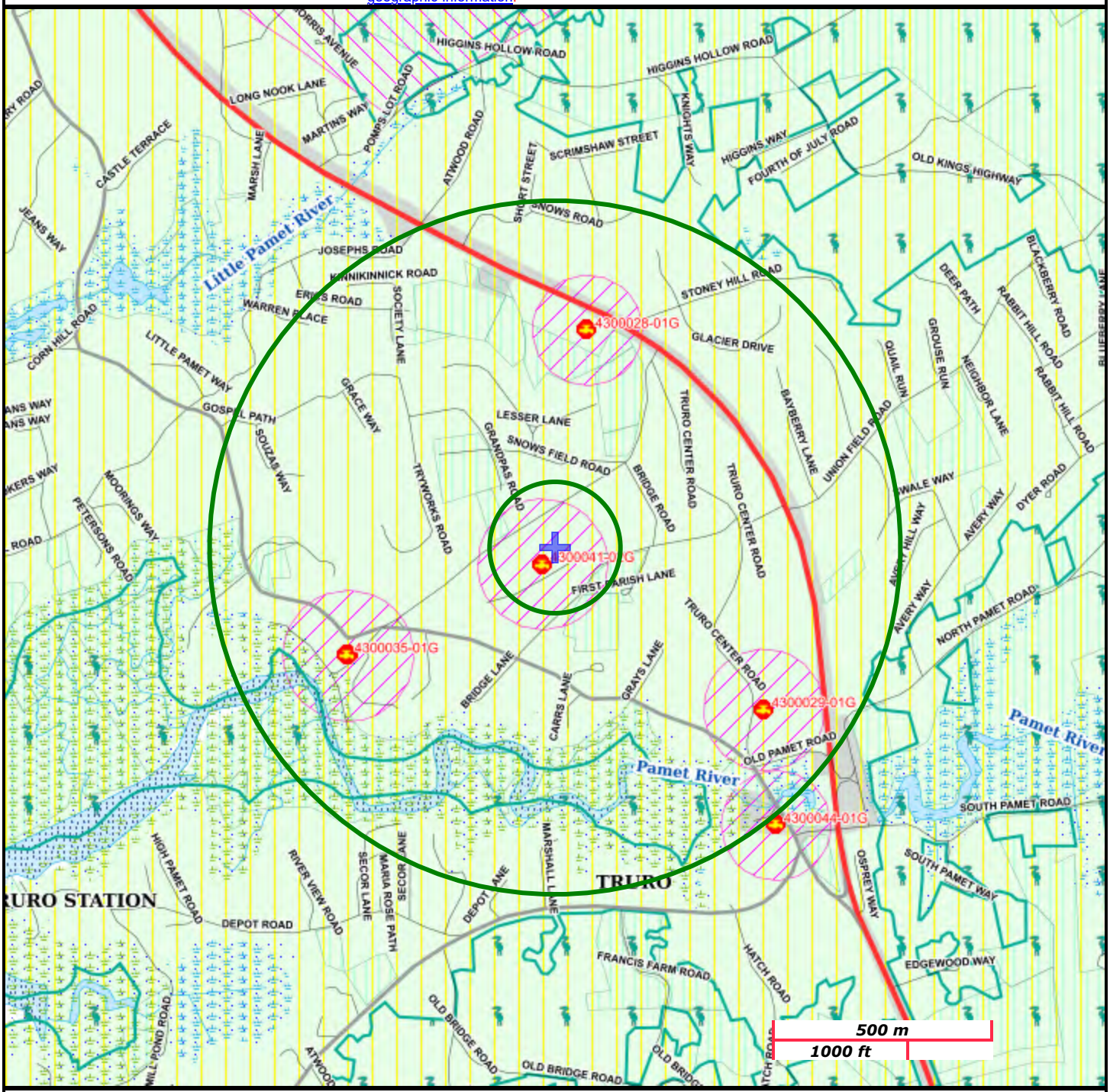
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
TRURO DPW
17 TOWN HALL ROAD TRURO, MA
4-000050454

NAD83 UTM Meters:
4650209mN , 412511mE (Zone: 19)
July 29, 2024

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
NHESP Pri-Hab of Rare Species; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

Figure 3



Path: V:\Data-MA\T\TRU\TO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx

HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

North

0 65 130
Feet

Revisions					
No.					
Date					

Designed By:	Drawn By:	Reviewed By:
CEB	CEB	BJM

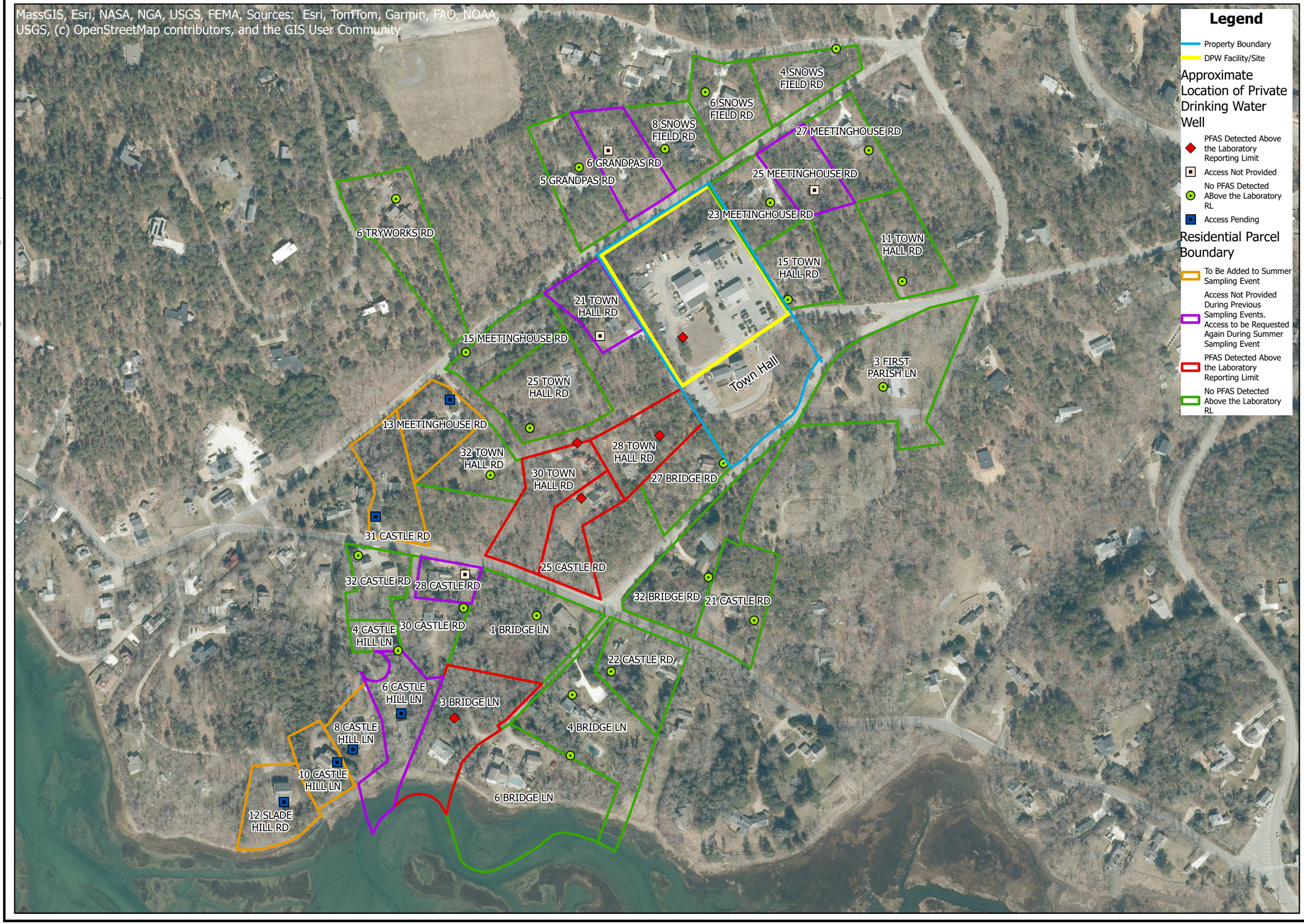
Issue Date:	Project No:	Sheet Size:
07/03/2025	TRU2500.P2	11x17

Groundwater Elevation Map March 10, 2025

Truro, Massachusetts

Figure No.

4



HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

North

0 120 240
Feet

Revisions						
No.						
Date						

Designed By:	Drawn By:	Reviewed By:
CEB	CEB	GRM

Issue Date:	Project No:	Sheet Size:
08/06/2025	TRU2500.P2	11x17

Private Well Testing Locations & PFAS 6 Results

Truro, Massachusetts

Figure No.

5

Path: V:\Data-MA\T\TRUTO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx



HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

North

0 65 130
Feet

Revisions						
No.						
Date						

Designed By:	Drawn By:	Reviewed By:
CEB	CEB	BJM

Issue Date:	Project No:	Sheet Size:
07/03/2025	TRU2500.P2	11x17

Groundwater Elevation Map May 22, 2025

Truro, Massachusetts

Figure No.

6

Path: V:\Data-MA\T\TRUTO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx



HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

North

0 15 30
Feet

Revisions

No.	Date

Designed By: CEB
Drawn By: CEB
Reviewed By: BJM

Issue Date: 04/30/2025
Project No: TRU2500.P2
Sheet Size: 11x17

Soil Boring Locations

Truro, Massachusetts

Figure No.

7

Path: V:\Data-MA\T\TRUTO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx



Legend

Soil Borings

PFAS

- Not Sampled
- Below Regulatory Standard
- Exceeds Regulatory Standard

Depth

- 0-2
- 2-4
- 4-6
- 6-8
- 8-10
- 10-20
- 20-50
- >50

Proposed Soil Cap

Property Boundary

HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

North

0 5 10
Feet

Revisions						
No.						
Date						

Designed By: CEB
Drawn By: CEB
Reviewed By: BJM

Issue Date: 04/28/2025
Project No: TRU2500.P2
Sheet Size: 11x17

Vertical and Horizontal Extent of PFAS in Soil and Proposed Soil Cap Location

Truro, Massachusetts

Figure No.

8

Path: V:\Data-MA\T\TRUTO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx



HRP
MOVE YOUR ENVIRONMENT FORWARD
13 COURT STREET
PLYMOUTH, MA 02360
(781) 243-1527
HRPASSOCIATES.COM

North

0 112.5 225 Feet

Revisions						
No.	Date					

Designed By: CEB	Drawn By: CEB	Reviewed By: GRM
Issue Date: 08/06/2025	Project No: TRU2500.P2	Sheet Size: 11x17

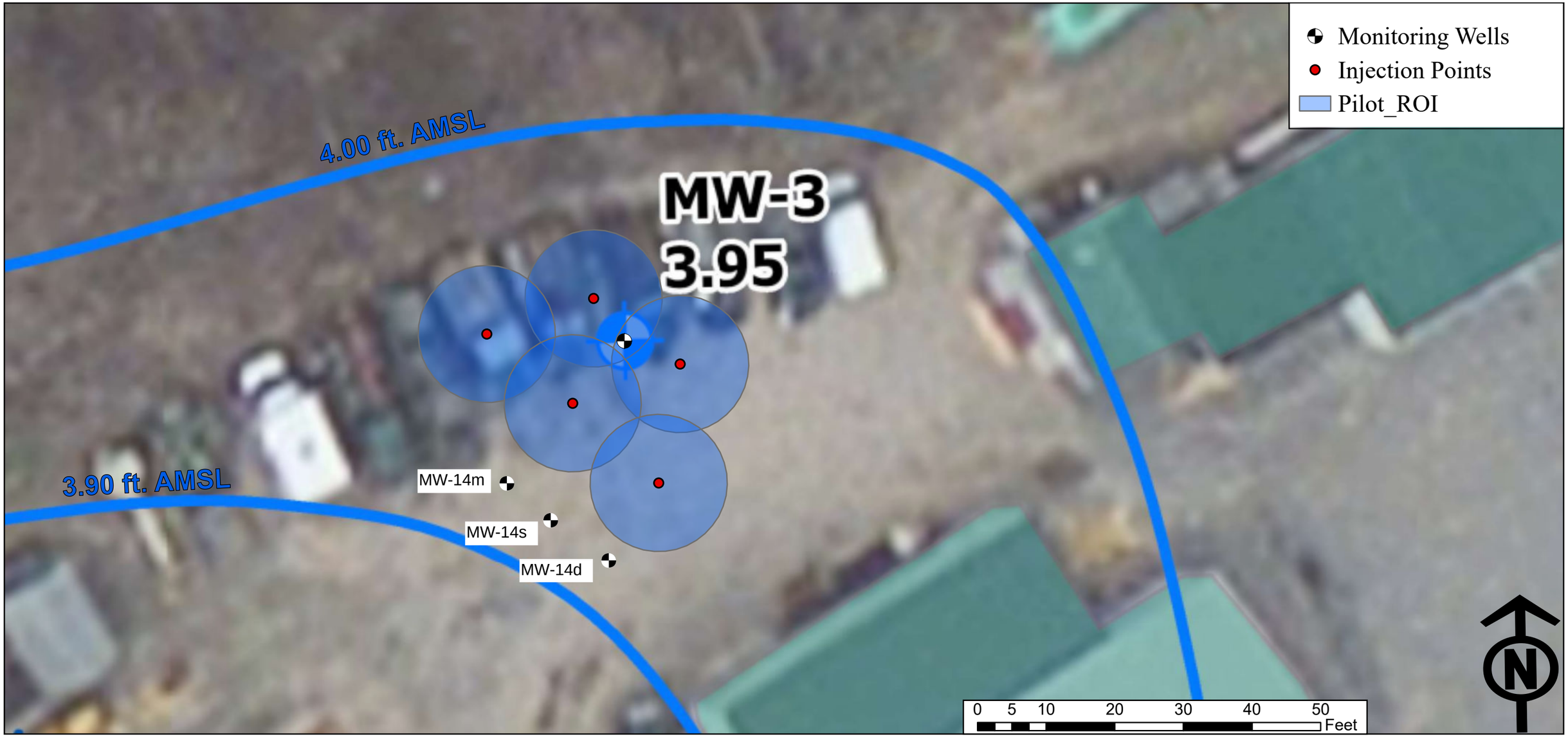
PFAS Groundwater Detection Map

Truro, Massachusetts

Figure No.

9

Path: V:\Data-MA\T\TRUTO - TOWN OF TRURO\17 TOWN HALL ROAD, TRURO, MA\TRU2501P2 - DPW Phase II\GIS\Soil borings Truro\Soil borings Truro.aprx



Path: C:\Users\Markus MacNamara\OneDrive - Redox Tech\Documents\ArcGIS Pro 2.9\ArcProjects\HRP - Truro MA\HRP - Truro MA.aprx

Spatial Reference:
Name: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
PCS: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Meter

Notes:
Injection point spacing = 16 ft
Anticipated radius of influence (ROI) = 10 ft.
New monitoring well located 26 ft. downgradient of MW-3.
Figure adapted from: HRP Groundwater Potentiometric Map November 26, 2024

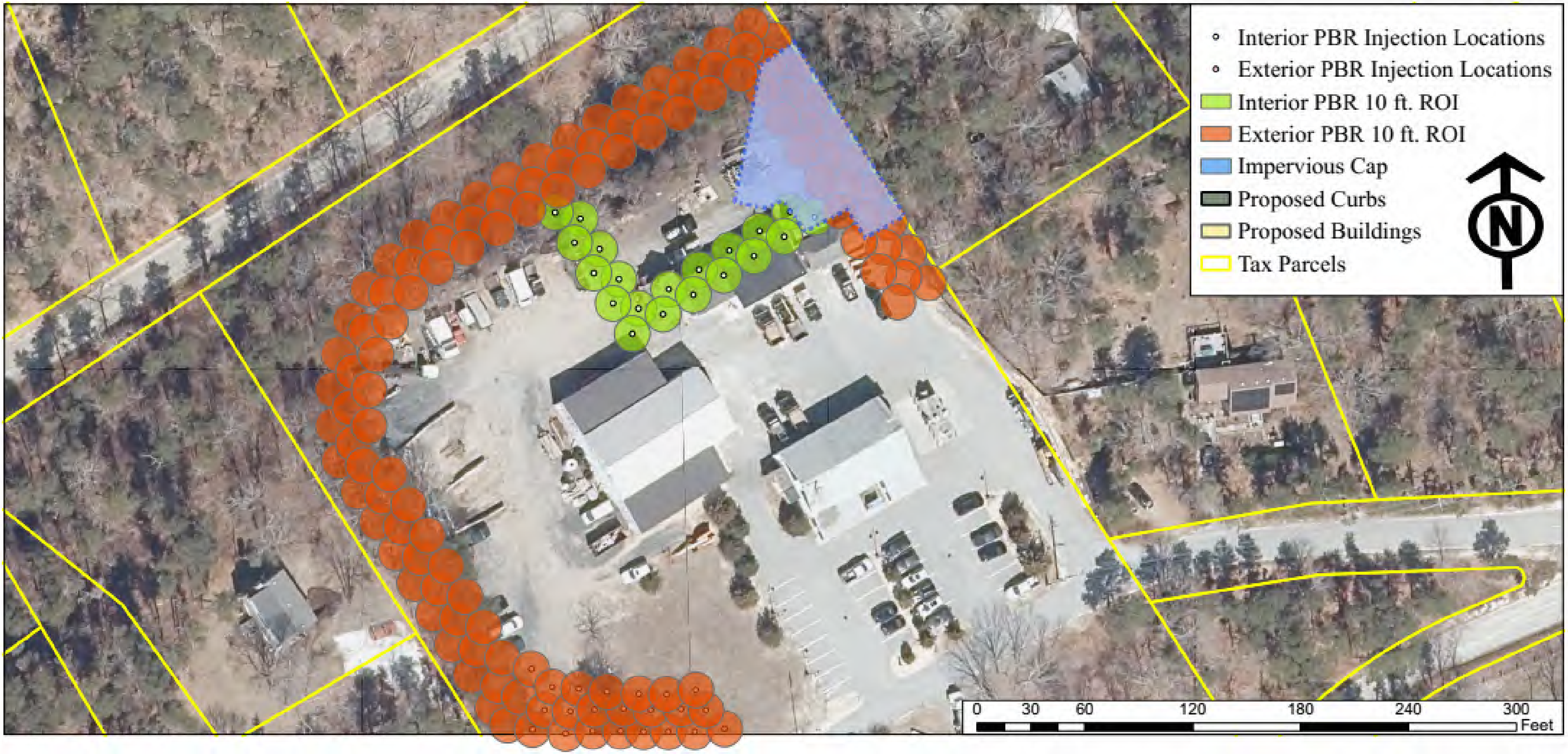
SITE MAP
Date Saved: 3/27/2025
12:15 PM

PUBLIC WORKS FACILITY
17 TOWN HALL RD.
TRURO, MASSACHUSETTS

FIGURE 9
PRB Pilot Injection Locations

Figure 10

REDOX TECH



Path: C:\Users\Markus MacNamara\OneDrive - Redox Tech\Documents\ArcGIS Pro 2.9\ArcProjects\HRP - Truro MA\HRP - Truro MA.aprx

Spatial Reference:
Name: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
PCS: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
GCS: GCS North American 1983
Datum: North American 1983
Projection: Lambert Conformal Conic
Map Units: Meter

Notes:
Exterior PBR point count = 116
Interior PBR point count = 20
Anticipated radius of influence (ROI) = 10 ft.

SITE MAP

Date Saved: 1/27/2025
4:08 PM

FORMER PUBLIC WORKS FACILITY

17 TOWN HALL RD.
TRURO, MASSACHUSETTS

FIGURE 10
Conceptual Full Scale PRB and Soil Cap

Figure 11

REDOX TECH

TABLES

Table 1 - Groundwater Analytical Results

Truro Department of Public Works

Truro, MA

			Group	Perfluoroalkyl carboxylic acids											Perfluoroalkyl sulfonic acids							
			CAS No.	375-22-4	2706-90-3	307-24-4	375-85-9	335-67-1	375-95-1	335-76-2	2058-94-8	307-55-1	72629-94-8	376-06-7	375-73-5	2706-91-4	355-46-4	375-92-8	1763-23-1	68259-12-1	335-77-3	79780-39-5
			Perfluorinated Alkyl Acids by EPA 1633	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorohexanoic acid	Perfluoroheptanoic acid	Perfluorooctanoic acid	Perfluorononanoic acid	Perfluorodecanoic acid	Perfluoroundecanoic acid	Perfluorododecanoic acid	Perfluorotridecanoic acid	Perfluorotetradecanoic acid	Perfluorobutanesulfonic acid	Perfluoropentanesulfonic acid	Perfluorohexanesulfonic acid	Perfluoroheptanesulfonic acid	Perfluorooctanesulfonic acid	Perfluorononanesulfonic acid	Perfluorodecanesulfonic acid	Perfluorododecanesulfonic acid
	Acronym	Total PFAS	Total PFAS6	PFBA (C4)	PFPeA (C5)	PFHxA (C6)	PFHpA (C7)	PFOA (C8)	PFNA (C9)	PFDA (C10)	PFUnA (C11)	PFDoA (C12)	PFTrDA (C13)	PFTeDA (C14)	PFBS (C4)	PFPeS (C5)	PFHxS (C6)	PFHpS (C7)	PFOS (C8)	PFNS (C9)	PFDS (C10)	PFDoS (C10)
	GW-1	NS	0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	GW-3	NS	NS	NS	NS	NS	40,000	40,000	40,000	40,000	NS	NS	NS	NS	NS	NS	500	NS	500	NS	NS	NS
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Sample ID	Collection Date			Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
MW-1	8/14/2024	0.00892	ND	<0.00581	0.00343	0.00353	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145	0.00196	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145
MW-1	9/6/2024	0.00726	ND	<0.00574	0.00299	0.00281	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	0.00146	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144
MW-1	11/26/2024	0.00266	ND	<0.00619	<0.0031	0.00266	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155
MW-1	2/25/2025	0.01143	0.00169	<0.0057	0.00377	0.0037	<0.00142	<0.00142	<0.00142	<0.00142	<0.00142	<0.00142	<0.00142	<0.00142	0.00227	<0.00142	0.00169	<0.00142	<0.00142	<0.00142	<0.00142	<0.00142
MW-1	5/20/2025	0.01107	0.00158	<0.00614	0.00381	0.0038	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	0.00188	<0.00154	0.00158	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154
MW-2	8/14/2024	0.02573	0.0156	<0.00605	<0.00303	0.00336	<0.00151	0.00324	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	0.00393	0.00284	0.0108	<0.00151	0.00156 F	<0.00151	<0.00151	<0.00151
MW-2	9/9/2024	0.02073	0.01177	<0.006	<0.003	0.00301	<0.0015	0.00258	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.00357	0.00238	0.00919	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MW-2	11/26/2024	0.01737	0.01074	<0.00606	<0.00303	0.00243	<0.00151	0.00223	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	0.00254	0.00166	0.00851	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151
MW-2	2/25/2025	0.0208	0.01335	<0.00621	<0.0031	0.00237	<0.00155	0.00261	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	0.00302	0.00206	0.00919	<0.00155	0.00155	<0.00155	<0.00155	<0.00155
MW-2	5/20/2025	0.02581	0.01523	<0.006	<0.003	0.0021	<0.0015	0.00241	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.00338	0.00231	0.0111	<0.0015	0.00172	<0.0015	<0.0015	<0.0015
MW-3	8/14/2024	0.3748	**0.2996**	0.00685	0.012	0.0133	0.0103	0.0169	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	0.0102	0.0263	0.198	0.00655	0.0744	<0.00148	<0.00148	<0.00148
MW-3	9/9/2024	0.35414	**0.28438**	0.0063	0.0096	0.0101	0.00968	0.0134	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	0.009	0.028	0.184	0.00676	0.0773	<0.00148	<0.00148	<0.00148
MW-3	11/26/2024	0.38372	**0.3197**	<0.00609	0.0105	0.0122	0.0114	0.0148	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	0.00956	0.027	0.212	0.00476	0.0815	<0.00152	<0.00152	<0.00152
MW-3	2/25/2025	0.41749	**0.35159**	<0.00573	0.01	0.0106	0.00989	0.0111	<0.00143	<0.00143	<0.00143	<0.00143	<0.00143	<0.00143	0.00954	0.0309	0.231	0.00486	0.0996	<0.00143	<0.00143	<0.00143
MW-3	5/20/2025	0.33308	**0.26465**	0.00661	0.00946	0.0109	0.00845	0.0106	<0.00156	<0.00156	<0.00156	<0.00156	<0.00156	<0.00156	0.00926	0.0282	0.176	0.004	0.0696	<0.00156	<0.00156	<0.00156
MW-4*	8/14/2024	ND	ND	<0.064	<0.032	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
MW-4	3/10/2025	0.0574	0.0051	<0.0128	0.0258	0.0265	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	0.0051	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
MW-4	5/20/2025	ND	ND	<1.28	<0.64	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32
MW-5	8/14/2024	ND	ND	<0.006	<0.003	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MW-5	11/26/2024	ND	ND	<0.00621	<0.0031	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155
MW-5	2/25/2025	ND	ND	<0.00598	<0.00299	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149
MW-5	5/20/2025	ND	ND	<0.00614	<0.00307	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153
MW-6	11/27/2024	0.00336	ND	<0.00628	<0.00314	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	0.00336	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157
MW-6	2/26/2025	0.00396	ND	<0.00564	<0.00282	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	0.00396	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141
MW-6	5/19/2025	0.00473	ND	<0.00601	<0.003	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.00473	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MW-7	11/27/2024	ND	ND	<0.00629	<0.00314	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157
MW-7	2/26/2025	ND	ND	<0.00606	<0.00303	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152
MW-7	5/19/2025	ND	ND	<0.00619	<0.0031	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155
MW-8	11/27/2024	ND	ND	<0.00583	<0.00292	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146
MW-8	2/26/2025	ND	ND	<0.00577	<0.00288	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144
MW-8	5/19/2025	ND	ND	<0.00591	<0.00295	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148
MW-9	11/26/2024	0.07307	**0.04085**	0.00633	0.0133	0.0106	0.00675	0.0157	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	0.00199	<0.00146	0.0184	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146
MW-9	2/25/2025	0.08941	**0.0475**	0.008	0.0173	0.0122	0.0106	0.0164	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	0.00258	0.00183	0.0205	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154
MW-9	5/19/2025	0.07479	**0.03986**	0.0072	0.0136	0.0102	0.00776	0.0147	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	0.00207	0.00186	0.0174	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158
MW-9M	6/2/2025	0.08092	**0.06556**	<0.00603	0.0032	0.00295	0.00203	0.00323	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	0.00303	0.00618	0.0408	<0.00151	0.0195	<0.00151	<0.00151	<0.00151
MW-9D	6/2/2025	0.01658	0.00974	<0.00616	0.00374	0.0031	0.00213	0.0025	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	0.00511	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154
MW-10	3/14/2025	0.01018	0.00484	<0.00646	<0.00323	0.00175	<0.00162	<0.00162	<0.00162	<0.00162	<0.00162	<0.00162	<0.00162	<0.00162	0.00181	0.00178	0.00484	<0.00162	<0.00162	<0.00162	<0.00162	<0.00162
MW-10	5/20/2025	0.01222	0.00572	<0.00602	<0.00301	0.00162 F	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.00272	0.00216	0.00572	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MW-11S	3/10/2025	ND	ND	<0.00615	<0.00307	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154
MW-11S	5/21/2025	ND	ND	<0.00644	<0.00322	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161
MW-11M	3/10/2025	0.00911	0.00911	<0.00608	<0.00304	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	0.00731	<0.00152	0.0018	<0.00152	<0.00152	<0.00152
MW-11M	5/21/2025	0.01314	0.01137	<0.00588	<0.00294	<0.00147	<0.00147	<0.00147	<0.00147	<0.00147	<0.00147	<0.00147	<0.00147	<0.00147	<0.00147	0.00177	0.00942	<0.00147	0.00195	<0.00147	<0.00147	<0.00147
MW-11D	3/10/2025	0.03692	**0.02926**	<0.00616	<0.00308	0.00283	<0.00154	0.00268	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	0.00175	0.00308	0.0211	<0.00154	0.00548	<0.00154	<0.00154	<0.00154
MW-11D	5/21/2025	0.03143	**0.0277**	<0.00625	<0.00312	<0.00312	0.00157	<0.00312	<0.00156	<0.00156	<0.00156	<0.00156	<0.00156	<0.00156	<0.00312	0.00373	0.021	<0.00156	0.00513	<0.00156	<0.00156	<0.00156
MW-12	3/10/2025	ND	ND	<0.00576	<0.00288	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144
MW-12	5/21/2025	ND	ND	<0.00596	<0.00298	<0.00298	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149
MW-12M	6/18/2025	ND	ND	<0.00632	<0.00316	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158
MW-12D	6/18/2025	ND	ND	<0.031	<0.0031	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155
MW-13	3/10/2025	ND	ND	<0.00596	<0.00298	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149
MW-13	5/21/2025	ND	ND	<0.00636	<0.00318	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159
MW-13M	6/18/2025	ND	ND	<0.00598	<0.00299	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MW-14S	6/2/2025	0.28428	**0.23456**	<0.00617	0.00748	0.00838	0.00714	0.00952	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	0.00816	0.0225	0.152	0.0032	0.0659	<0.00154	<0.00154	<0.00154
MW-14M	6/2/2025	ND	ND	<0.00586	<0.00293	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146
MW-14D	6/18/2025	0.00182	0.00182	<0.0062	<0.0031	<0.00155	<0.00155	0.00182	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155

Table 1 - Groundwater Analytical Results

Truro Department of Public Works

Truro, MA

		Flurotelomer sulfonic acids			Perfluorooctane sulfonamides			Perfluorooctane sulfonamidoacetic		Perfluorooctane sulfanamide		Per- and Polyfluoroether carboxylic acids					Ether sulfonic acids			Fluorotelomer carboxylic acids		
		757124-72-4	27619-97-2	39108-34-4	754-91-6	31506-32-8	4151-50-2	2355-31-9	2991-50-6	24448-09-7	1691-99-2	13252-13-6	919005-14-4	377-73-1	863090-89-5	151772-58-6	756426-58-1	763051-92-9	113507-82-7	356-02-5	914637-49-3	812-70-4
		1H,1H,2H,2H-Perfluorohexane sulfonic acid	1H,1H,2H,2H-Perfluorooctane sulfonic acid	1H,1H,2H,2H-Perfluorodecane sulfonic acid	Perfluorooctanesulfonamide	N-methyl perfluorooctanesulfonamide	N-ethyl perfluorooctanesulfonamide	N-methyl perfluorooctanesulfonamidoacetic acid	N-ethyl perfluorooctanesulfonamidoacetic acid	N-methyl perfluorooctanesulfonamidoethanol	N-ethyl perfluorooctanesulfonamidoethanol	Hexafluoropropylene oxide dimer acid	4,8-Dioxa-3H-perfluorononanoic acid	Perfluoro-3-methoxypropanoic acid	Perfluoro-4-methoxybutanoic acid	Nonafluoro-3,6-dioxaheptanoic acid	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	Perfluoro(2-ethoxyethane)sulfonic acid	3-Perfluoropropyl propanoic acid	2H,2H,3H,3H-Perfluorooctanoic acid	3-Perfluoroheptyl propanoic acid
	Acronym	4:2FTS (C6)	6:2FTS (C8)	8:2FTS (C10)	PFOSA (C8)	NMeFOSA (C9)	NEtFOSA (C10)	NMeFOSAA (C11)	NEtFOSAA (C12)	NMeFOSE (C11)	NEtFOSE (C12)	HFPO-DA (C6)	ADONA (C7)	PFMPA (C4)	PFMBA (C5)	NFDHA (C5)	9Cl-PF3ONS (C8)	11Cl-PF3OUdS (C1	PFEESA (C4)	3:3FTCA (C6)	5:3FTCA (C8)	7:3FTCA (C10)
	GW-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	GW-3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Sample ID	Collection Date	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
MW-1	8/14/2024	<0.00581	<0.00581	<0.00581	<0.00145	<0.00145	<0.00145	<0.00145	<0.00145	<0.0145	<0.0145	<0.00581	<0.00581	<0.0029	<0.0029	<0.0029	<0.00581	<0.00581	<0.0029	<0.00726	<0.0363	<0.0363
MW-1	9/6/2024	<0.00574	<0.00574	<0.00574	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.0144	<0.0144	<0.00574	<0.00574	<0.00287	<0.00287	<0.00287	<0.00574	<0.00574	<0.00287	<0.00718	<0.0359	<0.0359
MW-1	11/26/2024	<0.00619	<0.00619	<0.00619	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.0155	<0.0155	<0.00619	<0.00619	<0.0031	<0.0031	<0.0031	<0.00619	<0.00619	<0.0031	<0.00774	<0.0387	<0.0387
MW-1	2/25/2025	<0.0057	<0.0057	<0.0057	<0.00142	<0.00142	<0.00142	<0.00142	<0.00142	<0.0142	<0.0142	<0.0057	<0.0057	<0.00285	<0.00285	<0.00285	<0.0057	<0.0057	<0.00285	<0.00712	<0.0356	<0.0356
MW-1	5/20/2025	<0.00614	<0.00614	<0.00614	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.0154	<0.0154	<0.00614	<0.00614	<0.00307	<0.00307	<0.00307	<0.00614	<0.00614	<0.00307	<0.00768	<0.0384	<0.0384
MW-2	8/14/2024	<0.00605	<0.00605	<0.00605	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	<0.0151	<0.0151	<0.00605	<0.00605	<0.00303	<0.00303	<0.00303	<0.00605	<0.00605	<0.00303	<0.00756	<0.0378	<0.0378
MW-2	9/9/2024	<0.006	<0.006	<0.006	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.015	<0.015	<0.006	<0.006	<0.003	<0.003	<0.003	<0.006	<0.006	<0.003	<0.0075	<0.0375	<0.0375
MW-2	11/26/2024	<0.00606	<0.00606	<0.00606	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	<0.0151	<0.0151	<0.00606	<0.00606	<0.00303	<0.00303	<0.00303	<0.00606	<0.00606	<0.00303	<0.00757	<0.0378	<0.0378
MW-2	2/25/2025	<0.00621	<0.00621	<0.00621	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.0155	<0.0155	<0.00621	<0.00621	<0.0031	<0.0031	<0.0031	<0.00621	<0.00621	<0.0031	<0.00776	<0.0388	<0.0388
MW-2	5/20/2025	<0.006	<0.006	<0.006	0.00279	<0.0015	<0.0015	<0.0015	<0.0015	<0.015	<0.015	<0.006	<0.006	<0.003	<0.003	<0.003	<0.006	<0.006	<0.003	<0.0075	<0.0375	<0.0375
MW-3	8/14/2024	<0.00591	<0.00591	<0.00591	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.0148	<0.0148	<0.00591	<0.00591	<0.00295	<0.00295	<0.00295	<0.00591	<0.00591	<0.00295	<0.00739	<0.0369	<0.0369
MW-3	9/9/2024	<0.00592	<0.00592	<0.00592	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.0148	<0.0148	<0.00592	<0.00592	<0.00296	<0.00296	<0.00296	<0.00592	<0.00592	<0.00296	<0.0074	<0.037	<0.037
MW-3	11/26/2024	<0.00609	<0.00609	<0.00609	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.0152	<0.0152	<0.00609	<0.00609	<0.00305	<0.00305	<0.00305	<0.00609	<0.00609	<0.00305	<0.00762	<0.0381	<0.0381
MW-3	2/25/2025	<0.00573	<0.00573	<0.00573	<0.00143	<0.00143	<0.00143	<0.00143	<0.00143	<0.0143	<0.0143	<0.00573	<0.00573	<0.00286	<0.00286	<0.00286	<0.00573	<0.00573	<0.00286	<0.00716	<0.0358	<0.0358
MW-3	5/20/2025	<0.00624	<0.00624	<0.00624	<0.00156	<0.00156	<0.00156	<0.00156	<0.00156	<0.0156	<0.0156	<0.00624	<0.00624	<0.00312	<0.00312	<0.00312	<0.00624	<0.00624	<0.00312	<0.0078	<0.039	<0.039
MW-4*	8/14/2024	<0.064	<0.064	<0.064	<0.016	<0.016	<0.016	<0.016	<0.016	<0.16	<0.16	<0.064	<0.064	<0.032	<0.032	<0.032	<0.064	<0.064	<0.032	<0.08	<0.4	<0.4
MW-4	3/10/2025	<0.0128	<0.0128	<0.0128	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.032	<0.0128	<0.0128	<0.0064	<0.0064	<0.0064	<0.0128	<0.0128	<0.0064	<0.016	<0.08	<0.08
MW-4	5/20/2025	<1.28	<1.28	<1.28	<0.32	<0.32	<0.32	<0.32	<0.32	<3.2	<3.2	<1.28	<1.28	<0.64	<0.64	<0.64	<1.28	<1.28	<0.64	<1.6	<8	<8
MW-5	8/14/2024	<0.006	<0.006	<0.006	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.015	<0.015	<0.006	<0.006	<0.003	<0.003	<0.003	<0.006	<0.006	<0.003	<0.0075	<0.0375	<0.0375
MW-5	11/26/2024	<0.00621	<0.00621	<0.00621	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.0155	<0.0155	<0.00621	<0.00621	<0.0031	<0.0031	<0.0031	<0.00621	<0.00621	<0.0031	<0.00776	<0.0388	<0.0388
MW-5	2/25/2025	<0.00598	<0.00598	<0.00598	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.0149	<0.0149	<0.00598	<0.00598	<0.00299	<0.00299	<0.00299	<0.00598	<0.00598	<0.00299	<0.00747	<0.0374	<0.0374
MW-5	5/20/2025	<0.00614	<0.00614	<0.00614	<0.00153	<0.00153	<0.00153	<0.00153	<0.00153	<0.0153	<0.0153	<0.00614	<0.00614	<0.00307	<0.00307	<0.00307	<0.00614	<0.00614	<0.00307	<0.00767	<0.0384	<0.0384
MW-6	11/27/2024	<0.00628	<0.00628	<0.00628	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.0157	<0.0157	<0.00628	<0.00628	<0.00314	<0.00314	<0.00314	<0.00628	<0.00628	<0.00314	<0.00785	<0.0392	<0.0392
MW-6	2/26/2025	<0.00564	<0.00564	<0.00564	<0.00141	<0.00141	<0.00141	<0.00141	<0.00141	<0.0141	<0.0141	<0.00564	<0.00564	<0.00282	<0.00282	<0.00282	<0.00564	<0.00564	<0.00282	<0.00705	<0.0352	<0.0352
MW-6	5/19/2025	<0.00601	<0.00601	<0.00601	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.015	<0.015	<0.00601	<0.00601	<0.003	<0.003	<0.003	<0.00601	<0.00601	<0.003	<0.00751	<0.0376	<0.0376
MW-7	11/27/2024	<0.00629	<0.00629	<0.00629	<0.00157	<0.00157	<0.00157	<0.00157	<0.00157	<0.0157	<0.0157	<0.00629	<0.00629	<0.00314	<0.00314	<0.00314	<0.00629	<0.00629	<0.00314	<0.00786	<0.0393	<0.0393
MW-7	2/26/2025	<0.00606	<0.00606	<0.00606	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.0152	<0.0152	<0.00606	<0.00606	<0.00303	<0.00303	<0.00303	<0.00606	<0.00606	<0.00303	<0.00758	<0.0379	<0.0379
MW-7	5/19/2025	<0.00619	<0.00619	<0.00619	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.0155	<0.0155	<0.00619	<0.00619	<0.0031	<0.0031	<0.0031	<0.00619	<0.00619	<0.0031	<0.00774	<0.0387	<0.0387
MW-8	11/27/2024	<0.00583	<0.00583	<0.00583	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.0146	<0.0146	<0.00583	<0.00583	<0.00292	<0.00292	<0.00292	<0.00583	<0.00583	<0.00292	<0.00729	<0.0364	<0.0364
MW-8	2/26/2025	<0.00577	<0.00577	<0.00577	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.0144	<0.0144	<0.00577	<0.00577	<0.00288	<0.00288	<0.00288	<0.00577	<0.00577	<0.00288	<0.00721	<0.036	<0.036
MW-8	5/19/2025	<0.00591	<0.00591	<0.00591	<0.00148	<0.00148	<0.00148	<0.00148	<0.00148	<0.0148	<0.0148	<0.00591	<0.00591	<0.00295	<0.00295	<0.00295	<0.00591	<0.00591	<0.00295	<0.00738	<0.0369	<0.0369
MW-9	11/26/2024	<0.00582	<0.00582	<0.00582	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.0146	<0.0146	<0.00582	<0.00582	<0.00291	<0.00291	<0.00291	<0.00582	<0.00582	<0.00291	<0.00728	<0.0364	<0.0364
MW-9	2/25/2025	<0.00617	<0.00617	<0.00617	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.0154	<0.0154	<0.00617	<0.00617	<0.00309	<0.00309	<0.00309	<0.00617	<0.00617	<0.00309	<0.00772	<0.0386	<0.0386
MW-9	5/19/2025	<0.00632	<0.00632	<0.00632	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.0158	<0.0158	<0.00632	<0.00632	<0.00316	<0.00316	<0.00316	<0.00632	<0.00632	<0.00316	<0.0079	<0.0395	<0.0395
MW-9M	6/2/2025	<0.00603	<0.00603	<0.00603	<0.00151	<0.00151	<0.00151	<0.00151	<0.00151	<0.0151	<0.0151	<0.00603	<0.00603	<0.00302	<0.00302	<0.00302	<0.00603	<0.00603	<0.00302	<0.00754	<0.0377	<0.0377
MW-9D	6/2/2025	<0.00616	<0.00616	<0.00616	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.0154	<0.0154	<0.00616	<0.00616	<0.00308	<0.00308	<0.00308	<0.00616	<0.00616	<0.00308	<0.0077	<0.0385	<0.0385
MW-10	3/14/2025	<0.00646	<0.00646	<0.00646	<0.00162	<0.00162	<0.00162	<0.00162	<0.00162	<0.0162	<0.0162	<0.00646	<0.00646	<0.00323	<0.00323	<0.00323	<0.00646	<0.00646	<0.00323	<0.00808	<0.0404	<0.0404
MW-10	5/20/2025	<0.00602	<0.00602	<0.00602	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.015	<0.015	<0.00602	<0.00602	<0.00301	<0.00301	<0.00301	<0.00602	<0.00602	<0.00301	<0.00752	<0.0376	<0.0376
MW-11S	3/10/2025	<0.00615	<0.00615	<0.00615	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.0154	<0.0154	<0.00615	<0.00615	<0.00307	<0.00307	<0.00307	<0.00615	<0.00615	<0.00307	<0.00769	<0.0384	<0.0384
MW-11S	5/21/2025	<0.00644	<0.00644	<0.00644	<0.00161	<0.00161	<0.00161	<0.00161	<0.00161	<0.0161	<0.0161	<0.00644	<0.00644	<0.00322	<0.00322	<0.00322	<0.00644	<0.00644	<0.00322	<0.00805	<0.0403	<0.0403
MW-11M	3/10/2025	<0.00608	<0.00608	<0.00608	<0.00152	<0.00152	<0.00152	<0.00152	<0.00152	<0.0152	<0.0152	<0.00608	<0.00608	<0.00304	<0.00304	<0.00304	<0.00608	<0.00608	<0.00304	<0.0076	<0.038	<0.038
MW-11M	5/21/2025	<0.00588	<0.00588	<0.00588	<0.00147	<0.00147	<0.00147	<0.00147	<0.00147	<0.0147	<0.0147	<0.00588	<0.00588	<0.00294	<0.00294	<0.00294	<0.00588	<0.00588	<0.00294	<0.00735	<0.0367	<0.0367
MW-11D	3/10/2025	<0.00616	<0.00616	<0.00616	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.0154	<0.0154	<0.00616	<0.00616	<0.00308	<0.00308	<0.00308	<0.00616	<0.00616	<0.00308	<0.0077	<0.0385	<0.0385
MW-11D	5/21/2025	<0.00625	<0.00625	<0.00625	<0.00156	<0.00156	<0.00156	<0.00156	<0.00156	<0.0156	<0.0156	<0.00625	<0.00625	<0.00312	<0.00312	<0.00312	<0.00625	<0.00625	<0.00312	<0.00781	<0.0391	<0.0391
MW-12	3/10/2025	<0.00576	<0.00576	<0.00576	<0.00144	<0.00144	<0.00144	<0.00144	<0.00144	<0.0144	<0.0144	<0.00576	<0.00576	<0.00288	<0.00288	<0.00288	<0.00576	<0.00576	<0.00288	<0.0072	<0.036	<0.036
MW-12	5/21/2025	<0.00596	<0.00596	<0.00596	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.0149	<0.0149	<0.00596	<0.00596	<0.00298	<0.00298	<0.00298	<0.00596	<0.00596	<0.00298	<0.00745	<0.0372	<0.0372
MW-12M	6/18/2025	<0.00632	<0.00632	<0.00632	<0.00158	<0.00158	<0.00158	<0.00158	<0.00158	<0.0158	<0.0158	<0.00632	<0.00632	<0.00316	<0.00316	<0.00316	<0.00632	<0.00632	<0.00316	<0.0079	<0.0395	<0.0395
MW-12D	6/18/2025	<0.0062	<0.0062	<0.0062	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.0155	<0.0155	<0.0062	<0.0062	<0.0155	<0.0031	<0.0031	<0.0062	<0.0062	<0.0031	<0.00774	<0.0387	<0.0387
MW-13	3/10/2025	<0.00596	<0.00596	<0.00596	<0.00149	<0.00149	<0.00149	<0.00149	<0.00149	<0.0149	<0.0149	<0.00596	<0.00596	<0.00298	<0.00298	<0.00298	<0.00596	<0.00596	<0.00298	<0.00745	<0.0372	<0.0372
MW-13	5/21/2025	<0.00636	<0.00636	<0.00636	<0.00159	<0.00159	<0.00159	<0.00159	<0.00159	<0.0159	<0.0159	<0.00636	<0.00636	<0.00318	<0.00318	<0.00318	<0.00636	<0.00636	<0.00318	<0.00795	<0.0398	<0.0398
MW-13M	6/18/2025	<0.00598	<0.00598	<0.00598	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.015	<0.015	<0.00598	<0.00598	<0.00299	<0.00299	<0.00299	<0.00598	<0.00598	<0.00299	<0.00748	<0.0374	<0.0374
MW-14S	6/2/2025	<0.00617	<0.00617	<0.00617	<0.00154	<0.00154	<0.00154	<0.00154	<0.00154	<0.0154	<0.0154	<0.00617	<0.00617	<0.00308	<0.00308	<0.00308	<0.00617	<0.00617	<0.00308	<0.00771	<0.0385	<0.0385
MW-14M	6/2/2025	<0.00586	<0.00586	<0.00586	<0.00146	<0.00146	<0.00146	<0.00146	<0.00146	<0.0146	<0.0146	<0.00586	<0.00586	<0.00293	<0.00293	<0.00293	<0.00586	<0.00586	<0.00293	<0.00733	<0.0366	<0.0366
MW-14D	6/18/2025	<0.0062	<0.0062	<0.0062	<0.00155	<0.00155	<0.00155	<0.00155	<0.00155	<0.0155	<0.0155	<0.0062	<0.0062	<0.0031	<0.0031	<0.0031	<0.0062	<0.0062	<0.0031	<0.00775	<0.0388	<0.0388

Notes:

1. µg/L = Micrograms per liter (parts per billion; ppb)
2. Total PFAS is the sum of all reported EPA 1633 PFAS analytes
3. PFAS6 is the sum of PFHpA, PFOA, PFNA, PFDA, and PFHxS
4. GW-1 and GW-3 are the applicable Method 1 groundwater standards from the 2024 MCP
5. NS = No Standard
6. <# = Not reported present above indicated laboratory reporting limit
7. ND = No PFAS analytes reported present above laboratory reporting limits
8. *=Elevated laboratory reporting limit due to limited sample volume
9. F = Estimated maximum concentration; see lab report for details due to re-extractions relating to QC failure and dilution due to matrix.

Table 2 - Drinking Water Analytical Results
Truro Department of Public Works
Truro, MA

SAMPLE ID:		PWS 4300041 24 Town Hall Rd	PWS 4300041 DUP	25 Town Hall Road	28 Town Hall Road	28 Town Hall Road DUP	30 Town Hall Road	30 Town Hall Road DUP
Parcel ID:		046-269-000	046-269-000	046-266-000	050-061-000	050-061-000	050-060-000	050-060-000
LAB ID:		L2451143-01	L2451143-02	L2502385-01	L2502389-01	L2502389-01	L2502383-01	L2502383-02
COLLECTION DATE:		9/6/2024	9/6/2024	1/13/2025	1/13/2025	1/13/2025	1/13/2025	1/13/2025
SAMPLE MATRIX:		Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water
PERFLUORINATED ALKYL ACIDS BY EPA 537.1	**MMCL**							
PFAS6 (Sum of PFOS, PFHxS, PFDA, PFNA, PFOA, and PFHpA)	0.02	0.00362	0.00348	<0.002	<0.002	<0.002	**0.0386**	**0.0396**
Total PFAS	NS	0.00362	0.00348	ND	0.00731	0.00728	0.04669	0.04765
Perfluorobutanesulfonic Acid (PFBS)	NS	<0.002	<0.002	<0.002	0.0049	0.00487	0.00378	0.00392
Perfluorohexanoic Acid (PFHxA)	NS	<0.002	<0.002	<0.002	0.00241	0.00241	0.00435	0.00414
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic Acid (PFHpA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	0.00213	0.00216
Perfluorohexanesulfonic Acid (PFHxS)	NS	0.00362	0.00348	<0.002	<0.002	<0.002	0.0263	0.0271
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanoic Acid (PFOA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	0.00328	0.00325
Perfluorononanoic Acid (PFNA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanesulfonic Acid (PFOS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	0.00685	0.00708
Perfluorodecanoic Acid (PFDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic Acid (PFUnA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic Acid (PFDoA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic Acid (PFTrDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic Acid (PFTA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
1. Units are in micrograms per liter (µg/l)
2. MMCL = Massachusetts Maximum Contaminant Level
3. NS = No Standard
4. < # = Not identified at concentration exceeding the indicated laboratory reporting limit.
5. **Bold** = Detection exceeds regulatory criteria
6. U # = Not identified at concentration exceeding the indicated laboratory method detection limit.
7. PFAS not detected in associated duplicate or trip blank unless otherwise noted. All samples analyzed in duplicate.

Table 2 - Drinking Water Analytical Results
Truro Department of Public Works
Truro, MA

	SAMPLE ID:	27 Meetinghouse Road	27 Bridge Road	32 Bridge Road	5 Grandpas Road	6 Tryworks Road	15 Town Hall Road	25 Castle Road
	Parcel ID:	046-261-000	050-230-000	050-121-000	046-256-000	046-126-000	046-270-000	050-239-000
	LAB ID:	L2502404-01	L2502396-01	L2502390-01	L2502387-01	L2502406-01	L2502410-01	L2502412-01
	COLLECTION DATE:	1/13/2025	1/13/2025	1/13/2025	1/13/2025	1/13/2025	1/14/2025	1/14/2025
	SAMPLE MATRIX:	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water
PERFLUORINATED ALKYL ACIDS BY EPA 537.1	**MMCL**							
PFAS6 (Sum of PFOS, PFHxS, PFDA, PFNA, PFOA, and PFHpA)	0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00308
Total PFAS	NS	ND	ND	ND	ND	ND	ND	0.00308
Perfluorobutanesulfonic Acid (PFBS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic Acid (PFHxA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic Acid (PFHpA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanesulfonic Acid (PFHxS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00308
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanoic Acid (PFOA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic Acid (PFNA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanesulfonic Acid (PFOS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic Acid (PFDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic Acid (PFUnA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic Acid (PFDoA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic Acid (PFTrDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic Acid (PFTA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
1. Units are in micrograms per liter (µg/l)
2. MMCL = Massachusetts Maximum Contaminant Level
3. NS = No Standard
4. < # = Not identified at concentration exceeding the indicated laboratory reporting limit.
5. **Bold** = Detection exceeds regulatory criteria
6. U # = Not identified at concentration exceeding the indicated laboratory method detection limit.
7. PFAS not detected in associated duplicate or trip blank unless otherwise noted. All samples analyzed in duplicate.

Table 2 - Drinking Water Analytical Results
Truro Department of Public Works
Truro, MA

SAMPLE ID:		25 Castle Road DUP	4 Snows Field Road	6 Snows Field Road	15 Meetinghouse Road	11 Town Hall Road	3 First Parish Lane	32 Town Hall Road
Parcel ID:		050-239-000	046-250-000	046-257-000	046-308-000	046-272-000	046-278-000	050-059-000
LAB ID:		L2502412-02	L2502416-01	L2502409-01	L2502418-01	L2502422-01	L2526861-01	L2526876-01
COLLECTION DATE:		1/14/2025	1/14/2025	1/15/2025	1/15/2025	1/15/2025	4/28/2025	4/28/2025
SAMPLE MATRIX:		Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water
PERFLUORINATED ALKYL ACIDS BY EPA 537.1	**MMCL**							
PFAS6 (Sum of PFOS, PFHxS, PFDA, PFNA, PFOA, and PFHpA)	0.02	0.00339	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total PFAS	NS	0.00339	ND	ND	ND	ND	ND	ND
Perfluorobutanesulfonic Acid (PFBS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic Acid (PFHxA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic Acid (PFHpA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanesulfonic Acid (PFHxS)	NS	0.00339	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanoic Acid (PFOA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic Acid (PFNA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanesulfonic Acid (PFOS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic Acid (PFDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic Acid (PFUnA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic Acid (PFDoA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic Acid (PFTrDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic Acid (PFTA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
1. Units are in micrograms per liter (µg/l)
2. MMCL = Massachusetts Maximum Contaminant Level
3. NS = No Standard
4. < # = Not identified at concentration exceeding the indicated laboratory reporting limit.
5. **Bold** = Detection exceeds regulatory criteria
6. U # = Not identified at concentration exceeding the indicated laboratory method detection limit.
7. PFAS not detected in associated duplicate or trip blank unless otherwise noted. All samples analyzed in duplicate.

Table 2 - Drinking Water Analytical Results
Truro Department of Public Works
Truro, MA

	SAMPLE ID:	22 Castle Road	30 Castle Road	6 Bridge Lane	4 Castle Hill Lane	8 Snows Field Road	4 Bridge Lane	1 Bridge Lane
	Parcel ID:	050-078-000	050-067-000	050-083-000	050-226-000	046-258-000	050-077-000	050-075-000
	LAB ID:	L2526859-01	L2526890-01	L2526892-01	L2526867-01	L2526857-01	L2526854-01	L2526873-01
	COLLECTION DATE:	4/28/2025	4/28/2025	4/28/2025	4/28/2025	4/28/2025	4/29/2025	4/29/2025
	SAMPLE MATRIX:	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water
PERFLUORINATED ALKYL ACIDS BY EPA 537.1	**MMCL**							
PFAS6 (Sum of PFOS, PFHxS, PFDA, PFNA, PFOA, and PFHpA)	0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total PFAS	NS	ND	ND	ND	ND	ND	ND	ND
Perfluorobutanesulfonic Acid (PFBS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic Acid (PFHxA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic Acid (PFHpA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanesulfonic Acid (PFHxS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanoic Acid (PFOA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic Acid (PFNA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanesulfonic Acid (PFOS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic Acid (PFDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic Acid (PFUnA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic Acid (PFDoA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic Acid (PFTrDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic Acid (PFTA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
1. Units are in micrograms per liter (µg/l)
2. MMCL = Massachusetts Maximum Contaminant Level
3. NS = No Standard
4. < # = Not identified at concentration exceeding the indicated laboratory reporting limit.
5. **Bold** = Detection exceeds regulatory criteria
6. U # = Not identified at concentration exceeding the indicated laboratory method detection limit.
7. PFAS not detected in associated duplicate or trip blank unless otherwise noted. All samples analyzed in duplicate.

Table 2 - Drinking Water Analytical Results
Truro Department of Public Works
Truro, MA

SAMPLE ID:		32 Castle Road	23 Meetinghouse Road	3 Bridge Lane	3 Bridge Lane DUP	21 Castle Road Road	25 Town Hall Road
Parcel ID:		050-066-000	046-259-000	050-076-000	050-076-000	050-122-000	046-266-000
LAB ID:		L2526851-01	L2526863-01	L2526880-01	L2526880-01	L2534611-01	L2539814-01
COLLECTION DATE:		4/29/2025	4/29/2025	4/30/2025	4/30/2025	6/3/2025	6/24/2025
SAMPLE MATRIX:		Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water
PERFLUORINATED ALKYL ACIDS BY EPA 537.1	**MMCL**						
PFAS6 (Sum of PFOS, PFHxS, PFDA, PFNA, PFOA, and PFHpA)	0.02	<0.002	<0.002	0.00911	0.00794	<0.002	<0.002
Total PFAS	NS	ND	ND	0.01224	0.01151	ND	ND
Perfluorobutanesulfonic Acid (PFBS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic Acid (PFHxA)	NS	<0.002	<0.002	0.00313	0.00357	<0.002	<0.002
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic Acid (PFHpA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanesulfonic Acid (PFHxS)	NS	<0.002	<0.002	0.00911	0.00794	<0.002	<0.002
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanoic Acid (PFOA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic Acid (PFNA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanesulfonic Acid (PFOS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic Acid (PFDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic Acid (PFUnA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic Acid (PFDoA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic Acid (PFTrDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic Acid (PFTA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:
1. Units are in micrograms per liter (µg/l)
2. MMCL = Massachusetts Maximum Contaminant Level
3. NS = No Standard
4. < # = Not identified at concentration exceeding the indicated laboratory reporting limit.
5. **Bold** = Detection exceeds regulatory criteria
6. U # = Not identified at concentration exceeding the indicated laboratory method detection limit.
7. PFAS not detected in associated duplicate or trip blank unless otherwise noted. All samples analyzed in duplicate.

Table 3 - Groundwater Elevation Data
Truro Department of Public Works
17 Town Hall Road, Truro, MA

Well ID	Date	Ground Elevation	Roadbox/ Stickup Rim	Top of Casing Elevation	Depth to Bottom	Depth to Water	GW Elevation
MW-1	8/2/2024	121.6	121.53	121.03	125.0	117.02	4.01
MW-1	8/14/2024	121.6	121.53	121.03	125.2	117.21	3.82
MW-1	11/26/2024	121.6	121.53	121.03	125.2	117.52	3.51
MW-1	3/10/2025	121.6	121.53	121.03	125.2	117.44	3.59
MW-1	5/22/2025	121.6	121.53	121.03	125.1	117.19	3.84
MW-2	8/2/2024	124.3	124.31	123.83	127.6	121.89	1.94
MW-2	8/14/2024	124.3	124.31	123.83	127.4	120.50	3.33
MW-2	11/26/2024	124.3	124.31	123.83	127.4	120.25	3.58
MW-2	3/10/2025	124.3	124.31	123.83	127.4	120.23	3.60
MW-2	5/22/2025	124.3	124.31	123.83	126.0	120.02	3.81
MW-3	8/2/2024	121.6	121.57	121.24	125.0	117.27	3.97
MW-3	8/14/2024	121.6	121.57	121.24	125.5	117.40	3.84
MW-3	11/26/2024	121.6	121.57	121.24	125.5	117.62	3.62
MW-3	3/10/2025	121.6	121.57	121.24	125.5	117.59	3.65
MW-3	5/22/2025	121.6	121.57	121.24	124.6	117.36	3.88
MW-3	6/12/2025	121.6	121.57	121.24	125.0	117.18	4.06
MW-4	8/2/2024	124.4	124.46	124.10	124.4	120.22	3.88
MW-4	8/15/2024	124.4	124.46	124.10	124.0	120.43	3.67
MW-4	11/26/2024	124.4	124.46	124.10	124.0	120.60	3.50
MW-4	3/10/2025	124.4	124.46	124.10	124.0	120.55	3.55
MW-4	5/22/2025	124.4	124.46	124.10	124.2	120.34	3.76
MW-5	8/2/2024	121.3	121.27	120.87	125.0	116.91	3.96
MW-5	8/14/2024	121.3	121.27	120.87	125.0	117.01	3.86
MW-5	11/26/2024	121.3	121.27	120.87	125.0	117.20	3.67
MW-5	3/10/2025	121.3	121.27	120.87	125.0	117.19	3.68
MW-5	5/22/2025	121.3	121.27	120.87	124.4	116.95	3.92
MW-6	11/20/2024	84.8	84.76	84.30	86.4	78.74	5.56
MW-6	11/26/2024	84.8	84.76	84.30	86.4	80.59	3.71
MW-6	2/26/2025	84.8	84.76	84.30	86.4	80.70	3.60
MW-6	3/10/2025	84.8	84.76	84.30	86.4	81.49	2.81
MW-6	5/22/2025	84.8	84.76	84.30	86.4	80.24	4.06

Table 3 - Groundwater Elevation Data
Truro Department of Public Works
17 Town Hall Road, Truro, MA

Well ID	Date	Ground Elevation	Roadbox/ Stickup Rim	Top of Casing Elevation	Depth to Bottom	Depth to Water	GW Elevation
MW-7	11/20/2024	78.7	78.63	78.16	81.3	74.38	3.78
MW-7	11/26/2024	78.7	78.63	78.16	81.3	74.48	3.68
MW-7	2/26/2025	78.7	78.63	78.16	81.3	74.62	3.54
MW-7	3/10/2025	78.7	78.63	78.16	81.3	74.43	3.73
MW-7	5/22/2025	78.7	78.63	78.16	81.3	74.20	3.96
MW-8	11/20/2024	70.3	70.24	69.81	73.0	66.09	3.72
MW-8	11/26/2024	70.3	70.24	69.81	73.0	66.20	3.61
MW-8	2/26/2025	70.3	70.24	69.81	73.0	66.34	3.47
MW-8	3/10/2025	70.3	70.24	69.81	73.0	66.14	3.67
MW-8	5/22/2025	70.3	70.24	69.81	73.0	65.90	3.91
MW-9	11/20/2024	120.8	122.89	122.59	127.2	118.90	3.69
MW-9	11/26/2024	120.8	122.89	122.59	127.2	119.20	3.39
MW-9	3/10/2025	120.8	122.89	122.59	127.2	118.97	3.62
MW-9	5/22/2025	120.8	122.89	122.59	127.2	118.75	3.84
MW-9	6/12/2025	120.8	122.89	122.59	127.2	118.76	3.83
MW-9m	6/12/2025	122.4	124.70	124.56	144.0	120.70	3.86
MW-9d	6/12/2025	123.8	126.14	126.04	159.0	122.08	3.96
MW-10	3/10/2025	123.1	123.22	122.66	131.5	119.23	3.43
MW-10	5/22/2025	123.1	123.22	122.66	132.0	118.95	3.71
MW-11s	3/10/2025	39.1	39.07	38.83	45.4	35.72	3.11
MW-11s	5/22/2025	39.1	39.07	38.83	45.4	35.54	3.29
MW-11m	3/10/2025	40.2	40.19	39.91	59.7	35.80	4.11
MW-11m	5/22/2025	40.2	40.19	39.91	60.9	36.56	3.35
MW-11d	3/10/2025	39.5	39.49	39.24	80.3	36.11	3.13
MW-11d	5/22/2025	39.5	39.49	39.24	80.0	35.95	3.29
MW-12	3/10/2025	44.1	44.08	43.86	49.1	40.77	3.09
MW-12	5/22/2025	44.1	44.08	43.86	49.2	40.59	3.27
MW-12m	6/19/2025	43.8	43.81	43.60	61.0	40.44	3.16

Table 3 - Groundwater Elevation Data
Truro Department of Public Works
17 Town Hall Road, Truro, MA

Well ID	Date	Ground Elevation	Roadbox/ Stickup Rim	Top of Casing Elevation	Depth to Bottom	Depth to Water	GW Elevation
MW-12d	6/19/2025	43.5	43.46	43.21	81.0	40.06	3.15
MW-13	3/10/2025	39.8	39.83	39.57	48.0	36.35	3.22
MW-13	5/22/2025	39.8	39.83	39.57	47.0	36.15	3.42
MW-13m	6/19/2025	39.7	39.71	39.31	40.0	35.91	3.40
MW-14s	6/12/2025	121.4	121.41	121.00	125.0	117.03	3.97
MW-14m	6/12/2025	121.4	121.37	121.00	140.0	117.01	3.99
MW-14d	6/18/2025	121.1	121.12	120.82	155.5	117.35	3.47

Notes:
1. Elevation data referenced to the North American Vertical Datum of 1988 (NAVD88)
2. Elevations determined by a surveys by Alpha Survey Group dated 12/4/2024, 2/26/2025, and 6/23/2025.
3. Depth to water determined with a electronic water level indicator
4. ft btoc = feet below top of casing

Table 4 -Water Quality Monitoring Parameters
Truro Department of Public Works
Truro, MA

					SAMPLE ID:	DualSorb	DualSorb	MW-3	MW-3	MW-9	MW-9s	MW-9d	MW-14s	MW-14m	MW-14d
					COLLECTION DATE:	6/19/2025	7/10/2025	3/10/2025	6/17/2025	6/17/2025	6/17/2025	6/17/2025	6/18/2025	6/18/2025	6/18/2025
					SAMPLE MATRIX:	Unfiltered DualSorb/Water (1:4)	Filtered DualSorb/Water (1:4)	Groundwater Water	Groundwater Water	Groundwater Water	Groundwater Water	Groundwater Water	Groundwater Water	Groundwater Water	Groundwater Water
FIELD METER WATER QUALITY PARAMATERS	Units	MMCL	SMCL	GW-1	GW-3										
Temperature	Degrees Celsius	NE	NE	NE	NE	NA	NA	NA	12.6	13.5	12.6	12.4	13.4	12.7	12.5
Dissolved Oxygen	mg/l	NE	NE	NE	NE	NA	NA	NA	8.92	9.31	7.34	6.90	9.34	8.44	7.64
Specific Conductivity	us/cm	NE	NE	NE	NE	NA	NA	NA	538	464.9	479.3	370.4	451.6	304	313.1
pH	SU	NE	6.5 to 8.5	NE	NE	7.2	7.3	NA	**6.01**	**6.18**	6.55	6.92	**6.21**	**8.68**	7.22
Oxidation Reduction Potential	mV	NE	NE	NE	NE	NA	NA	NA	250.7	264.4	88.1	-31.8	255.3	24.3	-162.7
Turbidity	NTU	NE	NE	NE	NE	NA	NA	NA	2.28	2.64	1.24	1.48	2.89	2.38	3.2
LABORATORY WATER QUALITY PARAMATERS															
Ferric Iron	mg/l	NE	0.3	NE	NE	**6.0**	<0.05	NA	**2.7**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
Total Ferrous Iron	mg/l	NE	0.3	NE	NE	*<2.5*	NA	NA	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
Dissolved Ferrous Iron	mg/l	NE	0.3	NE	NE	NA	0.09	NA	NA	NA	NA	NA	NA	NA	NA
Total Iron	mg/l	NE	0.3	NE	NE	**5.97**	NA	NA	**2.7**	**0.429**	0.187	0.0983	**0.467**	**0.4**	0.108
Dissolved Iron	mg/l	NE	0.3	NE	NE	NA	<0.05	NA	NA	NA	NA	NA	NA	NA	NA
Heterotrophic Plate Count	CFU/ml	NE	NE	NE	NE	12,000	NA	NA	80,000	910	97,000	18,000	14,000	13,000	150,000
Total Manganese	mg/l	NE	0.05	NE	NE	**9.03**	NA	NA	**0.0576**	<0.01	**0.404**	**0.278**	**0.144**	**0.213**	**0.468**
Dissolved Manganese	mg/l	NE	0.05	NE	NE	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/l	NE	NE	NE	NE	NE	NA	29.5	NA	NA	NA	NA	NA	NA	NA
Total Alkalinity	mg CaCO3/L	NE	NE	NE	NE	NE	NA	17.8	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/l	NE	500	NE	NE	NE	NA	320	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/l	NE	250	NE	NE	NE	NA	170	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen	mg/l	NE	10	NE	NE	NE	NA	0.742	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	NE	250	NE	NE	NE	NA	<10	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NE	NE	NE	NE	NE	NA	<1	NA	NA	NA	NA	NA	NA	NA
Dissolved Organic Carbon	mg/l	NE	NE	NE	NE	NE	NA	1	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Field meter water quality parameters collected using a YSI Pro DSS Sonde meter.
2. Data shown is after purging five well volumes using low flow techniques.
3. mg/l = milligrams per liter
4. us/cm = micro siemens per centimeter
5. SU = standard units
6. mV = millivolts
7. NTU = Nephelometric Turbidity Unit
8. CFU/ml = colony forming units per milliliter
9. NA = not analyzed
10. NE= no standard established
11. MMCL - Massachusetts Maximum Contaminant Level
12. SMCL = Secondary Maximum Contaminant Level
13. GW-1 and GW-3 are Method 1 standards obtained from the 2024 Massachusetts Contingency Plan
14. **Bold** = exceeds SMCL
15. *Italic* = laboratory reporting limit is above SMCL
16. DualSorb sample created by adding 1 liter of dry DualSorb to 4 liters of water. The 1:4 volume ratio is the proposed injection rate of the product.

Table 5 - Soil PFAS Analytical Results

Truro Department of Public Works

Truro, MA

				SAMPLE ID:	SB-1 (2-4)	SB-2 (4-6)	SB-6 (2-4)	SB-7 (2-4)	SB-12 (16-18)	SB-14 (4-6)	SB-20 (0-2)	SB-20 (2-4)	SB-20 (4-6)	SB-20 (6-8)	SB-20 (8-10)	SB-21 (4-6)	SB-21 (6-8)
				LAB ID:	L2441265-01	L2441265-02	L2441265-03	L2441265-04	L2441265-05	L2441265-06	L2448253-01	L2448253-02	L2448253-03	L2453361-01	L2457896-01	L2453361-02	L2453361-03
				COLLECTION DATE:	7/19/2024	7/19/2024	7/19/2024	7/19/2024	7/19/2024	7/19/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024
				SAMPLE MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Compound	**Units**	**S1/GW-1**	**S1/GW-3**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Perfluorinated Alkyl Acids By EPA 1633																	
Total PFAS	mg/kg	NS	NS		ND	ND	ND	0.006269	ND	ND	ND	0.001377	0.003133	0.005805	0.00159	0.003912	0.001959
Perfluorobutanoic Acid (PFBA)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	<0.000793
Perfluoropentanoic Acid (PFPeA)	mg/kg	NS	NS		<0.000389	<0.000399	<0.000391	<0.000388	<0.000383	<0.000396	<0.000393	<0.000396	0.000463	0.000433	<0.000398	<0.000394	<0.000396
Perfluorobutanesulfonic Acid (PFBS)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	<0.000793
Perfluorohexanoic Acid (PFHxA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	0.000202	<0.000199	<0.000197	<0.000198
Perfluoropentanesulfonic Acid (PFPeS)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Perfluoroheptanoic Acid (PFHpA)	mg/kg	0.0005	0.3		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	0.0002	<0.000199	<0.000197	<0.000198
Perfluorohexanesulfonic Acid (PFHxS)	mg/kg	0.0003	0.3		<0.000195	<0.000199	<0.000196	**0.000445**	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	0.000299
Perfluorooctanoic Acid (PFOA)	mg/kg	0.00072	0.3		<0.000195	<0.000199	<0.000196	0.000349	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	0.000242	<0.000199	0.000241	<0.000198
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	0.00166
Perfluoroheptanesulfonic Acid (PFHpS)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Perfluorononanoic Acid (PFNA)	mg/kg	0.00032	0.3		<0.000195	<0.000199	<0.000196	0.000254	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	0.000278	<0.000199	0.000261	<0.000198
Perfluorooctanesulfonic Acid (PFOS)	mg/kg	0.002	0.3		<0.000195	<0.000199	<0.000196	**0.00424**	<0.000192	<0.000198	<0.000196	0.000881	**0.00217**	**0.00445**	0.00159	**0.00341**	<0.000198
Perfluorodecanoic Acid (PFDA)	mg/kg	0.0003	0.3		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	**0.000496**	0.000208	<0.000197	<0.000199	<0.000197	<0.000198
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	<0.000793
Perfluorononanesulfonic Acid (PFNS)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Perfluoroundecanoic Acid (PFUnA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	0.00028	<0.000192	<0.000198	<0.000196	<0.000198	0.000292	<0.000197	<0.000199	<0.000197	<0.000198
Perfluorodecanesulfonic Acid (PFDS)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	0.000241	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Perfluorooctanesulfonamide (PFOSA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	0.000247	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Perfluorododecanoic Acid (PFDoA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	0.000213	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Perfluorotridecanoic Acid (PFTrDA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Perfluorotetradecanoic Acid (PFTeDA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	<0.000793
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	<0.000793
Perfluorododecanesulfonic Acid (PFDoS)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	<0.000793
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	mg/kg	NS	NS		<0.000779	<0.000797	<0.000782	<0.000776	<0.000767	<0.000792	<0.000785	<0.000792	<0.000799	<0.000786	<0.000797	<0.000789	<0.000793
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	mg/kg	NS	NS		<0.000195	<0.000199	<0.000196	<0.000194	<0.000192	<0.000198	<0.000196	<0.000198	<0.0002	<0.000197	<0.000199	<0.000197	<0.000198
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	mg/kg	NS	NS		<0.00195	<0.00199	<0.00196	<0.00194	<0.00192	<0.00198	<0.00196	<0.00198	<0.002	<0.00197	<0.00199	<0.00197	<0.00198
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	mg/kg	NS	NS		<0.00195	<0.00199	<0.00196	<0.00194	<0.00192	<0.00198	<0.00196	<0.00198	<0.002	<0.00197	<0.00199	<0.00197	<0.00198
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	mg/kg	NS	NS		<0.000389	<0.000399	<0.000391	<0.000388	<0.000383	<0.000396	<0.000393	<0.000396	<0.000399	<0.000393	<0.000398	<0.000394	<0.000396
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	mg/kg	NS	NS		<0.000389	<0.000399	<0.000391	<0.000388	<0.000383	<0.000396	<0.000393	<0.000396	<0.000399	<0.000393	<0.000398	<0.000394	<0.000396
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	mg/kg	NS	NS		<0.000389	<0.000399	<0.000391	<0.000388	<0.000383	<0.000396	<0.000393	<0.000396	<0.000399	<0.000393	<0.000398	<0.000394	<0.000396
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	mg/kg	NS	NS		<0.000389	<0.000399	<0.000391	<0.000388	<0.000383	<0.000396	<0.000393	<0.000396	<0.000399	<0.000393	<0.000398	<0.000394	<0.000396
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	mg/kg	NS	NS		<0.000974	<0.000997	<0.000978	<0.00097	<0.000958	<0.000991	<0.000982	<0.00099	<0.000998	<0.000983	<0.000996	<0.000986	<0.000991
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	mg/kg	NS	NS		<0.00487	<0.00498	<0.00489	<0.00485	<0.00479	<0.00495	<0.00491	<0.00495	<0.00499	<0.00492	<0.00498	<0.00493	<0.00495
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	mg/kg	NS	NS		<0.00487	<0.00498	<0.00489	<0.00485	<0.00479	<0.00495	<0.00491	<0.00495	<0.00499	<0.00492	<0.00498	<0.00493	<0.00495
General Chemistry																	
Solids, Total	% weight	NS	NS		98.2	97.4	97.2	97.4	97.5	98	97.4	98.5	98.4	97.8	98.2	95.5	94.5

Notes:

1. MCP = 2024 Massachusetts Contingency Plan
2. S-1 is the applicable Method 1 soil standard
4. mg/kg = Milligram per kilogram
5. *Italic* = Laboratory Reporting Limit is above the regulatory criteria
6. **Bold** = Result exceeds regulatory criteria
7. < = Compound not detected at concentration exceeding indicated laboratory reporting limit.
8. NS = No standard; ND = Not detected above laboratory reporting limit

Table 5 - Soil PFAS Analytical Results

Truro Department of Public Works

Truro, MA

				SAMPLE ID:	SB-22 (2-4)	SB-22 (4-6)	SB-22 (6-8)	SB-23 (0-2)	SB-23 (2-4)	SB-23 (4-6)	SB-23 (6-8)	SB-23 (8-10)	SB-24 (2-4)	SB-24 (4-6)	SB-25 (2-4)	SB-25 (4-6)
				LAB ID:	L2457896-02	L2457896-03	L2457896-04	L2448253-19	L2448253-20	L2448253-21	L2453361-04	L2457896-05	L2457896-06	L2457896-07	L2453361-05	L2457896-08
				COLLECTION DATE:	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024
				SAMPLE MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Compound	**Units**	**S1/GW-1**	**S1/GW-3**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Perfluorinated Alkyl Acids By EPA 1633																
Total PFAS	mg/kg	NS	NS		0.000243	ND	ND	0.00062	0.00102	0.023966	0.005588	0.003286	0.000231	ND	0.003862	0.016518
Perfluorobutanoic Acid (PFBA)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	<0.000802	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
Perfluoropentanoic Acid (PFPeA)	mg/kg	NS	NS		<0.0004	<0.000399	<0.000398	<0.000394	<0.000394	<0.000396	<0.000401	<0.0004	<0.000399	<0.000399	<0.000398	<0.000398
Perfluorobutanesulfonic Acid (PFBS)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	<0.000802	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
Perfluorohexanoic Acid (PFHxA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	0.000204
Perfluoropentanesulfonic Acid (PFPeS)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluoroheptanoic Acid (PFHpA)	mg/kg	0.0005	0.3		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	0.000204
Perfluorohexanesulfonic Acid (PFHxS)	mg/kg	0.0003	0.3		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	**0.000758**	**0.00168**	**0.000889**	<0.000199	<0.000199	0.000222	**0.000498**
Perfluorooctanoic Acid (PFOA)	mg/kg	0.00072	0.3		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	0.000306	**0.00128**	**0.00124**	<0.000199	<0.000199	<0.000199	0.000318
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	0.00148	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
Perfluoroheptanesulfonic Acid (PFHpS)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorononanoic Acid (PFNA)	mg/kg	0.00032	0.3		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	**0.000732**	0.00026	**0.000353**	<0.000199	<0.000199	<0.000199	**0.000794**
Perfluorooctanesulfonic Acid (PFOS)	mg/kg	0.002	0.3		0.000243	<0.0002	<0.000199	0.00062	0.00102	**0.0203**	0.000888	0.000804	0.000231	<0.000199	**0.00364**	**0.0145**
Perfluorodecanoic Acid (PFDA)	mg/kg	0.0003	0.3		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	**0.000561**	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	<0.000802	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
Perfluorononanesulfonic Acid (PFNS)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluoroundecanoic Acid (PFUnA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	0.000612	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorodecanesulfonic Acid (PFDS)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	0.000441	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorooctanesulfonamide (PFOSA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorododecanoic Acid (PFDoA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	0.000256	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorotridecanoic Acid (PFTrDA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorotetradecanoic Acid (PFTeDA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	<0.000802	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	<0.000802	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
Perfluorododecanesulfonic Acid (PFDoS)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	<0.000802	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	mg/kg	NS	NS		<0.0008	<0.000798	<0.000796	<0.000788	<0.000788	<0.000792	<0.000802	<0.000801	<0.000798	<0.000798	<0.000796	<0.000796
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	mg/kg	NS	NS		<0.0002	<0.0002	<0.000199	<0.000197	<0.000197	<0.000198	<0.0002	<0.0002	<0.000199	<0.000199	<0.000199	<0.000199
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	mg/kg	NS	NS		<0.002	<0.002	<0.00199	<0.00197	<0.00197	<0.00198	<0.002	<0.002	<0.00199	<0.00199	<0.00199	<0.00199
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	mg/kg	NS	NS		<0.002	<0.002	<0.00199	<0.00197	<0.00197	<0.00198	<0.002	<0.002	<0.00199	<0.00199	<0.00199	<0.00199
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	mg/kg	NS	NS		<0.0004	<0.000399	<0.000398	<0.000394	<0.000394	<0.000396	<0.000401	<0.0004	<0.000399	<0.000399	<0.000398	<0.000398
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	mg/kg	NS	NS		<0.0004	<0.000399	<0.000398	<0.000394	<0.000394	<0.000396	<0.000401	<0.0004	<0.000399	<0.000399	<0.000398	<0.000398
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	mg/kg	NS	NS		<0.0004	<0.000399	<0.000398	<0.000394	<0.000394	<0.000396	<0.000401	<0.0004	<0.000399	<0.000399	<0.000398	<0.000398
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	mg/kg	NS	NS		<0.0004	<0.000399	<0.000398	<0.000394	<0.000394	<0.000396	<0.000401	<0.0004	<0.000399	<0.000399	<0.000398	<0.000398
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	mg/kg	NS	NS		<0.001	<0.000998	<0.000995	<0.000984	<0.000985	<0.00099	<0.001	<0.001	<0.000997	<0.000997	<0.000995	<0.000995
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	mg/kg	NS	NS		<0.005	<0.00499	<0.00498	<0.00492	<0.00492	<0.00495	<0.00501	<0.005	<0.00499	<0.00498	<0.00497	<0.00498
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	mg/kg	NS	NS		<0.005	<0.00499	<0.00498	<0.00492	<0.00492	<0.00495	<0.00501	<0.005	<0.00499	<0.00498	<0.00497	<0.00498
General Chemistry																
Solids, Total	% weight	NS	NS		95.4	96.7	96.8	93.7	92.3	92	96.9	97.2	96.4	97.2	97.8	98.9

Notes:

1. MCP = 2024 Massachusetts Contingency Plan
2. S-1 is the applicable Method 1 soil standard
4. mg/kg = Milligram per kilogram
5. *Italic* = Laboratory Reporting Limit is above the regulatory criteria
6. **Bold** = Result exceeds regulatory criteria
7. < = Compound not detected at concentration exceeding indicated laboratory reporting limit.
8. NS = No standard; ND = Not detected above laboratory reporting limit

Table 5 - Soil PFAS Analytical Results
Truro Department of Public Works
Truro, MA

				SAMPLE ID:	SB-26 (0-2)	SB-26 (2-4)	SB-26 (4-6)	SB-27 (0-2)	SB-27 (2-4)	SB-27 (4-6)	SB-27 (6-8)	SB-27 (8-10)	SB-28 (4-6)	SB-28 (6-8)	SB-29 (4-6)	SB-29 (8-10)	SB-29 (12-14)	SB-30 (18-20)
				LAB ID:	L2448253-37	L2448253-38	L2448253-39	L2448253-43	L2448253-44	L2448253-45	L2453361-06	L2457896-09	L2453361-07	L2453361-08	L2475425-03	L2506726-01	L2506726-02	L2506726-03
				COLLECTION DATE:	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	8/22/2024	12/19/2024	12/19/2024	12/19/2024	12/19/2024
				SAMPLE MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Compound	**Units**	**S1/GW-1**	**S1/GW-3**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Perfluorinated Alkyl Acids By EPA 1633																		
Total PFAS	mg/kg	NS	NS		0.00135	0.015127	0.0012	0.00054	0.021411	0.010596	0.018336	0.003944	0.000687	0.00063	0.001475	0.000228	ND	ND
Perfluorobutanoic Acid (PFBA)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
Perfluoropentanoic Acid (PFPeA)	mg/kg	NS	NS		<0.000396	<0.00038	<0.000385	<0.000381	0.00128	<0.000375	0.000683	<0.000397	<0.000397	<0.000399	< 0.000398	<0.000399	<0.000398	<0.000397
Perfluorobutanesulfonic Acid (PFBS)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
Perfluorohexanoic Acid (PFHxA)	mg/kg	NS	NS		<0.000198	0.000207	<0.000192	<0.00019	0.000826	0.000286	0.000566	<0.000198	<0.000198	<0.0002	0.000347	<0.000199	<0.000199	<0.000198
Perfluoropentanesulfonic Acid (PFPeS)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluoroheptanoic Acid (PFHpA)	mg/kg	0.0005	0.3		<0.000198	<0.00019	<0.000192	<0.00019	**0.000793**	0.000233	0.000467	0.000424	<0.000198	<0.0002	< 0.00199	<0.000199	<0.000199	<0.000198
Perfluorohexanesulfonic Acid (PFHxS)	mg/kg	0.0003	0.3		<0.000198	**0.000753**	<0.000192	<0.00019	**0.00229**	**0.000687**	**0.00186**	**0.00233**	<0.000198	<0.0002	**0.000489**	0.000228	<0.000199	<0.000198
Perfluorooctanoic Acid (PFOA)	mg/kg	0.00072	0.3		<0.000198	0.00054	<0.000192	<0.00019	**0.00168**	0.000513	**0.00186**	**0.00119**	<0.000198	<0.0002	0.000306	<0.000199	<0.000199	<0.000198
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
Perfluoroheptanesulfonic Acid (PFHpS)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluorononanoic Acid (PFNA)	mg/kg	0.00032	0.3		<0.000198	**0.000743**	<0.000192	<0.00019	**0.000881**	**0.000463**	**0.0017**	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluorooctanesulfonic Acid (PFOS)	mg/kg	0.002	0.3		0.00135	**0.0112**	0.0012	0.00054	**0.0106**	**0.00719**	**0.0112**	<0.000198	0.000687	0.00063	0.000333	<0.000199	<0.000199	<0.000198
Perfluorodecanoic Acid (PFDA)	mg/kg	0.0003	0.3		<0.000198	**0.000381**	<0.000192	<0.00019	**0.000472**	0.000228	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
Perfluorononanesulfonic Acid (PFNS)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluoroundecanoic Acid (PFUnA)	mg/kg	NS	NS		<0.000198	0.000318	<0.000192	<0.00019	0.000647	0.000392	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluorodecanesulfonic Acid (PFDS)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	0.000364	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluorooctanesulfonamide (PFOSA)	mg/kg	NS	NS		<0.000198	0.00021	<0.000192	<0.00019	0.000314	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	mg/kg	NS	NS		<0.000198	0.000508	<0.000192	<0.00019	0.000638	0.000403	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluorododecanoic Acid (PFDoA)	mg/kg	NS	NS		<0.000198	0.000267	<0.000192	<0.00019	0.000415	0.000201	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluorotridecanoic Acid (PFTrDA)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	0.000211	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Perfluorotetradecanoic Acid (PFTeDA)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
Perfluorododecanesulfonic Acid (PFDoS)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	mg/kg	NS	NS		<0.000792	<0.00076	<0.000769	<0.000761	<0.000794	<0.00075	<0.000794	<0.000794	<0.000794	<0.000799	< 0.000796	<0.000798	<0.000795	<0.000794
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	mg/kg	NS	NS		<0.000198	<0.00019	<0.000192	<0.00019	<0.000198	<0.000188	<0.000199	<0.000198	<0.000198	<0.0002	< 0.000199	<0.000199	<0.000199	<0.000198
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	mg/kg	NS	NS		<0.00198	<0.0019	<0.00192	<0.0019	<0.00198	<0.00188	<0.00199	<0.00198	<0.00198	<0.002	< 0.00199	<0.00199	<0.00199	<0.00198
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	mg/kg	NS	NS		<0.00198	<0.0019	<0.00192	<0.0019	<0.00198	<0.00188	<0.00199	<0.00198	<0.00198	<0.002	< 0.00199	<0.00199	<0.00199	<0.00198
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	mg/kg	NS	NS		<0.000396	<0.00038	<0.000385	<0.000381	<0.000397	<0.000375	<0.000397	<0.000397	<0.000397	<0.000399	< 0.000398	<0.000399	<0.000398	<0.000397
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	mg/kg	NS	NS		<0.000396	<0.00038	<0.000385	<0.000381	<0.000397	<0.000375	<0.000397	<0.000397	<0.000397	<0.000399	< 0.000398	<0.000399	<0.000398	<0.000397
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	mg/kg	NS	NS		<0.000396	<0.00038	<0.000385	<0.000381	<0.000397	<0.000375	<0.000397	<0.000397	<0.000397	<0.000399	< 0.000398	<0.000399	<0.000398	<0.000397
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	mg/kg	NS	NS		<0.000396	<0.00038	<0.000385	<0.000381	<0.000397	<0.000375	<0.000397	<0.000397	<0.000397	<0.000399	< 0.000398	<0.000399	<0.000398	<0.000397
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	mg/kg	NS	NS		<0.00099	<0.000949	<0.000962	<0.000952	<0.000992	<0.000938	<0.000993	<0.000993	<0.000992	<0.000998	< 0.000995	<0.000997	<0.000994	<0.000992
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	mg/kg	NS	NS		<0.00495	<0.00475	<0.00481	<0.00476	<0.00496	<0.00469	<0.00496	<0.00496	<0.00496	<0.00499	< 0.00497	<0.00499	<0.00497	<0.00496
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	mg/kg	NS	NS		<0.00495	<0.00475	<0.00481	<0.00476	<0.00496	<0.00469	<0.00496	<0.00496	<0.00496	<0.00499	< 0.00497	<0.00499	<0.00497	<0.00496
General Chemistry																		
Solids, Total	% weight	NS	NS		98.3	98.8	98.1	98.4	98.2	98.7	97	97.8	98.4	98	94.3	96.4	96.9	95.8

Notes:
1. MCP = 2024 Massachusetts Contingency Plan
2. S-1 is the applicable Method 1 soil standard
4. mg/kg = Milligram per kilogram
5. *Italic* = Laboratory Reporting Limit is above the regulatory criteria
6. **Bold** = Result exceeds regulatory criteria
7. < = Compound not detected at concentration exceeding indicated laboratory reporting limit.
8. NS = No standard; ND = Not detected above laboratory reporting limit

Table 5 - Soil PFAS Analytical Results

Truro Department of Public Works

Truro, MA

				SAMPLE ID:	SB-31 (4-6)	SB-32 (4-6)	SB-32 (12-14)	SB-33 (10-12)	SB-33 (14-16)	SB-35 (4-6)	SB-35 (12-14)	SB-36 (4-6)	SB-36 (12-14)	SB-37 (4-6)	SB-37 (12-14)	SB-38 (4-6)	SB-39 (2-4)	SB-39 (4-6)
				LAB ID:	L2475425-23	L2475425-33	L2475425-37	L2506726-04	L2506726-05	L2500454-03	L2500454-07	L2500454-13	L2500454-17	L2506734-01	L2506734-02	L2506734-03	L2500454-42	L2500454-43
				COLLECTION DATE:	12/19/2024	12/19/2024	12/19/2024	12/19/2024	12/19/2024	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025
				SAMPLE MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Compound	**Units**	**S1/GW-1**	**S1/GW-3**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Perfluorinated Alkyl Acids By EPA 1633																		
Total PFAS	mg/kg	NS	NS		ND	0.000291	ND	0.004526	0.003047	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorobutanoic Acid (PFBA)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
Perfluoropentanoic Acid (PFPeA)	mg/kg	NS	NS		< 0.0004	< 0.000399	< 0.000398	<0.000399	<0.000398	<0.000398	<0.000399	<0.0004	<0.000397	<0.000401	<0.000398	<0.000398	<0.0004	<0.000398
Perfluorobutanesulfonic Acid (PFBS)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
Perfluorohexanoic Acid (PFHxA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluoropentanesulfonic Acid (PFPeS)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluoroheptanoic Acid (PFHpA)	mg/kg	0.0005	0.3		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorohexanesulfonic Acid (PFHxS)	mg/kg	0.0003	0.3		< 0.0002	< 0.0002	< 0.000199	**0.000416**	**0.000321**	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorooctanoic Acid (PFOA)	mg/kg	0.00072	0.3		< 0.0002	< 0.0002	< 0.000199	0.0006	0.000332	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
Perfluoroheptanesulfonic Acid (PFHpS)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorononanoic Acid (PFNA)	mg/kg	0.00032	0.3		< 0.0002	< 0.0002	< 0.000199	**0.00049**	0.000234	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorooctanesulfonic Acid (PFOS)	mg/kg	0.002	0.3		< 0.0002	0.000291	< 0.000199	**0.00302**	**0.00216**	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorodecanoic Acid (PFDA)	mg/kg	0.0003	0.3		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
Perfluorononanesulfonic Acid (PFNS)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluoroundecanoic Acid (PFUnA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorodecanesulfonic Acid (PFDS)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorooctanesulfonamide (PFOSA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorododecanoic Acid (PFDoA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorotridecanoic Acid (PFTrDA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Perfluorotetradecanoic Acid (PFTeDA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
Perfluorododecanesulfonic Acid (PFDoS)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	mg/kg	NS	NS		< 0.000799	< 0.000798	< 0.000796	<0.000798	<0.000795	<0.000797	<0.000797	<0.0008	<0.000794	<0.000802	<0.000797	<0.000797	<0.000801	<0.000795
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	mg/kg	NS	NS		< 0.0002	< 0.0002	< 0.000199	<0.000199	<0.000199	<0.000199	<0.000199	<0.0002	<0.000198	<0.0002	<0.000199	<0.000199	<0.0002	<0.000199
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	mg/kg	NS	NS		< 0.002	< 0.002	< 0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<0.002	<0.00198	<0.002	<0.00199	<0.00199	<0.002	<0.00199
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	mg/kg	NS	NS		< 0.002	< 0.002	< 0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<0.002	<0.00198	<0.002	<0.00199	<0.00199	<0.002	<0.00199
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	mg/kg	NS	NS		< 0.0004	< 0.000399	< 0.000398	<0.000399	<0.000398	<0.000398	<0.000399	<0.0004	<0.000397	<0.000401	<0.000398	<0.000398	<0.0004	<0.000398
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	mg/kg	NS	NS		< 0.0004	< 0.000399	< 0.000398	<0.000399	<0.000398	<0.000398	<0.000399	<0.0004	<0.000397	<0.000401	<0.000398	<0.000398	<0.0004	<0.000398
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	mg/kg	NS	NS		< 0.0004	< 0.000399	< 0.000398	<0.000399	<0.000398	<0.000398	<0.000399	<0.0004	<0.000397	<0.000401	<0.000398	<0.000398	<0.0004	<0.000398
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	mg/kg	NS	NS		< 0.0004	< 0.000399	< 0.000398	<0.000399	<0.000398	<0.000398	<0.000399	<0.0004	<0.000397	<0.000401	<0.000398	<0.000398	<0.0004	<0.000398
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	mg/kg	NS	NS		< 0.000999	< 0.000998	< 0.000994	<0.000997	<0.000994	<0.000996	<0.000997	<0.001	<0.000993	<0.001	<0.000996	<0.000996	<0.001	<0.000994
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	mg/kg	NS	NS		< 0.00499	< 0.00499	< 0.00497	<0.00498	<0.00497	<0.00498	<0.00498	<0.005	<0.00496	<0.00501	<0.00498	<0.00498	<0.005	<0.00497
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	mg/kg	NS	NS		< 0.00499	< 0.00499	< 0.00497	<0.00498	<0.00497	<0.00498	<0.00498	<0.005	<0.00496	<0.00501	<0.00498	<0.00498	<0.005	<0.00497
General Chemistry																		
Solids, Total	% weight	NS	NS		95.9	85.8	96.5	96.8	97.5	96	97.6	97.7	97.4	96.9	96.5	96	96.8	96.2

Notes:

1. MCP = 2024 Massachusetts Contingency Plan
2. S-1 is the applicable Method 1 soil standard
4. mg/kg = Milligram per kilogram
5. *Italic* = Laboratory Reporting Limit is above the regulatory criteria
6. **Bold** = Result exceeds regulatory criteria
7. < = Compound not detected at concentration exceeding indicated laboratory reporting limit.
8. NS = No standard; ND = Not detected above laboratory reporting limit

Table 5 - Soil PFAS Analytical Results

Truro Department of Public Works

Truro, MA

			SAMPLE ID:	SB-40 (2-4)	SB-40 (6-8)	SB-41 (2-4)	SB-41 (4-6)	SB-42 (2-4)	SB-42 (6-8)	SB-44 (4-6)	SB-46 (20-22)	SB-46 (30-32)	SB-46 (50-52)	SB-46 (105-107)	SB-46 (115-117)
			LAB ID:	L2506734-04	L2506734-05	L2500454-62	L2500454-63	L2506734-06	L2506734-07	L2500454-93	L2513564-01	L2513564-02	L2513564-03	L2509145-01	L2509145-02
			COLLECTION DATE:	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	2/17/2025	2/17/2025	2/17/2025	2/17/2025	2/17/2025
			SAMPLE MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Compound	**Units**	**S1/GW-1**	**S1/GW-3**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Perfluorinated Alkyl Acids By EPA 1633															
Total PFAS	mg/kg	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorobutanoic Acid (PFBA)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
Perfluoropentanoic Acid (PFPeA)	mg/kg	NS	NS	<0.000399	<0.000398	<0.000396	<0.000399	<0.000394	<0.000393	<0.000399	<0.000399	<0.0004	<0.0004	<0.000399	<0.000399
Perfluorobutanesulfonic Acid (PFBS)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
Perfluorohexanoic Acid (PFHxA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentanesulfonic Acid (PFPeS)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic Acid (PFHpA)	mg/kg	0.0005	0.3	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanesulfonic Acid (PFHxS)	mg/kg	0.0003	0.3	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic Acid (PFOA)	mg/kg	0.00072	0.3	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
Perfluoroheptanesulfonic Acid (PFHpS)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic Acid (PFNA)	mg/kg	0.00032	0.3	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanesulfonic Acid (PFOS)	mg/kg	0.002	0.3	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic Acid (PFDA)	mg/kg	0.0003	0.3	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
Perfluorononanesulfonic Acid (PFNS)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic Acid (PFUnA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic Acid (PFDS)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanesulfonamide (PFOSA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic Acid (PFDoA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic Acid (PFTrDA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic Acid (PFTeDA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
Perfluorododecanesulfonic Acid (PFDoS)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	mg/kg	NS	NS	<0.000798	<0.000796	<0.000792	<0.000799	<0.000788	<0.000786	<0.000798	<0.000798	<0.0008	<0.0008	<0.000798	<0.000798
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	mg/kg	NS	NS	<0.0002	<0.000199	<0.000198	<0.0002	<0.000197	<0.000196	<0.0002	<0.000199	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	mg/kg	NS	NS	<0.002	<0.00199	<0.00198	<0.002	<0.00197	<0.00196	<0.002	<0.00199	<0.002	<0.002	<0.002	<0.002
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	mg/kg	NS	NS	<0.002	<0.00199	<0.00198	<0.002	<0.00197	<0.00196	<0.002	<0.00199	<0.002	<0.002	<0.002	<0.002
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	mg/kg	NS	NS	<0.000399	<0.000398	<0.000396	<0.000399	<0.000394	<0.000393	<0.000399	<0.000399	<0.0004	<0.0004	<0.000399	<0.000399
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	mg/kg	NS	NS	<0.000399	<0.000398	<0.000396	<0.000399	<0.000394	<0.000393	<0.000399	<0.000399	<0.0004	<0.0004	<0.000399	<0.000399
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	mg/kg	NS	NS	<0.000399	<0.000398	<0.000396	<0.000399	<0.000394	<0.000393	<0.000399	<0.000399	<0.0004	<0.0004	<0.000399	<0.000399
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	mg/kg	NS	NS	<0.000399	<0.000398	<0.000396	<0.000399	<0.000394	<0.000393	<0.000399	<0.000399	<0.0004	<0.0004	<0.000399	<0.000399
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	mg/kg	NS	NS	<0.000998	<0.000995	<0.000991	<0.000998	<0.000984	<0.000982	<0.000998	<0.000997	<0.001	<0.001	<0.000998	<0.000998
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	mg/kg	NS	NS	<0.00499	<0.00498	<0.00495	<0.00499	<0.00492	<0.00491	<0.00499	<0.00498	<0.005	<0.005	<0.00499	<0.00499
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	mg/kg	NS	NS	<0.00499	<0.00498	<0.00495	<0.00499	<0.00492	<0.00491	<0.00499	<0.00498	<0.005	<0.005	<0.00499	<0.00499
General Chemistry															
Solids, Total	% weight	NS	NS	96.2	97	96.5	93.6	96.2	96.4	95.6	97.2	97.3	88.5	91.1	92.3

Notes:

1. MCP = 2024 Massachusetts Contingency Plan
2. S-1 is the applicable Method 1 soil standard
4. mg/kg = Milligram per kilogram
5. *Italic* = Laboratory Reporting Limit is above the regulatory criteria
6. **Bold** = Result exceeds regulatory criteria
7. < = Compound not detected at concentration exceeding indicated laboratory reporting limit.
8. NS = No standard; ND = Not detected above laboratory reporting limit

Table 5 - Soil PFAS Analytical Results

Truro Department of Public Works

Truro, MA

		SAMPLE ID:		SB-47 (104-106)	SB-47 (114-116)	MW-14S (100)	MW-14S (110)
		LAB ID:		L2509145-04	L2509145-03	L2537285-01	L2537285-02
		COLLECTION DATE:		2/18/2025	2/18/2025	6/2/2025	6/2/2025
		SAMPLE MATRIX:		SOIL	SOIL	SOIL	SOIL
Compound	**Units**	**S1/GW-1**	**S1/GW-3**	**Result**	**Result**	**Result**	**Result**
Perfluorinated Alkyl Acids By EPA 1633							
Total PFAS	mg/kg	NS	NS	ND	ND	ND	ND
Perfluorobutanoic Acid (PFBA)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
Perfluoropentanoic Acid (PFPeA)	mg/kg	NS	NS	<0.000398	<0.000398	<0.000398	<0.000398
Perfluorobutanesulfonic Acid (PFBS)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
Perfluorohexanoic Acid (PFHxA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluoropentanesulfonic Acid (PFPeS)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluoroheptanoic Acid (PFHpA)	mg/kg	0.0005	0.3	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorohexanesulfonic Acid (PFHxS)	mg/kg	0.0003	0.3	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorooctanoic Acid (PFOA)	mg/kg	0.00072	0.3	<0.000199	<0.000199	<0.000199	<0.000199
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
Perfluoroheptanesulfonic Acid (PFHpS)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorononanoic Acid (PFNA)	mg/kg	0.00032	0.3	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorooctanesulfonic Acid (PFOS)	mg/kg	0.002	0.3	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorodecanoic Acid (PFDA)	mg/kg	0.0003	0.3	<0.000199	<0.000199	<0.000199	<0.000199
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
Perfluorononanesulfonic Acid (PFNS)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluoroundecanoic Acid (PFUnA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorodecanesulfonic Acid (PFDS)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorooctanesulfonamide (PFOSA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorododecanoic Acid (PFDoA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorotridecanoic Acid (PFTrDA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Perfluorotetradecanoic Acid (PFTeDA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
Perfluorododecanesulfonic Acid (PFDoS)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	mg/kg	NS	NS	<0.000795	<0.000796	<0.000796	<0.000795
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	mg/kg	NS	NS	<0.000199	<0.000199	<0.000199	<0.000199
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	mg/kg	NS	NS	<0.00199	<0.00199	<0.00199	<0.00199
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	mg/kg	NS	NS	<0.00199	<0.00199	<0.00199	<0.00199
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	mg/kg	NS	NS	<0.000398	<0.000398	<0.000398	<0.000398
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	mg/kg	NS	NS	<0.000398	<0.000398	<0.000398	<0.000398
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	mg/kg	NS	NS	<0.000398	<0.000398	<0.000398	<0.000398
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	mg/kg	NS	NS	<0.000398	<0.000398	<0.000398	<0.000398
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	mg/kg	NS	NS	<0.000994	<0.000994	<0.000995	<0.000994
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	mg/kg	NS	NS	<0.00497	<0.00497	<0.00497	<0.00497
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	mg/kg	NS	NS	<0.00497	<0.00497	<0.00497	<0.00497
General Chemistry							
Solids, Total	% weight	NS	NS	91.8	98	94.3	92.3

Notes:

1. MCP = 2024 Massachusetts Contingency Plan
2. S-1 is the applicable Method 1 soil standard
4. mg/kg = Milligram per kilogram
5. *Italic* = Laboratory Reporting Limit is above the regulatory criteria
6. **Bold** = Result exceeds regulatory criteria
7. < = Compound not detected at concentration exceeding indicated laboratory reporting limit.
8. NS = No standard; ND = Not detected above laboratory reporting limit

Table 6 - POET System Quarterly Testing Results

Truro Department of Public Works

Truro, MA

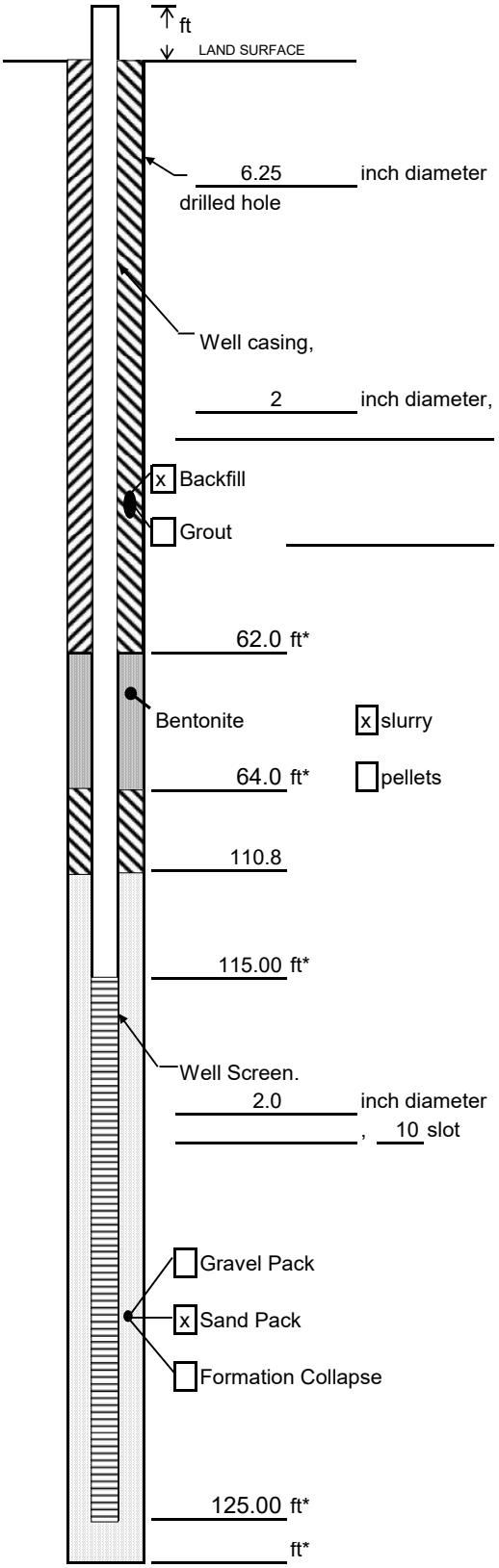
POET SYSTEM LOCATION:		25 Castle Road					
SAMPLING EVENT:		Quarter 1					
SAMPLE LOCATION		Raw Water (Pre-Treatment)	After Tank 1	After Tank 1 Duplicate	After Tank 2	After Tank 3	Field Blank
SAMPLE ID:		25 Castle Road Raw Water	25 Castle Road T1	25 Castle Road T1 Dup	25 Castle Road T2	25 Castle Road T3	25 Castle Road Field Blank
LAB ID:		L2539811-01	L2539811-02	L2539811-03	L2539811-04	L2539811-05	L2539811-06
COLLECTION DATE:		6/24/2025	6/24/2025	6/24/2025	6/24/2025	6/24/2025	6/24/2025
SAMPLE MATRIX:		Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	PFAS Free Water
PERFLUORINATED ALKYL ACIDS BY EPA 537.1	**MMCL**						
PFAS6 (Sum of PFOS, PFHxS, PFDA, PFNA, PFOA, and PFHpA)	0.02	0.00215	ND	ND	ND	ND	ND
Total PFAS	NS	0.00215	ND	ND	ND	ND	ND
Perfluorobutanesulfonic Acid (PFBS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic Acid (PFHxA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroheptanoic Acid (PFHpA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanesulfonic Acid (PFHxS)	NS	0.00215	<0.002	<0.002	<0.002	<0.002	<0.002
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanoic Acid (PFOA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic Acid (PFNA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctanesulfonic Acid (PFOS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic Acid (PFDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic Acid (PFUnA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic Acid (PFDoA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic Acid (PFTrDA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic Acid (PFTA)	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Notes:

1. Units are in micrograms per liter (µg/l)
2. MMCL = Massachusetts Maximum Contaminant Level
3. NS = No Standard
4. < # = Not identified at concentration exceeding the indicated laboratory reporting limit.
5. **Bold** = Detection exceeds regulatory criteria
6. U # = Not identified at concentration exceeding the indicated laboratory method detection limit.
7. PFAS not detected in associated duplicate or trip blank unless otherwise noted. All samples analyzed in duplicate.

APPENDIX A
MONITORING WELL CONSTRUCTION LOGS

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-1

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

121.6 NAVD 88 feet [X] Surveyed [ ] Estimated

Installation Date(s) 8/1/2024

Drilling Method Hollow Stem Auger

Drilling Contractor Desmond Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 8/2/2024

Fluid Loss During Drilling NA gallons

Water Removed During Development 30 gallons

Static Depth to Water 117.02 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 1 hours

Yield 0.5 gpm Date 8/2/2024

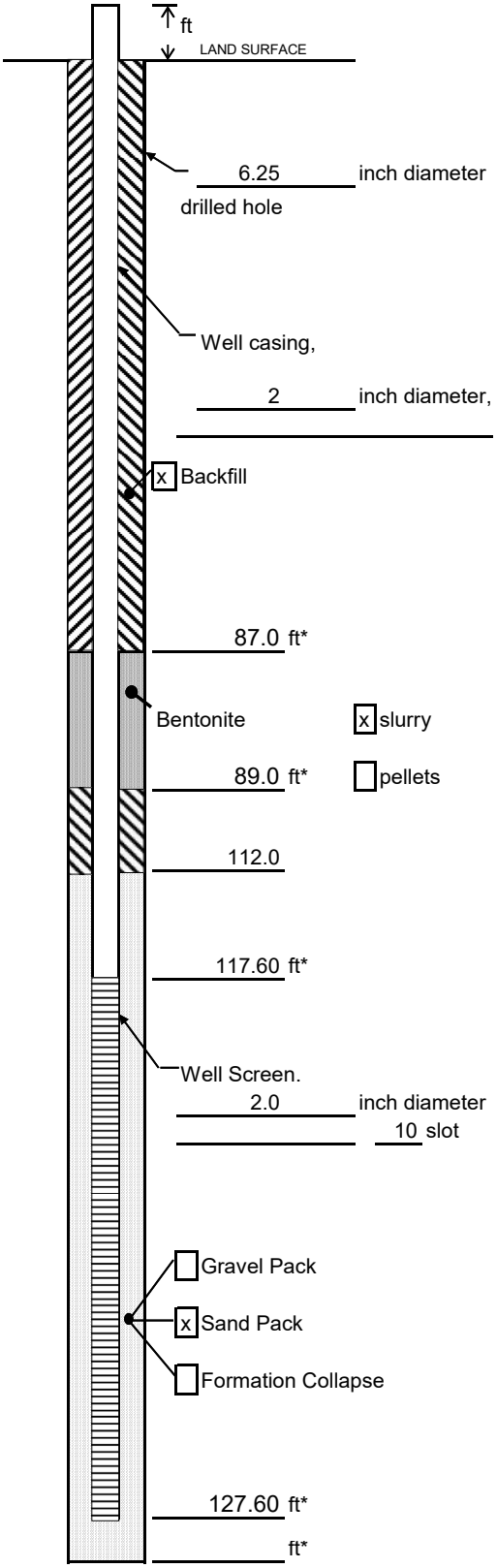
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-2

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

124.3 NAVD 88 feet [X] Surveyed [ ] Estimated

Installation Date(s) 7/31/2024

Drilling Method Hollow Stem Auger

Drilling Contractor Desmond Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 8/2/2024

Fluid Loss During Drilling NA gallons

Water Removed During Development 30 gallons

Static Depth to Water 121.89 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 1 hours

Yield 0.5 gpm Date 8/2/2024

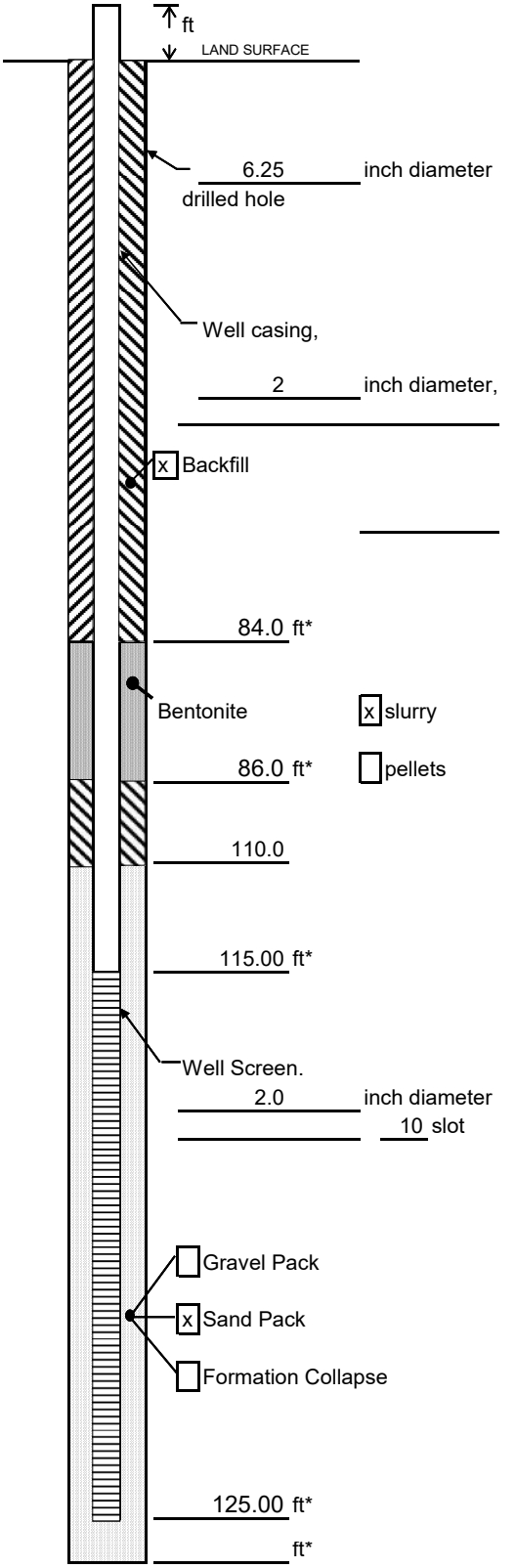
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project	TRU2501.P2	Well	MW-3
Town/City	17 Town Hall Road, Truro		
County	Barnstable	State	MA
Permit No.	N/A		

Land-Surface Elevation and Datum:

121.6 NAVD 88 feet [X] Surveyed [ ] Estimated

Installation Date(s)	7/29-7/31/24
Drilling Method	Hollow Stem Auger
Drilling Contractor	Desmond Drilling
Drilling Fluid	NA

Development Technique(s) and Date(s)

Submersible Pump 8/2/2024

Fluid Loss During Drilling: NA gallons

Water Removed During Development: 25 gallons

Static Depth to Water: 117.27 feet below M.P.

Pumping Depth to Water: _____ feet below M.P.

Pumping Duration: 1 hours

Yield: 0.5 gpm Date: 8/2/2024

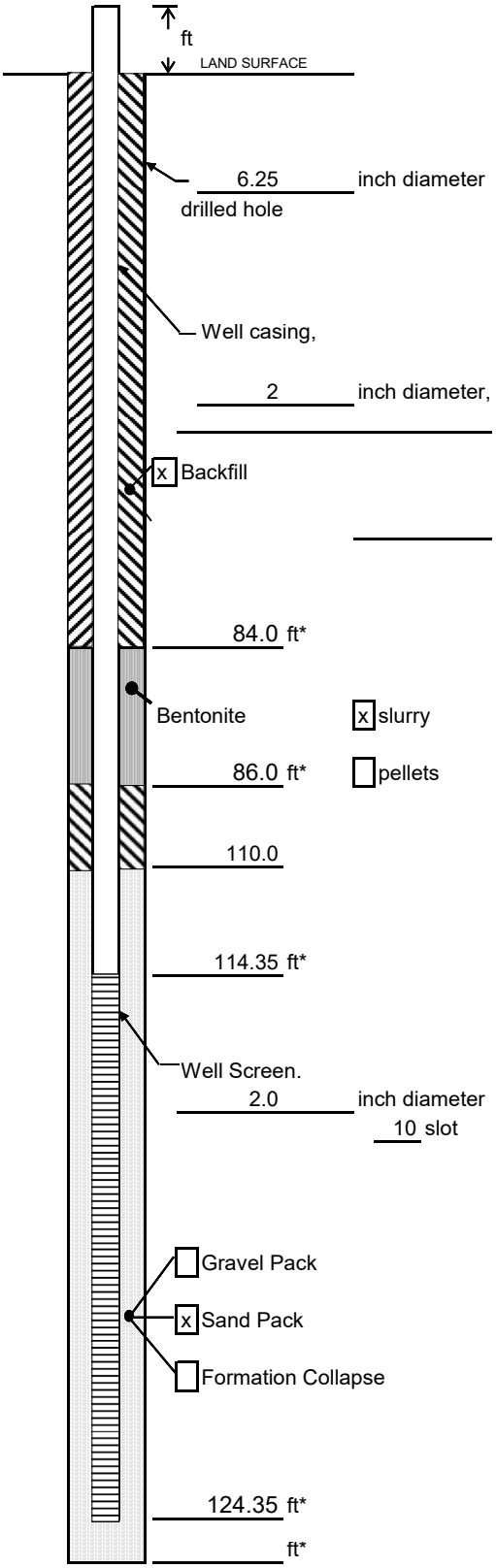
Specific Capacity: _____ gpm/ft

Well Purpose: monitoring

Remarks

Prepared by: GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-4

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

124.4 NAVD 88 feet [X] Surveyed [ ] Estimated

Installation Date(s) 8/1/2024

Drilling Method Hollow Stem Auger

Drilling Contractor Desmond Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 8/6/2024

Fluid Loss During Drilling NA gallons

Water Removed During Development 12 gallons

Static Depth to Water 120.22 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 1 hours

Yield 0.2 gpm Date 8/6/2024

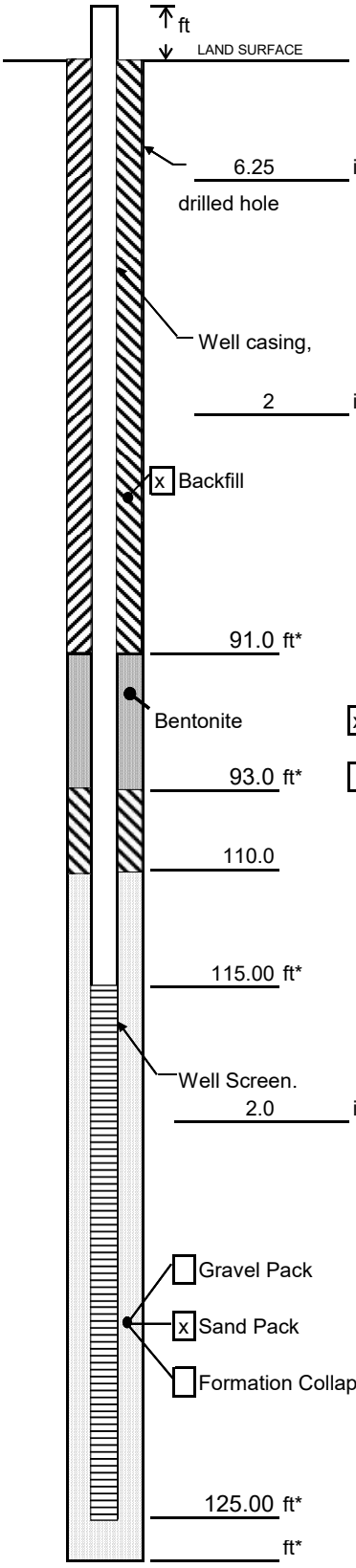
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks Total 10 gallons added to well throughout purge

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project: TRU2501.P2 Well: MW-5

Town/City: 17 Town Hall Road, Truro

County: Barnstable State: MA

Permit No.: N/A

Land-Surface Elevation and Datum:

121.3 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s):

Drilling Method: Hollow Stem Auger

Drilling Contractor: Desmond Drilling

Drilling Fluid: NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling: NA gallons

Water Removed During Development: 25 gallons

Static Depth to Water: 116.91 feet below M.P.

Pumping Depth to Water: feet below M.P.

Pumping Duration: 0.5 hours

Yield: 0.21 gpm Date: 8/6/2024

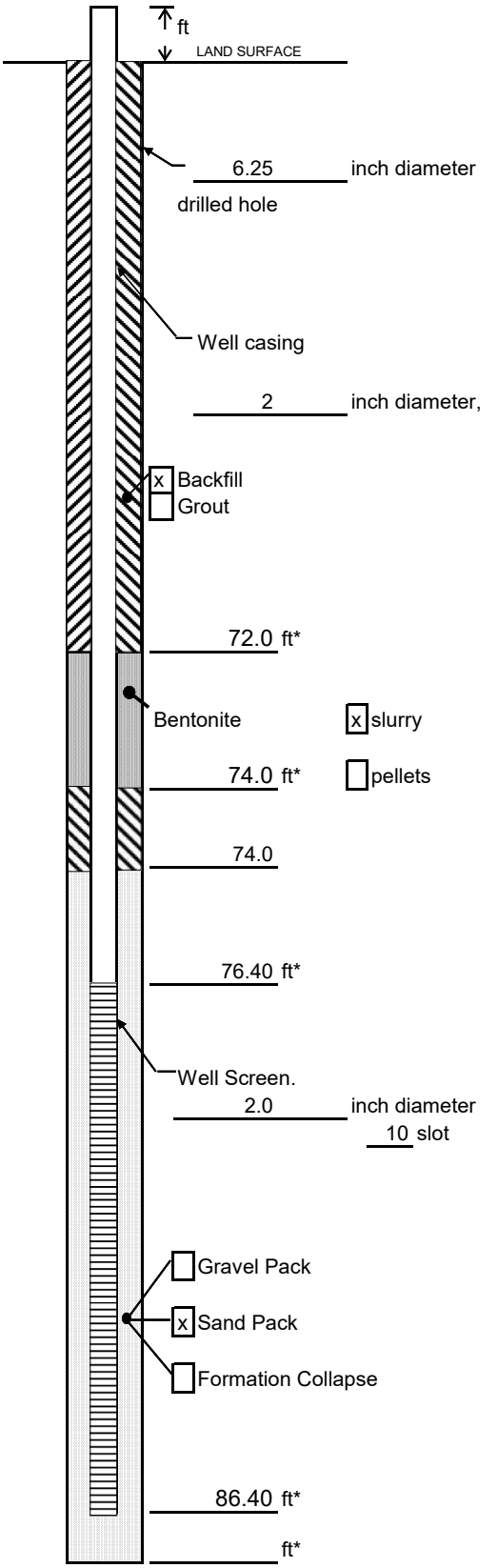
Specific Capacity: gpm/ft

Well Purpose: monitoring

Remarks:

Prepared by: GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-6

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

84.8 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s) 11/12/2024

Drilling Method Hollow Stem Auger

Drilling Contractor Desmond Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 11/20/2024

Fluid Loss During Drilling NA gallons

Water Removed During Development 23 gallons

Static Depth to Water 78.74 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.5 hours

Yield _____ gpm Date 11/20/2024

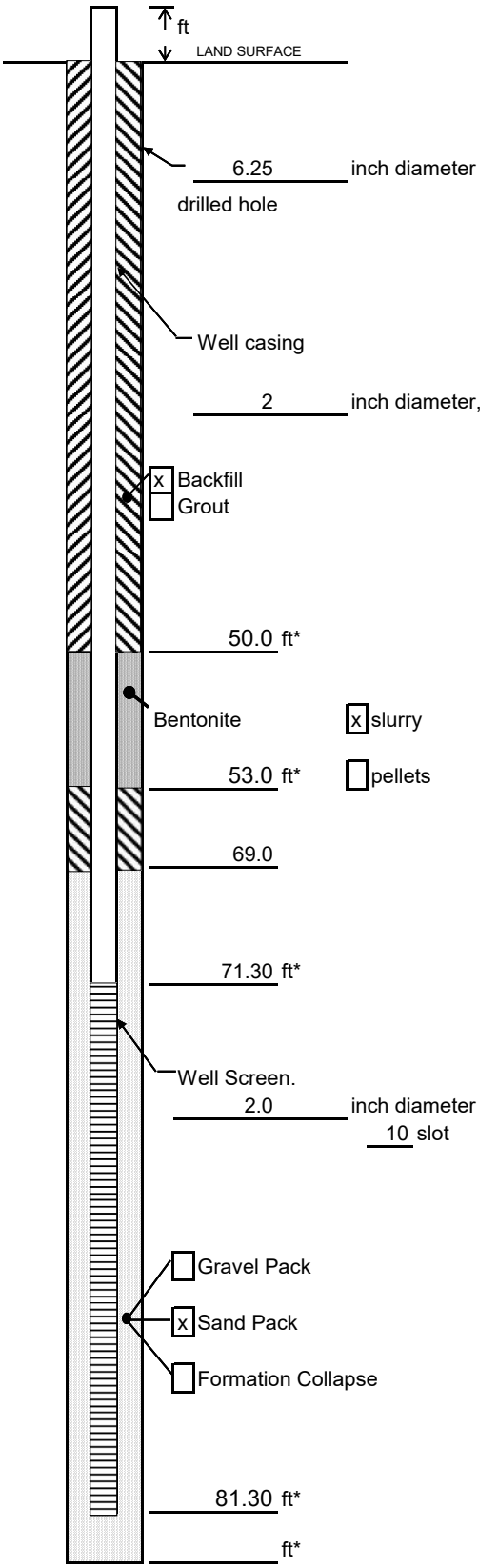
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-7

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

78.7 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s) 11/13/2024

Drilling Method Hollow Stem Auger

Drilling Contractor Desmond Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 11/20/2024

Fluid Loss During Drilling NA gallons

Water Removed During Development 20 gallons

Static Depth to Water 74.38 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.5 hours

Yield _____ gpm Date 11/20/2024

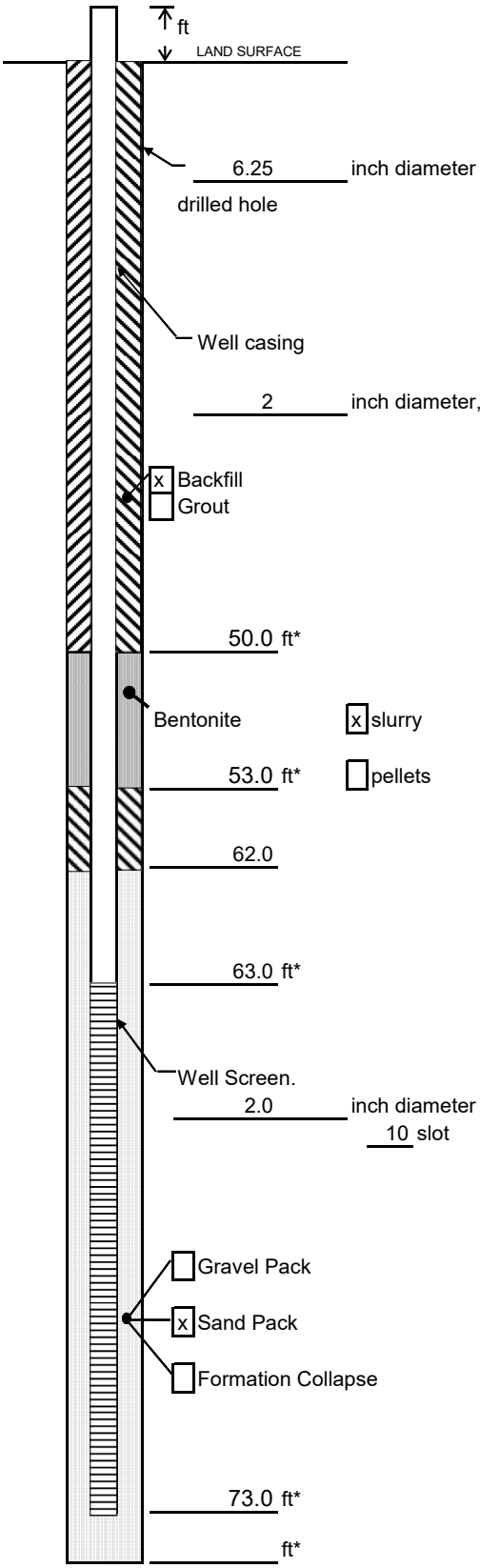
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project: TRU2501.P2 Well: MW-8

Town/City: 17 Town Hall Road, Truro

County: Barnstable State: MA

Permit No.: N/A

Land-Surface Elevation and Datum:

70.3 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s): 11/14/2024

Drilling Method: Hollow Stem Auger

Drilling Contractor: Desmond Drilling

Drilling Fluid: NA

Development Technique(s) and Date(s)

Submersible Pump 11/20/2024

Fluid Loss During Drilling: NA gallons

Water Removed During Development: 25 gallons

Static Depth to Water: 66.09 feet below M.P.

Pumping Depth to Water: feet below M.P.

Pumping Duration: 0.5 hours

Yield: gpm Date: 11/20/2024

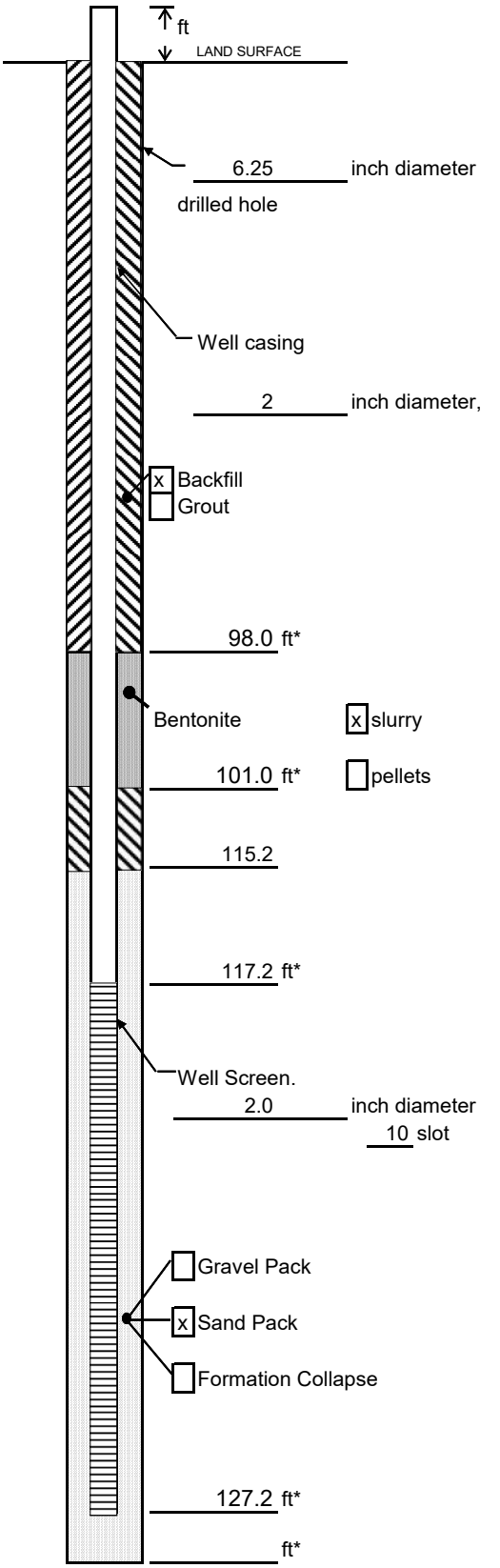
Specific Capacity: gpm/ft

Well Purpose: monitoring

Remarks:

Prepared by: GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-9

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

120.8 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s) 11/14/2024

Drilling Method Hollow Stem Auger

Drilling Contractor Desmond Drilling

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development 25 gallons

Static Depth to Water 118.9 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.5 hours

Yield _____ gpm Date 11/20/24

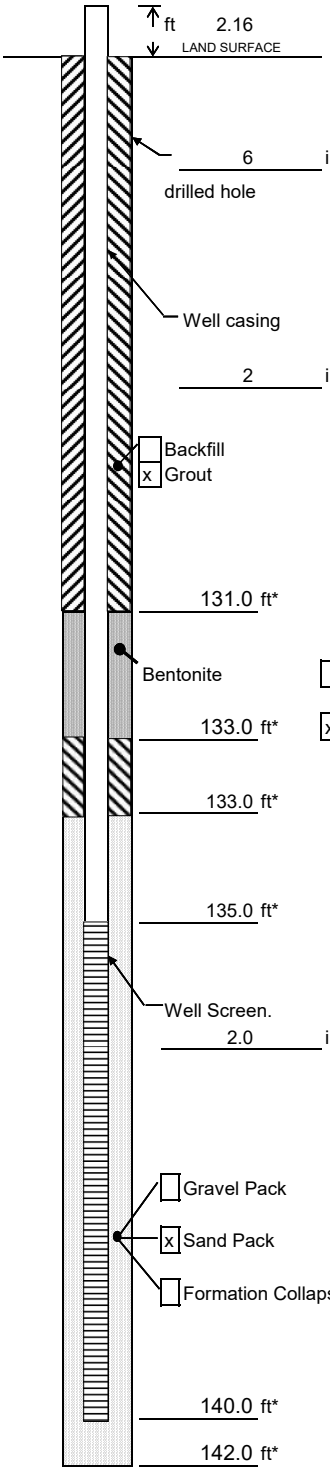
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project: TRU2501.P2 Well: MW-9m

Town/City: 17 Town Hall Road, Truro

County: Barnstable State: MA

Permit No.: N/A

Land-Surface Elevation and Datum:

122.4 NAVD 88 feet [x] Surveyed

124.56 Top of Casing feet [ ] Estimated

Installation Date(s): 5/28/2025 - 5/29/2025

Drilling Method: Rotosonic

Drilling Contractor: Redox Tech LLC

Drilling Fluid: NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling: NA gallons

Water Removed During Development: 40 gallons

Static Depth to Water: 120.70 feet below M.P.

Pumping Depth to Water: nm feet below M.P.

Pumping Duration: 1.25 hours

Yield: nm gpm Date: 6/4/2025

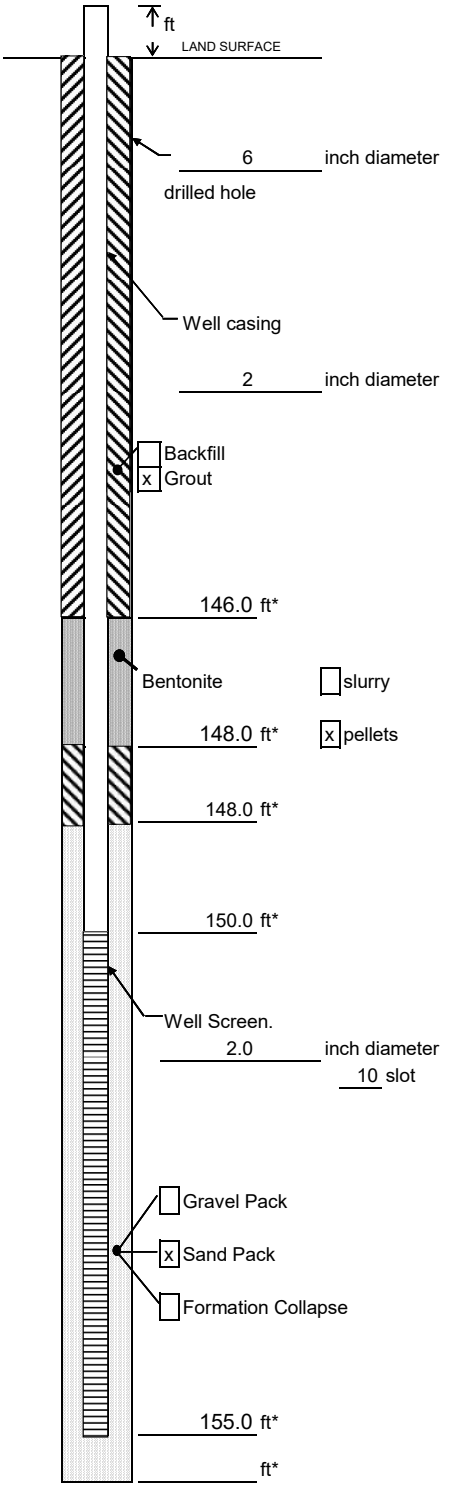
Specific Capacity: nm gpm/ft

Well Purpose: monitoring

Remarks:

Prepared by: ACB/GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-9d

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

123.8 NAVD 88 feet [x] Surveyed

126.04 Top of Casing feet [ ] Estimated

Installation Date(s) 5/29/2025 - 5/30/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development 25 gallons

Static Depth to Water 122.08 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.67 hours

Yield _____ gpm Date 6/4/2025

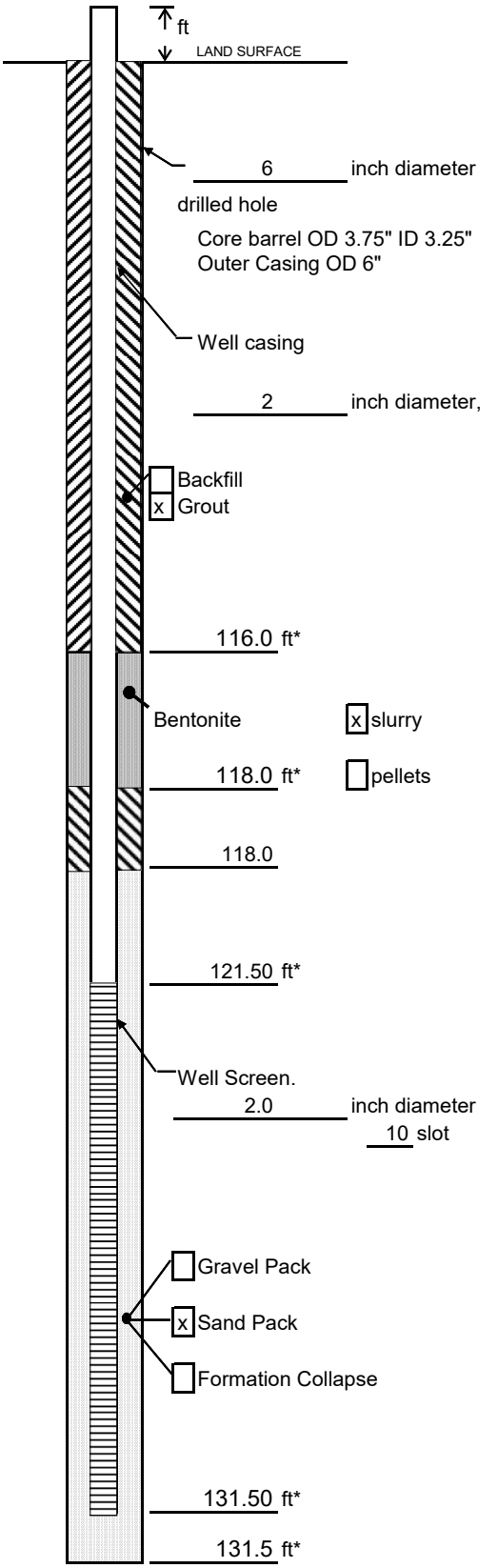
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by ACB/GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-10

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

123.1 NAND 88 feet [x] Surveyed [ ] Estimated

Installation Date(s) 2/20-21/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 3/14/2025

Fluid Loss During Drilling NA gallons

Water Removed During Development 18 gallons

Static Depth to Water 119.23 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 1.5 hours

Yield _____ gpm Date 3/14/2025

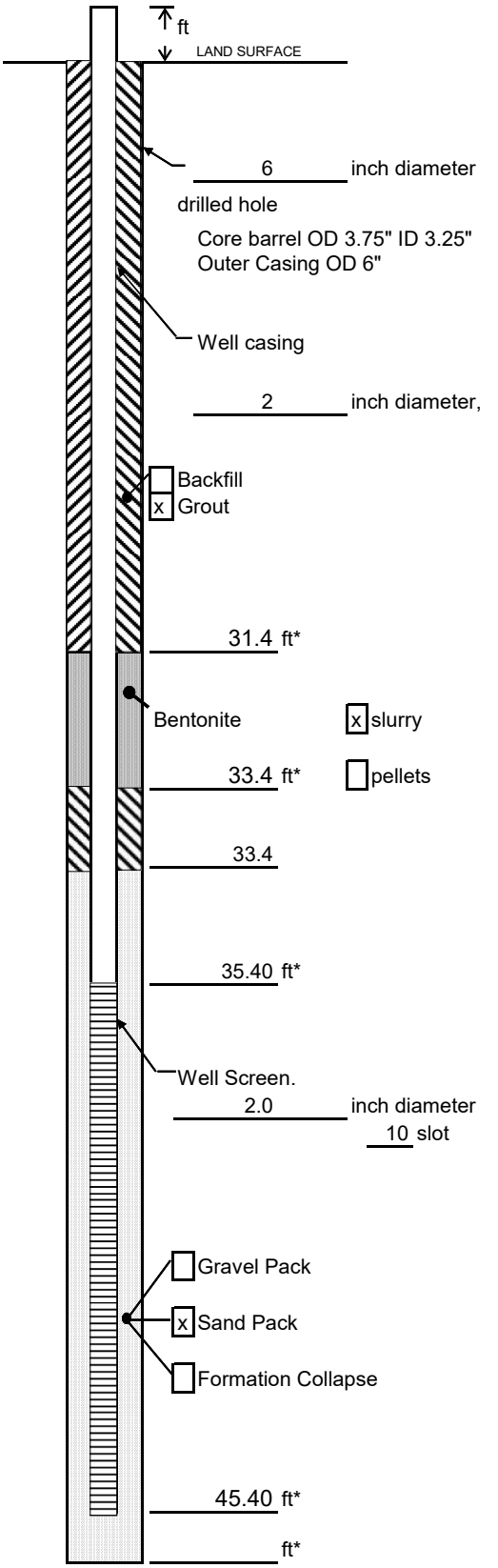
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-11s

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

39.1 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s) 2/24/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 2/27/2025

Fluid Loss During Drilling NA gallons

Water Removed During Development 75 gallons

Static Depth to Water 35.72 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.75 hours

Yield _____ gpm Date 2/27/2025

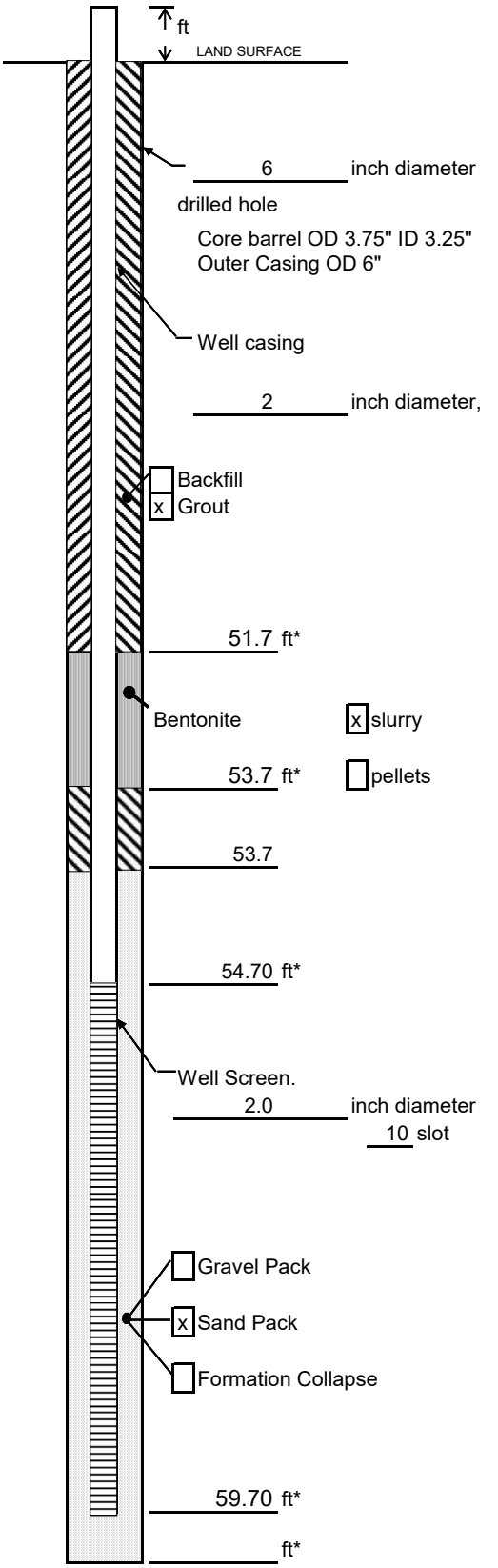
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-11m

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

40.2 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s) 2/24/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 2/27/2025

Fluid Loss During Drilling NA gallons

Water Removed During Development 75 gallons

Static Depth to Water 35.80 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.75 hours

Yield _____ gpm Date 2/27/2025

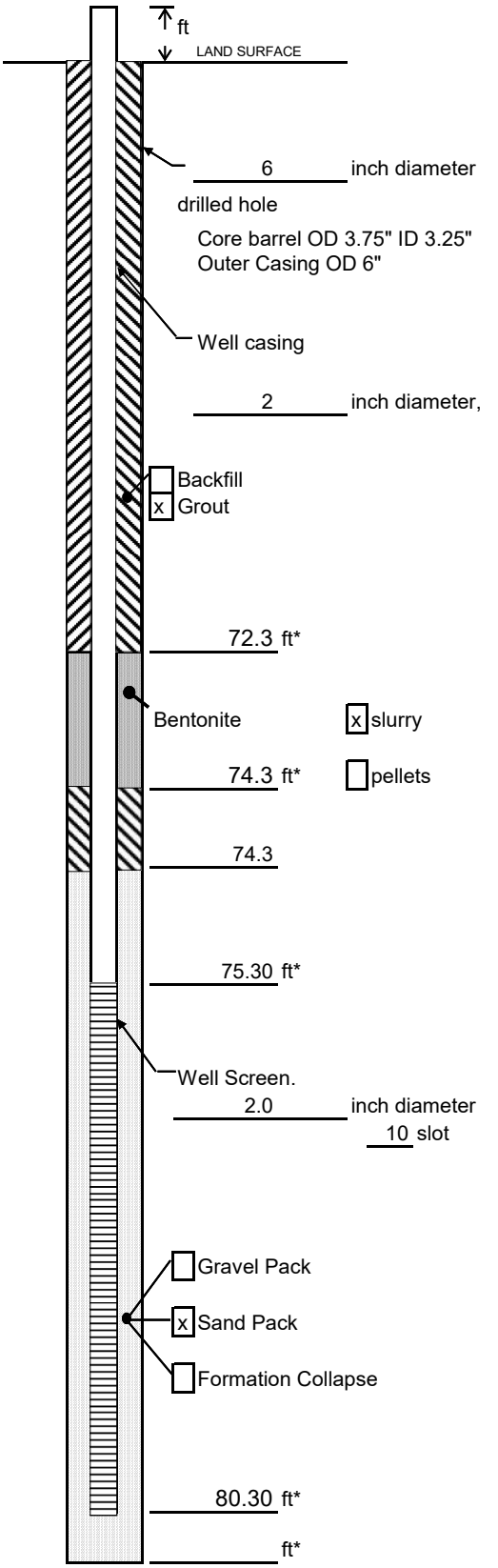
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-11d

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

39.5 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s) 2/21/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump 2/27/2025

Fluid Loss During Drilling NA gallons

Water Removed During Development 75 gallons

Static Depth to Water 36.11 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.75 hours

Yield _____ gpm Date 2/27/2025

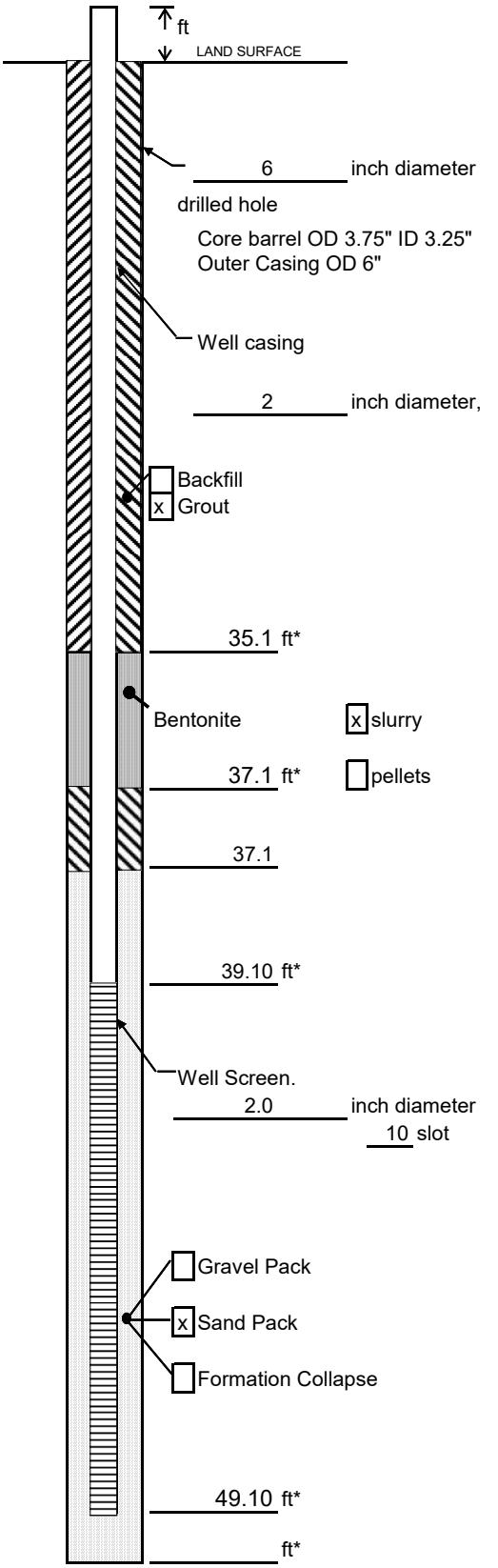
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project: TRU2501.P2 Well: MW-12

Town/City: 17 Town Hall Road, Truro

County: Barnstable State: MA

Permit No.: N/A

Land-Surface Elevation and Datum:

44.1 NAVD 88 feet [x] Surveyed [ ] Estimated

Installation Date(s): 2/2/24/2025

Drilling Method: Rotosonic

Drilling Contractor: Redox Tech LLC

Drilling Fluid: NA

Development Technique(s) and Date(s)

Submersible Pump 2/27/2025

Fluid Loss During Drilling: NA gallons

Water Removed During Development: 105 gallons

Static Depth to Water: 40.77 feet below M.P.

Pumping Depth to Water: feet below M.P.

Pumping Duration: 0.75 hours

Yield: gpm Date: 2/27/2025

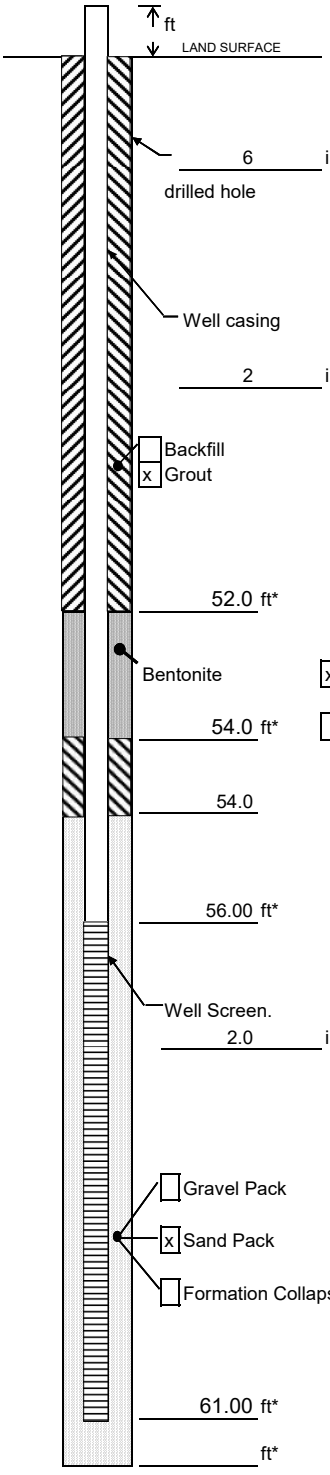
Specific Capacity: gpm/ft

Well Purpose: monitoring

Remarks:

Prepared by: GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-12m

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

43.8 NAVD 88 feet [x] Surveyed

43.60 Top of Casing feet [ ] Estimated

Installation Date(s) 6/11/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development 50 gallons

Static Depth to Water 40.44 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.50 hours

Yield _____ gpm Date 6/12/2025

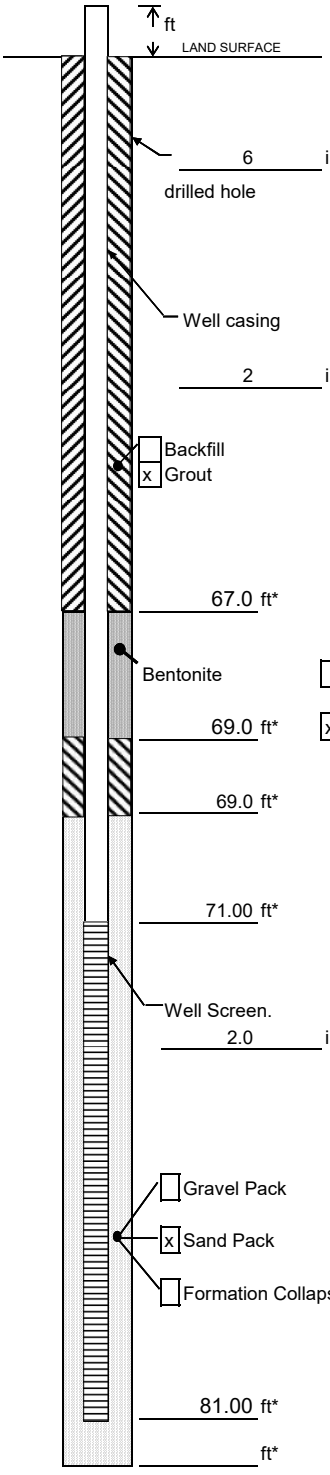
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by ACB

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-12d

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

43.5 NAVD 88 NAVD 88 feet [x] Surveyed

43.21 Top of Casing feet [ ] Estimated

Installation Date(s) 6/11/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development ____ gallons

Static Depth to Water 40.06 feet below M.P.

Pumping Depth to Water nm feet below M.P.

Pumping Duration 0.40 hours

Yield nm gpm Date 6/12/2025

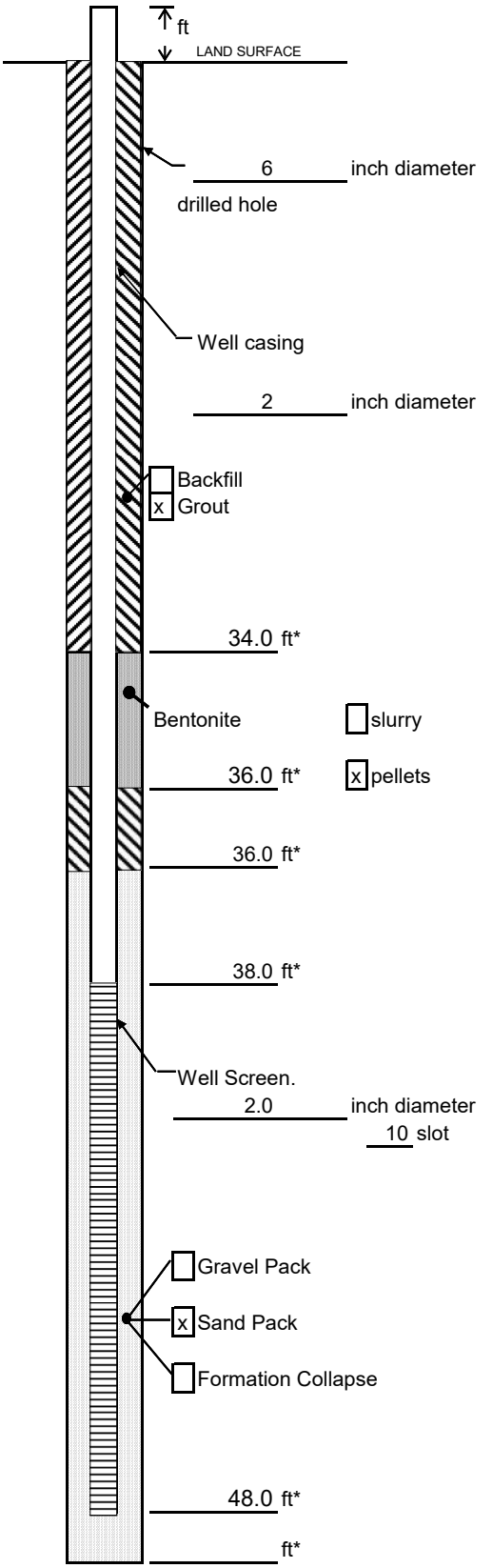
Specific Capacity nm gpm/ft

Well Purpose monitoring

Remarks

Prepared by ACB/GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project: TRU2501.P2 Well: MW-13

Town/City: 17 Town Hall Road, Truro

County: Barnstable State: MA

Permit No.: N/A

Land-Surface Elevation and Datum:

39.8 NAVD 88 feet [x] Surveyed

122.59 Top of Casing feet [ ] Estimated

Installation Date(s): 2/24/2025

Drilling Method: Rotosonic

Drilling Contractor: Redox Tech LLC

Drilling Fluid: NA

Development Technique(s) and Date(s)

Submersible Pump 2/27/2025

Fluid Loss During Drilling: NA gallons

Water Removed During Development: 105 gallons

Static Depth to Water: 36.35 feet below M.P.

Pumping Depth to Water: _____ feet below M.P.

Pumping Duration: 0.75 hours

Yield: _____ gpm Date: 2/27/2025

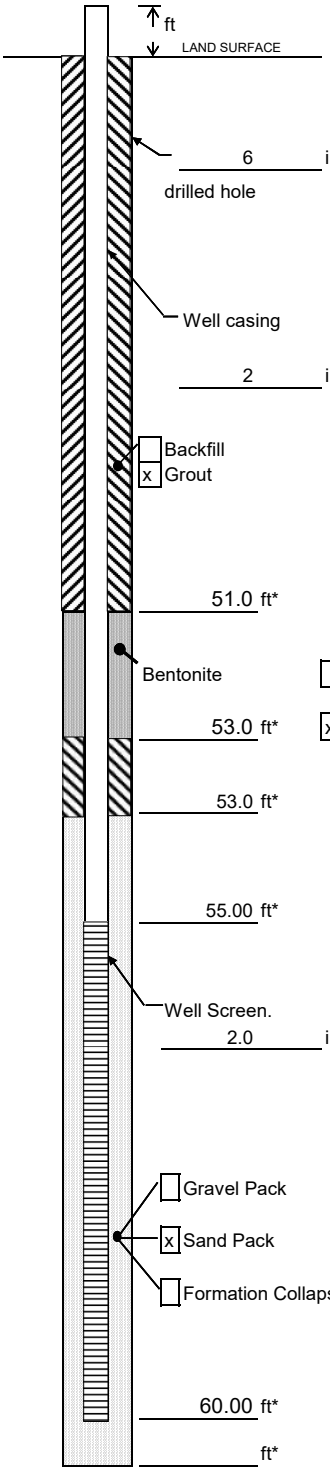
Specific Capacity: _____ gpm/ft

Well Purpose: monitoring

Remarks:

Prepared by: ACB/GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-13m

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

39.7 NAVD 88 NAVD 88 feet [x] Surveyed

39.40 Top of Casing feet [ ] Estimated

Installation Date(s) 6/10/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development ____ gallons

Static Depth to Water 36.01 feet below M.P.

Pumping Depth to Water ____ feet below M.P.

Pumping Duration 0.40 hours

Yield ____ gpm Date 6/12/2025

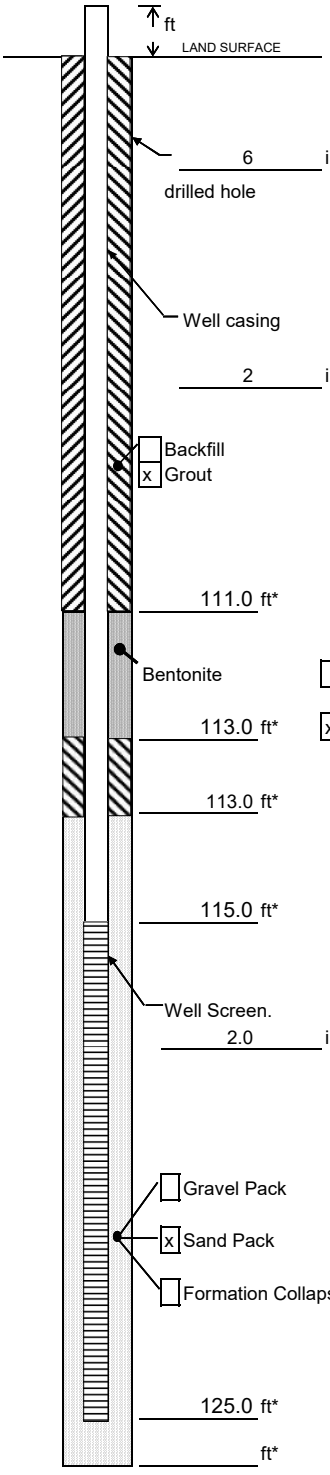
Specific Capacity ____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by ACB/GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-14s

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

121.4 NAVD 88 NAVD 88 feet [x] Surveyed

121.00 Top of Casing feet [ ] Estimated

Installation Date(s) 6/2/2025 & 6/3/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development 30 gallons

Static Depth to Water 117.03 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.40 hours

Yield _____ gpm Date 6/4/2025

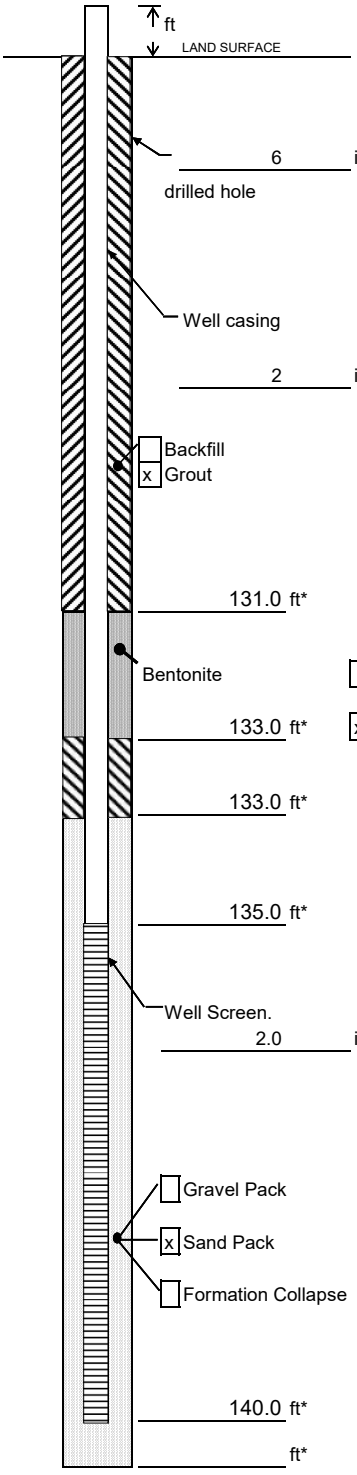
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by ACB/GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-14m

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

121.4 NAVD 88 NAVD 88 feet [x] Surveyed

121.00 Top of Casing feet [ ] Estimated

Installation Date(s) 6/3/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development 25 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.67 hours

Yield _____ gpm Date 6/4/2025

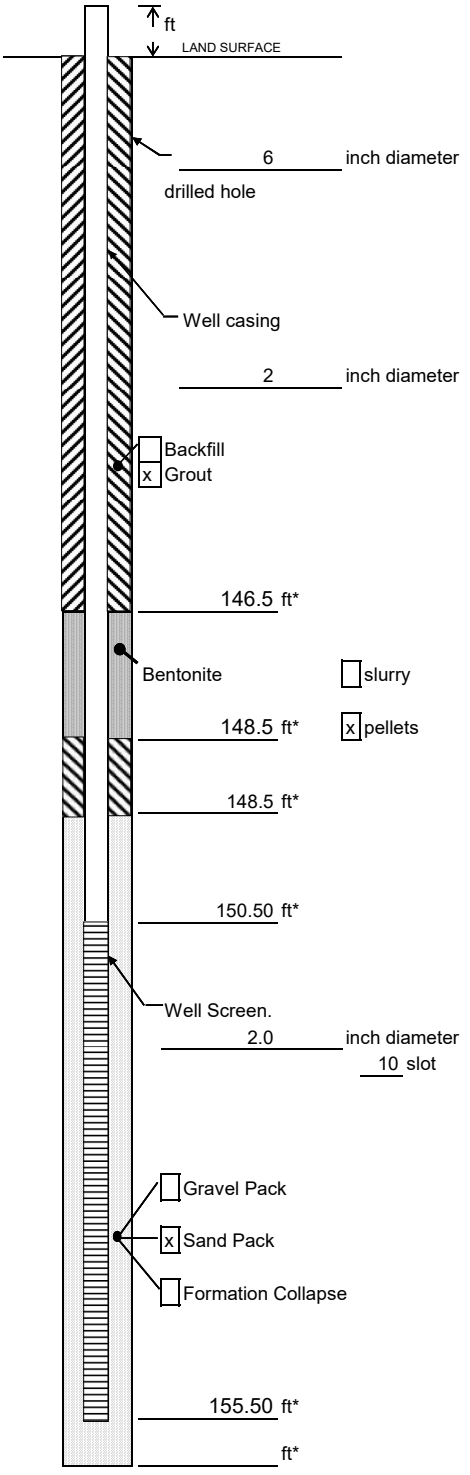
Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by ACB/GRM

Well Construction Log



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project TRU2501.P2 Well MW-14d

Town/City 17 Town Hall Road, Truro

County Barnstable State MA

Permit No. N/A

Land-Surface Elevation and Datum:

121.1 NAVD 88 NAVD 88 feet [x] Surveyed

120.82 Top of Casing feet [ ] Estimated

Installation Date(s) 6/9/2025

Drilling Method Rotosonic

Drilling Contractor Redox Tech LLC

Drilling Fluid NA

Development Technique(s) and Date(s)

Submersible Pump

Fluid Loss During Drilling NA gallons

Water Removed During Development 20 gallons

Static Depth to Water 117.35 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 0.67 hours

Yield _____ gpm Date 6/4/2025

Specific Capacity _____ gpm/ft

Well Purpose monitoring

Remarks

Prepared by ACB/GRM

APPENDIX B
MONITORING WELL SURVEY DATA

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

Project#: 24148

TABLE of MONITORING WELL DATA
Truro DPW Facility
17 Town Hall Rd.
Truro, MA

Prepared by: JDS
Date: 2024-12-04
Checked by: J. Peterson
Date: 2024-12-04

Desciption	Northing	Easting	Ground Elev.	Casing Elev.	Riser Elev.
MW-1/SB-7	2828172.4	1048589.7	121.6	121.53	121.03
MW-2/SB-6	2827940.0	1048568.0	124.3	124.31	123.83
MW-3/SB-12	2828080.6	1048426.9	121.6	121.57	121.24
MW-4	2827876.7	1048412.4	124.4	124.46	124.10
MW-5	2827926.2	1048681.1	121.3	121.27	120.87
MW-6	2828291.4	1048505.3	84.8	84.76	84.30
MW-7	2828210.3	1048382.8	78.7	78.63	78.16
MW-8	2828116.3	1048233.0	70.3	70.24	69.81
MW-9	2827969.1	1048341.5	120.8	122.89	122.59
TABLE NOTES:					
1) Elevations shown hereon are referenced to the North American Vertical Datum of 1988 (NAVD88), CORS adjustment (NAD83 [2011]/GEOID18) as determined by redundant GPS observations made between September 26 & October 4, 2024, utilizing MACORS Real Time Network with a Carlson BRX7 GNSS Receiver. Ground elevations at monitoring wells were obtained conventionally by instrument.					
2) The coordinates shown hereon are referenced to the North American Datum of 1983 (NAD83) as determined by RTK observations using a Carlson BRX7 GNSS Receiver between September 26 and October 4, 2024. Monitoring well coordinates were obtained conventionally by instrument between September 26 & October 4, 2024 or by GPS on December 4, 2024.					
3) Casing and riser elevations were obtained on December 2 & 4, 2024 by closed loop differntial leveling from site benchmarks utilizing a Sokkia digital level and bar-coded rod.					
4) Reference is made to a plan entitled "Figure 1 EM61 Survey Results (metallic structures)" dated 7/9/24 and prepared by Atlantic Geoservices.					

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

Project#: 25104

TABLE of MONITORING WELL DATA
TRURO DPW
TOWN HALL and CASTLE ROADS
TRURO, MA

Prepared by: LB
Date: 2025-03-07
Checked by: J. Peterson
Date: 2025-03-07

Desciption	Northing	Easting	Ground Elev.	Casing Elev.	Riser Elev.
MW-13	2827102.4	1048366.2	39.8	39.83	39.57
MW-11S	2827258.4	1048029.0	39.1	39.07	38.83
MW-11 I	2827277.4	1047970.0	40.2	40.19	39.91
MW-12	2827317.3	1047778.2	44.1	44.08	43.86
MW-11 D	2827267.9	1048002.6	39.5	39.49	39.24
MW-10	2827680.0	1048323.9	123.1	123.22	122.66

TABLE NOTES:

1) Elevations shown hereon are based on benchmarks established by ALPHA for a survey of the DPW facility between September 2024 and October 2024. The benchmark elevations are referenced to the North American Vertical Datum of 1988 (NAVD88), CORS adjustment (NAD83 [2011]/GEOID18) as determined by redundant GPS observations made between September 26 & October 4, 2024, utilizing MACORS Real Time Network with a Carlson BRX7 GNSS Receiver.

2) The coordinates shown hereon are referenced to the North American Datum of 1983 (NAD83) as determined by RTK observations using a Carlson BRX7 GNSS Receiver on Febuary 26, 2025.

3) Ground casing and riser elevations were obtained on Febuary 27, 2025 by a closed differential level loop from site benchmarks utilizing a Sokkia digital level and bar-coded rod.

ALPHA SURVEY GROUP
Accuracy | Experience | Quality

Project#: 25104

TABLE of MONITORING WELL DATA
TRURO DPW
TOWN HALL and CASTLE ROADS
TRURO, MA

Prepared by: JDS
Date: 2025-06-25
Checked by: J. Peterson
Date: 2025-06-25

Desciption	Northing	Easting	Ground Elev.	Casing Elev.	Riser Elev.
MW-9M	2827955.7	1048350.6	122.4	124.70	124.56
MW-9D	2827947.2	1048360.1	123.8	126.14	126.04
MW-12M	2827321.3	1047760.3	43.8	43.81	43.60
MW-12D	2827325.2	1047742.6	43.5	43.46	43.21
MW-13M	2827115.8	1048332.5	39.7	39.71	39.31
MW-13D	2827109.3	1048348.8	39.7	39.72	39.40
MW-14M	2828066.9	1048409.8	121.4	121.37	121.00
MW-14D	2828049.1	1048420.0	121.1	121.12	120.82
MW-14S	2828058.2	1048415.8	121.4	121.41	121.00

TABLE NOTES:

1) Elevations shown hereon are based on benchmarks established by ALPHA for a survey of the DPW facility between September 2024 and October 2024. The benchmark elevations are referenced to the North American Vertical Datum of 1988 (NAVD88), CORS adjustment (NAD83 [2011]/GEOID18) as determined by redundant GPS observations made between September 26 & October 4, 2024, utilizing MACORS Real Time Network with a Carlson BRX7 GNSS Receiver.

2) The coordinates shown hereon are referenced to the North American Datum of 1983 (NAD83) as determined by RTK observations using a Carlson BRX7 GNSS Receiver on June 23, 2025.

3) Ground casing and riser elevations were obtained on June 23, 2025 by a closed differential level loop from site benchmarks utilizing a Sokkia digital level and bar-coded rod.

APPENDIX C
LABORATORY REPORTS

ANALYTICAL REPORT

Lab Number:	L2532481
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	06/19/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2532481-01	MW-7	WATER	TRURO, MA	05/19/25 13:15	05/22/25
L2532481-02	MW-8	WATER	TRURO, MA	05/19/25 14:00	05/22/25
L2532481-03	MW-9	WATER	TRURO, MA	05/19/25 11:50	05/22/25
L2532481-04	MW-6	WATER	TRURO, MA	05/19/25 12:20	05/22/25
L2532481-05	MW-5	WATER	TRURO, MA	05/20/25 09:00	05/22/25
L2532481-06	MW-4	WATER	TRURO, MA	05/20/25 13:00	05/22/25
L2532481-07	MW-3	WATER	TRURO, MA	05/20/25 10:45	05/22/25
L2532481-08	MW-2	WATER	TRURO, MA	05/20/25 09:45	05/22/25
L2532481-09	MW-1	WATER	TRURO, MA	05/20/25 13:50	05/22/25
L2532481-10	MW-10	WATER	TRURO, MA	05/20/25 12:40	05/22/25
L2532481-11	MW-13	WATER	TRURO, MA	05/21/25 09:00	05/22/25
L2532481-12	MW-11D	WATER	TRURO, MA	05/21/25 10:00	05/22/25
L2532481-13	MW-11S	WATER	TRURO, MA	05/21/25 10:40	05/22/25
L2532481-14	MW-11M	WATER	TRURO, MA	05/21/25 11:15	05/22/25
L2532481-15	MW-12	WATER	TRURO, MA	05/21/25 12:20	05/22/25

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by 1633

L2532481-02: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[13c4]butanoic acid (mpfba) (131%), perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (138%), perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (135%), perfluoro[1,2,3,4-13c4]heptanoic acid (m4pfhpa) (137%), perfluoro[13c8]octanoic acid (m8pfoa) (132%), perfluoro[13c9]nonanoic acid (m9pfna) (132%), perfluoro[1,2,3,4,5,6-13c6]decanoic acid (m6pfda) (133%), and 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (144%). Since the sample was non-detect to the RL for all associated target analytes, re-analysis was not required.

L2532481-06RE: The sample was re-extracted within holding time due to QC failures in the original extraction. The results of the re-extraction are reported.

L2532481-06RE: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2532481-12D and -15D: The sample was re-analyzed on dilution due to EIS failure in the original analysis. The results of the re-analysis are reported for the associated target compounds.

L2532481-12R and WG2077078-3R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2532481-12R: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (143%), perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (150%), perfluoro[1,2,3-13c3]hexanesulfonic acid (m3pfhxs) (134%), perfluoro[13c8]octanoic acid (m8pfoa) (135%), and perfluoro[13c8]octanesulfonamide (m8fosa) (131%); however, any associated target analytes detected above the RL are not reported from this analysis.

L2532481-13: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[13c4]butanoic acid (mpfba) (134%), perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (140%), perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (137%), perfluoro[1,2,3,4-13c4]heptanoic acid (m4pfhpa) (138%), perfluoro[1,2,3-13c3]hexanesulfonic acid (m3pfhxs) (133%), perfluoro[13c8]octanoic acid (m8pfoa) (138%), perfluoro[13c9]nonanoic acid (m9pfna) (136%), and 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (153%). Since the sample was non-detect to the RL

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Case Narrative (continued)

for all associated target analytes, re-analysis was not required.

L2532481-15: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (135%), perfluoro[1,2,3,4-13c4]heptanoic acid (m4pfhpa) (143%), and 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (148%); however, any associated target analytes detected above the RL are not reported from this analysis.

WG2077078-1: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[13c9]nonanoic acid (m9pfna) (133%). Since the method blank was non-detect to the RL for all associated target analytes, re-analysis was not required.

The Extracted Internal Standard recovery for the WG2077078-2 LCS associated with L2532481-01 through -05 and -07 through -15 is outside the acceptance criteria for perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (146%); however, all associated target analytes are within overall LCS criteria; therefore, no further action was taken.

The WG2079924-2 LCS recovery associated with L2532481-06RE is above the acceptance criteria for nonafluoro-3,6-dioxaheptanoic acid (nfdha) (163%); however, the associated sample is non-detect to the reporting limit for this target analyte. The results of the original analysis are reported.

The WG2079924-3 LCS recovery associated with L2532481-06RE is above the acceptance criteria for nonafluoro-3,6-dioxaheptanoic acid (nfdha) (169%); however, the associated sample is non-detect to the reporting limit for this target analyte. The results of the original analysis are reported.

The Extracted Internal Standard recovery for the WG2079924-3 LCS associated with L2532481-06RE is outside the acceptance criteria for 2-(n-ethyl-d5-perfluoro-1-octanesulfonamido)ethan-d4-ol (d9-netfose) (131%); however, all associated target analytes are within overall LCS criteria; therefore, no further action was taken.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 06/19/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-01
Client ID: MW-7
Sample Location: TRURO, MA

Date Collected: 05/19/25 13:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:09
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.19	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.10	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.19	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.55	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.55	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.55	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.55	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.19	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.55	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.55	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.19	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.55	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.55	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.55	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.55	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.55	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.55	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.19	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.19	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.55	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-01 Date Collected: 05/19/25 13:15

Client ID: MW-7 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.19	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.19	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.5	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.5	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.10	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.10	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.10	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.10	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.74	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.7	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.7	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-01
Client ID: MW-7
Sample Location: TRURO, MA
Date Collected: 05/19/25 13:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	95		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	92		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	102		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	99		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	98		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	106		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	100		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	85		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	102		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	76		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	77		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	67		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	93		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	76		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	110		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	89		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	96		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-02
Client ID: MW-8
Sample Location: TRURO, MA

Date Collected: 05/19/25 14:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:18
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.91	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.95	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.91	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.48	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.48	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.48	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.48	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.91	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.48	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.48	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.48	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.91	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.48	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.48	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.48	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.48	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.48	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.48	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.48	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.48	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.48	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.91	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.91	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.48	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-02 Date Collected: 05/19/25 14:00

Client ID: MW-8 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.91	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.91	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.48	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.48	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.8	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.8	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.95	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.95	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.95	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.95	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.38	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	36.9	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	36.9	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-02 Date Collected: 05/19/25 14:00

Client ID: MW-8 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	**131**	Q	5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	121		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**138**	Q	40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	168		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**135**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	**137**	Q	40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	130		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	**132**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	145		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	**132**	Q	40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	114		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	**133**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	109		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	104		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	118		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	102		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	88		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	126		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	89		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**144**	Q	40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	98		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	110		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	126		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	128		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-03
Client ID: MW-9
Sample Location: TRURO, MA

Date Collected: 05/19/25 11:50
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:27
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	7.20		ng/l	6.32	--	1
Perfluoropentanoic Acid (PFPeA)	13.6		ng/l	3.16	--	1
Perfluorobutanesulfonic Acid (PFBS)	2.07		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.32	--	1
Perfluorohexanoic Acid (PFHxA)	10.2		ng/l	1.58	--	1
Perfluoropentanesulfonic Acid (PFPeS)	1.86		ng/l	1.58	--	1
Perfluoroheptanoic Acid (PFHpA)	7.76		ng/l	1.58	--	1
Perfluorohexanesulfonic Acid (PFHxS)	17.4		ng/l	1.58	--	1
Perfluorooctanoic Acid (PFOA)	14.7		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.32	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.58	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.58	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.58	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.32	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.58	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.58	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.58	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.58	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.58	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.58	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.58	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.58	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.58	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.32	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.32	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.58	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-03 Date Collected: 05/19/25 11:50

Client ID: MW-9 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.32	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.32	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.58	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.58	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.8	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.8	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.16	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.16	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.16	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.16	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.90	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.5	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.5	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-03 Date Collected: 05/19/25 11:50

Client ID: MW-9 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	81		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	98		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	192		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	91		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	137		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	96		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	86		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	82		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	89		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	69		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	85		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	85		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	92		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	79		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	85		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	90		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-04
Client ID: MW-6
Sample Location: TRURO, MA

Date Collected: 05/19/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:36
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.01	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	4.73		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.01	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.50	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.50	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.50	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.50	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.01	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.50	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.50	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.01	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.50	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.50	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.50	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.50	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.50	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.50	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.01	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.01	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.50	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-04 Date Collected: 05/19/25 12:20

Client ID: MW-6 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.01	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.01	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.00	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.00	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.00	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.00	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.51	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.6	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.6	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-04 Date Collected: 05/19/25 12:20

Client ID: MW-6 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	98		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	84		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	111		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	122		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	95		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	101		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	102		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	86		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	109		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	111		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	101		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	100		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	97		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	94		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	78		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	79		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	93		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	77		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	79		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	88		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	97		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	105		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-05
Client ID: MW-5
Sample Location: TRURO, MA

Date Collected: 05/20/25 09:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:45
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.14	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.07	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.53	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.14	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.53	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.53	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.53	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.53	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.53	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.14	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.53	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.53	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.53	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.53	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.14	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.53	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.53	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.53	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.53	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.53	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.53	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.53	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.53	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.53	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.14	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.14	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.53	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-05 Date Collected: 05/20/25 09:00

Client ID: MW-5 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.14	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.14	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.53	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.53	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.3	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.3	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.07	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.07	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.07	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.07	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.67	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.4	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.4	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-05 Date Collected: 05/20/25 09:00

Client ID: MW-5 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	83		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	72		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	72		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	72		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	78		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	95		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	85		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	78		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	67		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	83		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	74		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	69		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	84		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	99		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	76		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	84		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	99		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	106		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-06 RE
Client ID: MW-4
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/18/25 22:20
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1280	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	640	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	320	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1280	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	320	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	320	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	320	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	320	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	320	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1280	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	320	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	320	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	320	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	320	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1280	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	320	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	320	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	320	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	320	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	320	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	320	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	320	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	320	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	320	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1280	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1280	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	320	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-06 RE
Client ID: MW-4
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1280	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1280	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	320	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	320	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	3200	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	3200	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	640	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	640	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	640	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	640	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	1600	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	8000	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	8000	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-06 RE
Client ID: MW-4
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	75		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	62		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	71		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	81		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	69		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	66		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	83		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	71		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	73		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	78		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	68		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	47		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	61		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	58		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	45		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	57		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	59		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	69		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	45		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	48		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	71		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	69		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-07
Client ID: MW-3
Sample Location: TRURO, MA

Date Collected: 05/20/25 10:45
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:27
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	6.61		ng/l	6.24	--	1
Perfluoropentanoic Acid (PFPeA)	9.46		ng/l	3.12	--	1
Perfluorobutanesulfonic Acid (PFBS)	9.26		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.24	--	1
Perfluorohexanoic Acid (PFHxA)	10.9		ng/l	1.56	--	1
Perfluoropentanesulfonic Acid (PFPeS)	28.2		ng/l	1.56	--	1
Perfluoroheptanoic Acid (PFHpA)	8.45		ng/l	1.56	--	1
Perfluorohexanesulfonic Acid (PFHxS)	176		ng/l	1.56	--	1
Perfluorooctanoic Acid (PFOA)	10.6		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.24	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	4.00		ng/l	1.56	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonic Acid (PFOS)	69.6		ng/l	1.56	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.24	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.56	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.56	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.56	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.56	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.56	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.56	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.56	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.24	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.24	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.56	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-07 Date Collected: 05/20/25 10:45

Client ID: MW-3 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.24	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.24	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.56	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.6	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.6	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.12	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.12	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.12	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.12	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.80	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.0	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.0	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-07 Date Collected: 05/20/25 10:45

Client ID: MW-3 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	100		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	89		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	115		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	100		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	109		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	90		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	90		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	94		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	100		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	115		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	86		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	107		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	82		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	109		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	87		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	105		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	80		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	91		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	99		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-08
Client ID: MW-2
Sample Location: TRURO, MA

Date Collected: 05/20/25 09:45
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:36
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.00	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	3.38		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.00	--	1
Perfluorohexanoic Acid (PFHxA)	2.10		ng/l	1.50	--	1
Perfluoropentanesulfonic Acid (PFPeS)	2.31		ng/l	1.50	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.50	--	1
Perfluorohexanesulfonic Acid (PFHxS)	11.1		ng/l	1.50	--	1
Perfluorooctanoic Acid (PFOA)	2.41		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.50	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.72		ng/l	1.50	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.50	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.50	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonamide (PFOSA)	2.79		ng/l	1.50	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.50	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.50	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.50	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.50	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.00	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.50	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-08 Date Collected: 05/20/25 09:45

Client ID: MW-2 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.00	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.00	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.00	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.00	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.00	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.50	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.5	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.5	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-08 Date Collected: 05/20/25 09:45

Client ID: MW-2 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	94		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	91		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	95		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	110		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	99		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	103		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	97		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	102		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	93		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	93		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	100		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	67		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	89		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	77		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	68		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	86		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	69		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	76		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	85		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	101		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	108		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-09
Client ID: MW-1
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:50
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:44
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.14	--	1
Perfluoropentanoic Acid (PFPeA)	3.81		ng/l	3.07	--	1
Perfluorobutanesulfonic Acid (PFBS)	1.88		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.14	--	1
Perfluorohexanoic Acid (PFHxA)	3.80		ng/l	1.54	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.54	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.54	--	1
Perfluorohexanesulfonic Acid (PFHxS)	1.58		ng/l	1.54	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.14	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.54	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.54	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.14	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.54	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.54	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.54	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.54	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.54	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.54	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.14	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.14	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.54	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-09 Date Collected: 05/20/25 13:50

Client ID: MW-1 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.14	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.14	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.4	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.4	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.07	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.07	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.07	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.07	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.68	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.4	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.4	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-09 Date Collected: 05/20/25 13:50

Client ID: MW-1 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	83		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	76		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	86		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	86		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	85		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	98		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	84		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	69		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	77		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	63		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	68		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	73		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	64		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	70		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	80		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	86		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-10
Client ID: MW-10
Sample Location: TRURO, MA

Date Collected: 05/20/25 12:40
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:53
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.02	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.01	--	1
Perfluorobutanesulfonic Acid (PFBS)	2.72		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.02	--	1
Perfluorohexanoic Acid (PFHxA)	1.62	F	ng/l	1.50	--	1
Perfluoropentanesulfonic Acid (PFPeS)	2.16		ng/l	1.50	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.50	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.72		ng/l	1.50	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.02	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.50	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.50	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.02	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.50	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.50	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.50	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.50	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.50	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.50	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.02	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.02	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.50	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-10 Date Collected: 05/20/25 12:40

Client ID: MW-10 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.02	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.02	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.01	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.01	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.01	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.01	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.52	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.6	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.6	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-10
Client ID: MW-10
Sample Location: TRURO, MA
Date Collected: 05/20/25 12:40
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	85		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	101		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	93		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	102		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	94		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	93		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	111		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	94		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	93		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	68		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	69		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	68		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	59		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	87		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	73		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	67		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	75		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	79		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	89		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-11
Client ID: MW-13
Sample Location: TRURO, MA

Date Collected: 05/21/25 09:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:02
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.36	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.18	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.59	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.36	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.59	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.59	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.59	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.59	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.59	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.36	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.59	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.59	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.59	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.59	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.36	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.59	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.59	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.59	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.59	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.59	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.59	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.59	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.59	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.59	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.36	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.36	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.59	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-11 Date Collected: 05/21/25 09:00

Client ID: MW-13 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.36	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.36	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.59	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.59	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.9	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.9	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.18	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.18	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.18	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.18	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.95	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.8	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.8	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-11 Date Collected: 05/21/25 09:00

Client ID: MW-13 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	88		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	84		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	99		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	107		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	90		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	74		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	97		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	95		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	81		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	64		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	83		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	78		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	65		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	85		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	71		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	81		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	102		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	98		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 R
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 13:55
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.25	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.12	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.25	--	1
Perfluoropentanesulfonic Acid (PFPeS)	3.73		ng/l	1.56	--	1
Perfluoroheptanoic Acid (PFHpA)	1.57		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.25	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.56	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonic Acid (PFOS)	5.13		ng/l	1.56	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.25	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.56	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.56	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.56	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.56	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.56	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.56	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.56	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.25	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.25	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.56	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.25	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.25	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.56	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 R
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.6	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.6	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.12	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.12	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.12	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.12	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.81	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.1	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.1	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 R
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	122		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	125		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**143**	Q	40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	137		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**150**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	121		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	**134**	Q	40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	**135**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	124		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	127		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	129		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	106		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	87		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	95		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	**131**	Q	40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	95		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	77		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	95		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	93		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	99		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	106		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	95		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	107		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 D
Client ID: MW-11D
Sample Location: TRURO, MA

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/15/25 11:19
Analyst: AC

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	3.12	--	2
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	3.12	--	2
Perfluorohexanesulfonic Acid (PFHxS)	21.0		ng/l	3.12	--	2
Perfluorooctanoic Acid (PFOA)	ND		ng/l	3.12	--	2

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 D
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	89		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	90		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	100		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	95		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	89		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	87		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	96		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	81		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	75		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	54		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	61		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	63		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	98		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	49		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	66		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	80		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	82		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-13
Client ID: MW-11S
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:40
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:20
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.44	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.22	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.61	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.44	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.61	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.61	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.61	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.61	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.61	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.44	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.61	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.61	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.61	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.61	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.44	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.61	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.61	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.61	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.61	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.61	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.61	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.61	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.61	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.61	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.44	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.44	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.61	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-13 Date Collected: 05/21/25 10:40

Client ID: MW-11S Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.44	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.44	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.61	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.61	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.1	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.1	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.22	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.22	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.22	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.22	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.05	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.3	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.3	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-13 Date Collected: 05/21/25 10:40

Client ID: MW-11S Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	**134**	Q	5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	120		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**140**	Q	40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	141		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**137**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	**138**	Q	40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	**133**	Q	40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	**138**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	134		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	**136**	Q	40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	119		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	119		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	95		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	102		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	92		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	81		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	94		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	72		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**153**	Q	40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	99		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	110		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	111		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	122		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-14
Client ID: MW-11M
Sample Location: TRURO, MA

Date Collected: 05/21/25 11:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:29
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.88	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.94	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.47	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.88	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.47	--	1
Perfluoropentanesulfonic Acid (PFPeS)	1.77		ng/l	1.47	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.47	--	1
Perfluorohexanesulfonic Acid (PFHxS)	9.42		ng/l	1.47	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.47	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.88	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.47	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.47	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.95		ng/l	1.47	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.47	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.88	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.47	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.47	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.47	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.47	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.47	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.47	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.47	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.47	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.47	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.88	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.88	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.47	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-14
Client ID: MW-11M
Sample Location: TRURO, MA
Date Collected: 05/21/25 11:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.88	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.88	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.47	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.47	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.7	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.7	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.94	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.94	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.94	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.94	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.35	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	36.7	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	36.7	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-14
Client ID: MW-11M
Sample Location: TRURO, MA
Date Collected: 05/21/25 11:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	111		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	99		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	122		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	129		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	117		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	112		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	111		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	117		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	116		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	107		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	115		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	113		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	99		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	83		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	98		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	83		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	77		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	96		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	79		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	124		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	79		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	89		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	111		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	110		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15
Client ID: MW-12
Sample Location: TRURO, MA

Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:38
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.96	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.98	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.49	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.96	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.49	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.49	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.49	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.49	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.96	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.49	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.49	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.49	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.49	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.96	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.49	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.49	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.49	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.49	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.49	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.49	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.49	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.49	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.49	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.96	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.96	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.49	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15
Client ID: MW-12
Sample Location: TRURO, MA
Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.96	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.96	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.49	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.49	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.9	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.9	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.98	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.98	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.98	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.98	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.45	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.2	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.2	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15
Client ID: MW-12
Sample Location: TRURO, MA
Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	129		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	124		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	130		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	168		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**135**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	**143**	Q	40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	124		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	123		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	129		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	120		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	121		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	127		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	89		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	89		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	112		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	88		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	86		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	101		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	86		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**148**	Q	40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	96		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	102		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	109		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	110		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15 D
Client ID: MW-12
Sample Location: TRURO, MA

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 16:46
Analyst: AC

Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.98	--	2

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15 D
Client ID: MW-12
Sample Location: TRURO, MA

Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	111		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	117		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	122		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	136		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	113		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	119		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	118		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	122		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	121		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	116		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	106		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	104		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	94		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	114		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	89		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	83		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	82		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	80		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	82		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	86		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	82		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	86		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/14/25 07:43
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05,07-15 Batch: WG2077078-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/14/25 07:43
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05,07-15 Batch: WG2077078-1					
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/14/25 07:43
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05,07-15 Batch: WG2077078-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	115		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	108		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	120		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	97		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	111		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	117		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	121		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	107		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	97		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	**133**	Q	40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	122		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	123		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	91		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	85		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	112		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	94		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	85		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	107		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	88		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	113		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	83		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	92		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	109		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	117		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/18/25 21:53
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 06 Batch: WG2079924-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/18/25 21:53
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 06 Batch: WG2079924-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/18/25 21:53
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 06 Batch: WG2079924-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	85		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	75		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	91		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	82		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	90		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	89		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	77		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	85		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	78		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	89		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	90		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	78		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	86		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	73		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	68		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	73		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	118		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	120		10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	121		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	115		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	97		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	107		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	114		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	126		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	126		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	116		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	105		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	107		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	134		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	112		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	113		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	110		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	87		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	113		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	103		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	83		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	114		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	110		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	104		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	88		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	128		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	117		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	116		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	79		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	112		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	100		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	104		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	100		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	104		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	105		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	110		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	105		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	100		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	127		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	107		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	95		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	102		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	119				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	117				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**146**	Q			40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	108				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	127				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	125				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	116				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	120				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	106				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	107				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	113				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	117				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	95				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	104				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	89				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	75				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	109				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	88				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	123				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	86				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	90				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	107				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	107				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-3								
Perfluorobutanoic Acid (PFBA)	114		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	114		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	110		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	101		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	106		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	113		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	91		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	103		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	118		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	139		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	104		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	108		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	106		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	103		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	104		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	92		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	101		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	105		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	83		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	100		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	103		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-3								
Perfluorododecanoic Acid (PFDoA)	96		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	94		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	114		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	103		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	100		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	84		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	110		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	99		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	93		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	103		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	102		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	108		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	100		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	99		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	129		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	94		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	94		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	77		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	102				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	103				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	109				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	97				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	106				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	122				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	109				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	113				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	115				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	102				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	101				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	90				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	77				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	73				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	88				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	78				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	123				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	69				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	92				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	97				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	113		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	104		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	109		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	93		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	103		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	112		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	100		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	99		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	100		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	107		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	103		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	104		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	94		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	104		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	78		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	104		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	97		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	80		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	101		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	87		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	100		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	93		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	102		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	112		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	106		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	77		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	104		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	96		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	87		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	86		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	95		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	109		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	96		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	88		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	**163**	Q	-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	101		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	87		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	66		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	111				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	105				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	105				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	124				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	106				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	109				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	100				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	99				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	110				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	98				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	77				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	94				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	90				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	76				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	95				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	84				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	106				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	70				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	76				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	114				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	114				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorobutanoic Acid (PFBA)	122		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	115		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	104		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	105		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	117		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	113		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	130		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	117		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	116		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	114		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	135		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	104		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	108		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	90		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	115		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	110		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	88		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	111		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	113		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-3								
Perfluorododecanoic Acid (PFDoA)	111		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	105		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	114		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	120		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	111		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	87		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	116		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	107		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	110		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	104		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	109		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	98		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	113		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	104		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	103		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	**169**	Q	-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	94		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	89		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	91		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	114				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	112				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	120				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	123				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	112				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	120				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	114				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	115				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	110				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	99				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	110				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	118				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	107				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	86				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	112				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	93				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	80				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	112				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	110				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	121				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	83				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	90				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	122				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	**131**	Q			10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2532481-01A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-01B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-02A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-02B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-03A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-03B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-04A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-04B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-05A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-05B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-06A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-06B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-07A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-07B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-08A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-08B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-09A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-09B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-10A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-10B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-11A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-11B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-12A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2532481-12B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-13A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-13B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-14A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-14B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-15A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-15B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

REFERENCES

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 5/22/25

ALPHA Job #: L2582481

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: HRP Associates
Address: 13 Court St, Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Additional Project Information:

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

X Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

X ADEx X EMAIL

Billing Information

X Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

X Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
X Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
PFAS 1633

SAMPLE INFO
Filtration ☐ Field ☐ Lab to do
Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
32481-01	MW-7	5/19/25	1315	GW	ACB	X	22
-02	MW-8	5/19/25	1400			X	22
-03	MW-9	5/20/25	1150			X	22
-04	MW-6	5/19/25	1220			X	22
-05	MW-5	5/20/25	900			X	22
-06	MW-4	5/20/25	1300			X	22
-07	MW-3	5/20/25	1045			X	22
-08	MW-2	5/20/25	945			X	22
-09	MW-1	5/20/25	1350			X	22
-10	MW-10	5/20/25	1240			X	22

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/22/25 @0700	[signature]	5/22/25 915
[signature]	5/22/25 1410	[signature]	5/22/25 1410
[signature]	5/22/25 1655	[signature]	5/22/25 1655

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 5/22/25

ALPHA Job #: L2532481

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Additional Project Information:

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU 2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

X Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

X ADEx X EMAIL

Billing Information

X Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

X Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
X Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
PFAS 1633

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Sample Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PFAS 1633	TOTAL # BOTTLES
32481-11	MW-13	5/21/25	900	GW	ACB	X	2
-12	MW-11D		1000			X	2
-13	MW-11S		1040			X	2
-14	MW-11M		1115			X	2
-15	MW-12		1220			X	2

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Container Type													
Preservative													

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/22/25 @ 0700	[signature]	5/22/25 945
[signature]	5/22/25 1410	[signature]	5/22/25 1410
[signature]	5/22/25 1655	[signature]	5/22/25 1520
		[signature]	5/22/25 1655

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L2537285
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	06/30/25

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2537285-01	MW-14S (100)	SOIL	TRURO, MA	06/02/25 11:45	06/13/25
L2537285-02	MW-14S (110)	SOIL	TRURO, MA	06/02/25 12:10	06/13/25

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

Case Narrative

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

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

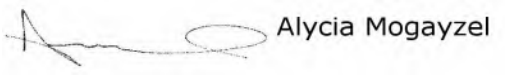
When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded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

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

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

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

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

Authorized Signature:  Alycia Mogayzel

Title: Technical Director/Representative Date: 06/30/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA

Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 145,1633
Analytical Date: 06/28/25 15:39
Analyst: SL
Percent Solids: 94%

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.796	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.398	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.796	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.199	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.199	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.199	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.796	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.199	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.199	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.796	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.199	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.199	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.796	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.796	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.199	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA
Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.796	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.796	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.995	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.97	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.97	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA
Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	101		8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	103		35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	107		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	100		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	95		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	101		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	90		40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	104		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	106		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	104		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	87		40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	92		40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	119		40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	80		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	78		40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	107		40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	86		20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	76		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	82		20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	84		15-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02
Client ID: MW-14S (110)
Sample Location: TRURO, MA

Date Collected: 06/02/25 12:10
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 145,1633
Analytical Date: 06/28/25 15:48
Analyst: SL
Percent Solids: 92%

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.795	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.398	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.795	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.199	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.199	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.199	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.795	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.199	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.199	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.795	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.199	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.199	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.795	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.795	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.199	--	1

Project Name: TRURO DPW **Lab Number:** L2537285

Project Number: TRU2501.P2 **Report Date:** 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02 Date Collected: 06/02/25 12:10

Client ID: MW-14S (110) Date Received: 06/13/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.795	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.795	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.994	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.97	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.97	--	1

Project Name: TRURO DPW **Lab Number:** L2537285

Project Number: TRU2501.P2 **Report Date:** 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02 Date Collected: 06/02/25 12:10

Client ID: MW-14S (110) Date Received: 06/13/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	97		8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	101		35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	101		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	99		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	92		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	88		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	75		40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	98		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	77		40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	86		40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	110		40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	79		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	83		40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	108		40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	77		20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	92		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	79		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	80		20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	82		15-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/28/25 15:12
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-02 Batch: WG2084360-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.800	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.400	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.200	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.800	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.200	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.200	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.200	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.200	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.200	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.800	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.200	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.200	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.200	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.200	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.800	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.200	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.200	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.200	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.200	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.200	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.200	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.200	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.200	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.200	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.800	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.800	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.200	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/28/25 15:12
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-02 Batch: WG2084360-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.800	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.800	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.200	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.200	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	2.00	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	2.00	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.400	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.400	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.400	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.400	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	1.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	5.00	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	5.00	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/28/25 15:12
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-02 Batch: WG2084360-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	88		8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	92		35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	93		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	89		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	86		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	85		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	73		40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79		40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	78		40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	96		40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	75		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	74		40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	90		40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	73		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	75		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	78		20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	80		15-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	106		-		60-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	102		-		65-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	98		-		60-150	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		65-140	-		30
Perfluoropentanesulfonic Acid (PFPeS)	105		-		55-160	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		65-145	-		30
Perfluorohexanesulfonic Acid (PFHxS)	108		-		60-150	-		30
Perfluorooctanoic Acid (PFOA)	101		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	86		-		55-200	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	105		-		65-155	-		30
Perfluorononanoic Acid (PFNA)	110		-		70-155	-		30
Perfluorooctanesulfonic Acid (PFOS)	108		-		65-160	-		30
Perfluorodecanoic Acid (PFDA)	106		-		70-155	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		70-150	-		30
Perfluorononanesulfonic Acid (PFNS)	89		-		55-140	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	106		-		65-155	-		30
Perfluoroundecanoic Acid (PFUnA)	97		-		70-155	-		30
Perfluorodecanesulfonic Acid (PFDS)	98		-		40-155	-		30
Perfluorooctanesulfonamide (PFOSA)	103		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	87		-		65-165	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	110		-		70-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	102		-		65-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	107		-		65-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	109		-		70-145	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	132		-		70-160	-		30
Perfluorododecanesulfonic Acid (PFDoS)	90		-		25-160	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	118		-		70-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	110		-		45-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		70-155	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	99		-		70-140	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	109		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	94		-		30-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	105		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	95		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	82		-		60-155	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	120		-		45-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	98		-		60-130	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	114		-		60-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91				8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	92				35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	95				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78				40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	104				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	88				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	88				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	92				40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	93				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	95				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79				40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87				40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	108				40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	75				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	80				40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	96				40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	64				20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	73				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	79				20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	81				15-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-3								
Perfluorobutanoic Acid (PFBA)	107		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	104		-		60-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	112		-		65-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	111		-		60-150	-		30
Perfluorohexanoic Acid (PFHxA)	104		-		65-140	-		30
Perfluoropentanesulfonic Acid (PFPeS)	109		-		55-160	-		30
Perfluoroheptanoic Acid (PFHpA)	101		-		65-145	-		30
Perfluorohexanesulfonic Acid (PFHxS)	104		-		60-150	-		30
Perfluorooctanoic Acid (PFOA)	102		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	113		-		55-200	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	94		-		65-155	-		30
Perfluorononanoic Acid (PFNA)	106		-		70-155	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		65-160	-		30
Perfluorodecanoic Acid (PFDA)	105		-		70-155	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	119		-		70-150	-		30
Perfluorononanesulfonic Acid (PFNS)	86		-		55-140	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	100		-		65-155	-		30
Perfluoroundecanoic Acid (PFUnA)	106		-		70-155	-		30
Perfluorodecanesulfonic Acid (PFDS)	87		-		40-155	-		30
Perfluorooctanesulfonamide (PFOSA)	108		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	106		-		65-165	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-3								
Perfluorododecanoic Acid (PFDoA)	113		-		70-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	103		-		65-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	109		-		65-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	108		-		70-145	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	120		-		70-160	-		30
Perfluorododecanesulfonic Acid (PFDoS)	87		-		25-160	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	111		-		70-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	102		-		45-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	108		-		70-155	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	102		-		70-140	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	110		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	116		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	98		-		30-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	107		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	117		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	99		-		60-155	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	118		-		45-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	112		-		60-130	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	117		-		60-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	95				8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	97				35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	93				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78				40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	93				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	90				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	80				40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	104				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	80				40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	88				40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	102				40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	77				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	77				40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	99				40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	63				20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	75				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	80				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	82				20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	84				15-130

INORGANICS
&
MISCELLANEOUS

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA

Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.3		%	0.100	--	1	-	06/23/25 19:35	121,2540G	ASL

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02
Client ID: MW-14S (110)
Sample Location: TRURO, MA

Date Collected: 06/02/25 12:10
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.3		%	0.100	--	1	-	06/23/25 19:35	121,2540G	ASL

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2537285-01A	Plastic 2oz unpreserved for TS	NA	NA			Y	Absent		A2-TS(7)
L2537285-01B	Plastic 8oz unpreserved	NA	NA			Y	Absent		A2-1633(90)
L2537285-02A	Plastic 2oz unpreserved for TS	NA	NA			Y	Absent		A2-TS(7)
L2537285-02B	Plastic 8oz unpreserved	NA	NA			Y	Absent		A2-1633(90)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/13/25

ALPHA Job #: L2537285

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
PFAS 1633
Total Solids

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
37285 01	MW-14S (100)	6/2/25	1145	S	ACB		1
02	MW-14S (110)	6/2/25	1210	S	ACB		1

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Amber Bylow	6/13/25 @ 700	Dana Masterson	6/13/25 1150
Dana Masterson	6/13/25 1655		6/13/25 1655

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L2537287
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	07/03/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2537287-01	MW-9D	WATER	TRURO, MA	06/02/25 09:10	06/13/25
L2537287-02	MW-9M	WATER	TRURO, MA	06/02/25 10:00	06/13/25
L2537287-03	MW-14S	WATER	TRURO, MA	06/02/25 11:55	06/13/25
L2537287-04	MW-14M	WATER	TRURO, MA	06/02/25 13:00	06/13/25

Project Name:	TRURO DPW	**Lab Number:**	L2537287
Project Number:	TRU2501.P2	**Report Date:**	07/03/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2537287
Project Number:	TRU2501.P2	**Report Date:**	07/03/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by 1633

The Extracted Internal Standard recovery for the WG2082759-3 LCS associated with L2537287-01 through -04 is outside the acceptance criteria for perfluoro[13c4]butanoic acid (mpfba) (131%) and perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (138%); however, all associated target analytes are within overall LCS criteria; therefore, no further action was taken.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 07/03/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-01
Client ID: MW-9D
Sample Location: TRURO, MA

Date Collected: 06/02/25 09:10
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 07/02/25 14:29
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/24/25 01:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.16	--	1
Perfluoropentanoic Acid (PFPeA)	3.74		ng/l	3.08	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.16	--	1
Perfluorohexanoic Acid (PFHxA)	3.10		ng/l	1.54	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.54	--	1
Perfluoroheptanoic Acid (PFHpA)	2.13		ng/l	1.54	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.11		ng/l	1.54	--	1
Perfluorooctanoic Acid (PFOA)	2.50		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.16	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.54	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.54	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.16	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.54	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.54	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.54	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.54	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.54	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.54	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.16	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.16	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.54	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-01
Client ID: MW-9D
Sample Location: TRURO, MA
Date Collected: 06/02/25 09:10
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.16	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.16	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.4	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.4	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.08	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.08	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.08	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.08	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.70	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.5	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.5	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-01
Client ID: MW-9D
Sample Location: TRURO, MA
Date Collected: 06/02/25 09:10
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	72		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	75		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	72		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	97		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	77		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	76		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	66		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	75		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	67		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	67		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	74		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	64		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	67		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	75		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	73		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	47		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	72		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	62		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	48		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	72		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	48		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	50		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	53		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	54		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-02
Client ID: MW-9M
Sample Location: TRURO, MA

Date Collected: 06/02/25 10:00
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 07/02/25 14:38
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/24/25 01:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.03	--	1
Perfluoropentanoic Acid (PFPeA)	3.20		ng/l	3.02	--	1
Perfluorobutanesulfonic Acid (PFBS)	3.03		ng/l	1.51	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.03	--	1
Perfluorohexanoic Acid (PFHxA)	2.95		ng/l	1.51	--	1
Perfluoropentanesulfonic Acid (PFPeS)	6.18		ng/l	1.51	--	1
Perfluoroheptanoic Acid (PFHpA)	2.03		ng/l	1.51	--	1
Perfluorohexanesulfonic Acid (PFHxS)	40.8		ng/l	1.51	--	1
Perfluorooctanoic Acid (PFOA)	3.23		ng/l	1.51	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.03	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.51	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.51	--	1
Perfluorooctanesulfonic Acid (PFOS)	19.5		ng/l	1.51	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.51	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.03	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.51	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.51	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.51	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.51	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.51	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.51	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.51	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.51	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.51	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.03	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.03	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.51	--	1

Project Name: TRURO DPW **Lab Number:** L2537287

Project Number: TRU2501.P2 **Report Date:** 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-02 Date Collected: 06/02/25 10:00

Client ID: MW-9M Date Received: 06/13/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.03	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.03	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.51	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.51	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.1	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.1	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.02	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.02	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.02	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.02	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.54	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.7	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.7	--	1

Project Name: TRURO DPW **Lab Number:** L2537287

Project Number: TRU2501.P2 **Report Date:** 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-02 Date Collected: 06/02/25 10:00

Client ID: MW-9M Date Received: 06/13/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	65		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	64		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	71		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	82		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	66		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	64		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	63		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	60		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	57		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	64		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	65		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	54		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	58		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	61		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	59		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	42		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	53		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	51		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	44		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	66		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	43		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	46		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	51		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	52		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-03
Client ID: MW-14S
Sample Location: TRURO, MA

Date Collected: 06/02/25 11:55
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 07/02/25 14:47
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/24/25 01:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.17	--	1
Perfluoropentanoic Acid (PFPeA)	7.48		ng/l	3.08	--	1
Perfluorobutanesulfonic Acid (PFBS)	8.16		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.17	--	1
Perfluorohexanoic Acid (PFHxA)	8.38		ng/l	1.54	--	1
Perfluoropentanesulfonic Acid (PFPeS)	22.5		ng/l	1.54	--	1
Perfluoroheptanoic Acid (PFHpA)	7.14		ng/l	1.54	--	1
Perfluorohexanesulfonic Acid (PFHxS)	152		ng/l	1.54	--	1
Perfluorooctanoic Acid (PFOA)	9.52		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.17	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.20		ng/l	1.54	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonic Acid (PFOS)	65.9		ng/l	1.54	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.17	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.54	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.54	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.54	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.54	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.54	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.54	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.17	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.17	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.54	--	1

Project Name: TRURO DPW **Lab Number:** L2537287

Project Number: TRU2501.P2 **Report Date:** 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-03 Date Collected: 06/02/25 11:55

Client ID: MW-14S Date Received: 06/13/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.17	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.17	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.4	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.4	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.08	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.08	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.08	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.08	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.71	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.5	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.5	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-03
Client ID: MW-14S
Sample Location: TRURO, MA
Date Collected: 06/02/25 11:55
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	64		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	60		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	65		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	93		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	64		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	62		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	62		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	58		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	60		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	64		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	63		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	57		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	58		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	59		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	59		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	41		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	61		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	50		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	39		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	63		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	44		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	47		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	51		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	52		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-04
Client ID: MW-14M
Sample Location: TRURO, MA

Date Collected: 06/02/25 13:00
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 07/02/25 14:55
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/24/25 01:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.86	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.93	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.46	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.86	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.46	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.46	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.46	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.46	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.46	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.86	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.46	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.46	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.46	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.46	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.86	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.46	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.46	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.46	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.46	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.46	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.46	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.46	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.46	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.46	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.86	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.86	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.46	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-04
Client ID: MW-14M
Sample Location: TRURO, MA
Date Collected: 06/02/25 13:00
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.86	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.86	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.46	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.46	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.6	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.6	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.93	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.93	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.93	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.93	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.33	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	36.6	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	36.6	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537287
Report Date: 07/03/25

SAMPLE RESULTS

Lab ID: L2537287-04
Client ID: MW-14M
Sample Location: TRURO, MA
Date Collected: 06/02/25 13:00
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	81		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	75		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	83		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	102		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	83		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	80		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	76		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	75		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	68		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	76		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	74		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	70		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	64		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	66		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	51		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	62		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	60		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	49		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	49		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	54		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	60		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	61		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 14:02
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/24/25 01:40

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-04 Batch: WG2082759-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 14:02
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/24/25 01:40

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-04 Batch: WG2082759-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 14:02
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/24/25 01:40

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-04 Batch: WG2082759-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	73		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	71		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	70		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	61		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	69		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	75		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	67		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	67		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	59		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	69		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	72		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	66		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	61		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	75		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	54		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	58		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	70		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	51		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	69		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	40		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	42		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	61		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	58		10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-04 Batch: WG2082759-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	102		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	102		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	100		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	108		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	103		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	99		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	91		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	96		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	104		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	112		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	93		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	109		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	90		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	105		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	110		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	74		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	99		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	110		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	69		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	98		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	108		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-04 Batch: WG2082759-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	112		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	107		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	89		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	103		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	118		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	67		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	104		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	92		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	92		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	100		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	104		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	96		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	103		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	105		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	84		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	118		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	105		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	91		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-04 Batch: WG2082759-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	96				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	89				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	91				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	74				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	85				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	90				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	73				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	74				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	67				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	65				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	67				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	56				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	56				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	58				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	69				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-04 Batch: WG2082759-3								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	109		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	114		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	110		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	101		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	113		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	102		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	113		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	120		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	102		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	110		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	103		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	111		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	104		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	81		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	96		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	105		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	74		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	101		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-04 Batch: WG2082759-3								
Perfluorododecanoic Acid (PFDoA)	112		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	104		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	97		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	107		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	117		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	71		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	109		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	87		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	99		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	96		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	106		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	112		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	101		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	108		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	101		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	89		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	128		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	94		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	80		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-04 Batch: WG2082759-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	**131**	Q			5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	121				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	124				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	115				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**138**	Q			40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	126				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	119				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	125				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	103				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	113				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	113				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	108				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	108				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	85				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	109				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	92				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	83				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	89				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	75				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	129				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	95				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	94				10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2537287-01A	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)
L2537287-01B	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)
L2537287-02A	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)
L2537287-02B	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)
L2537287-03A	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)
L2537287-03B	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)
L2537287-04A	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)
L2537287-04B	Plastic 500ml unpreserved	A	NA		4.1	Y	Absent		A2-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2537287
Project Number:	TRU2501.P2	**Report Date:**	07/03/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2537287
Project Number:	TRU2501.P2	**Report Date:**	07/03/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2537287
Project Number:	TRU2501.P2	**Report Date:**	07/03/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537287
Report Date: 07/03/25

REFERENCES

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

Serial_No:07032511:02

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/23/25

ALPHA Job #: L2537287

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: HRP Associates
Address: 13 Court St, Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Additional Project Information:

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PFAS 1633	Sample Comments	TOTAL # BOTTLES
37287-01	MW-9D	6/12/25	910	GW	ACB	X		2
-02	MW-9M	↓	1000	↓	↓	X		2
-03	MW-14S	↓	1155	↓	↓	X		2
-04	MW-14M	↓	1300	↓	↓	X		2

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration ☐ Field ☐ Lab to do
Preservation ☐ Lab to do

Container Type																							
Preservative																							

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Ayden Baker	6/13/25 @ 700	Dana Mastrangelo PHE	6/13/25 1150
Dana Mastrangelo PHE	6/13/25 1655		6/13/25 1655
	6-23-25		6/23/25 1450
	6/23/25 1633	Batten Bill	6/23/25 16:35

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Sample Delivery Group Summary

Pace Job Number : L2537287

Account Name : HRP Associates,Inc
Project Number : TRU2501.P2
Project Name : TRURO DPW

Received : 13-JUN-2025
Reviewer : Bethany Bedard

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	4.1	
B	Absent/	Ice	5.3	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ANALYTICAL REPORT

Lab Number:	L2537836
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	07/09/25

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2537836-01	MW-9D	WATER	TRURO, MA	06/17/25 09:00	06/17/25
L2537836-02	MW-9M	WATER	TRURO, MA	06/17/25 09:50	06/17/25
L2537836-03	MW-9	WATER	TRURO, MA	06/17/25 10:45	06/17/25
L2537836-04	MW-3	WATER	TRURO, MA	06/17/25 11:45	06/17/25

Project Name:	TRURO DPW	**Lab Number:**	L2537836
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

MADEP MCP Response Action Analytical Report Certification

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

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name:	TRURO DPW	**Lab Number:**	L2537836
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2537836
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Case Narrative (continued)

Report Submission

July 09, 2025: This final report includes the results of all requested analyses.

June 30, 2025: This is a preliminary report.

MCP Related Narratives

Total Metals

In reference to question I:

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

Non-MCP Related Narratives

Heterotrophic Plate Count

L2537836-01: The sample was analyzed with the method required holding time exceeded.

L2537836-01 through -04: The result is estimated due to the elevated concentration in the sample. Due to the expiration of the method required holding time, re-analysis could not be performed.

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

Authorized Signature: Kelly O'Neill

Title: Technical Director/Representative Date: 07/09/25

QC OUTLIER SUMMARY REPORT

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

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

There are no QC Outliers associated with this report.

METALS

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-01
Client ID: MW-9D
Sample Location: TRURO, MA
Date Collected: 06/17/25 09:00
Date Received: 06/17/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	0.0983		mg/l	0.0500	--	1	06/18/25 16:41	07/09/25 10:45	EPA 3005A	97,6010D	MFR
Manganese, Total	0.278		mg/l	0.0100	--	1	06/18/25 16:41	07/09/25 10:45	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	ND		mg/l	0.50	--	1		07/09/25 10:45	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-02
Client ID: MW-9M
Sample Location: TRURO, MA
Date Collected: 06/17/25 09:50
Date Received: 06/17/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	0.187		mg/l	0.0500	--	1	06/18/25 16:41	07/09/25 10:50	EPA 3005A	97,6010D	MFR
Manganese, Total	0.404		mg/l	0.0100	--	1	06/18/25 16:41	07/09/25 10:50	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	ND		mg/l	0.50	--	1		07/09/25 10:50	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-03
Client ID: MW-9
Sample Location: TRURO, MA
Sample Depth:
Matrix: Water

Date Collected: 06/17/25 10:45
Date Received: 06/17/25
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	0.429		mg/l	0.0500	--	1	06/18/25 16:41	07/09/25 10:54	EPA 3005A	97,6010D	MFR
Manganese, Total	ND		mg/l	0.0100	--	1	06/18/25 16:41	07/09/25 10:54	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	ND		mg/l	0.50	--	1		07/09/25 10:54	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-04
Client ID: MW-3
Sample Location: TRURO, MA
Date Collected: 06/17/25 11:45
Date Received: 06/17/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	2.70		mg/l	0.0500	--	1	06/18/25 16:41	07/09/25 10:59	EPA 3005A	97,6010D	MFR
Manganese, Total	0.0576		mg/l	0.0100	--	1	06/18/25 16:41	07/09/25 10:59	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	2.7		mg/l	0.50	--	1		07/09/25 10:59	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-04 Batch: WG2080540-1										
Iron, Total	ND		mg/l	0.0500	--	1	06/18/25 16:41	06/26/25 20:17	97,6010D	DHL
Manganese, Total	ND		mg/l	0.0100	--	1	06/18/25 16:41	06/26/25 20:17	97,6010D	DHL

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG2080540-2 WG2080540-3								
Iron, Total	106		103		80-120	3		20
Manganese, Total	105		101		80-120	4		20

INORGANICS
&
MISCELLANEOUS

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-01
Client ID: MW-9D
Sample Location: TRURO, MA

Date Collected: 06/17/25 09:00
Date Received: 06/17/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	18000		CFU/ml	1.0	NA	1	-	06/17/25 17:45	121,9215B	TLH
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 08:39	121,3500FE-B	DMO

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-02
Client ID: MW-9M
Sample Location: TRURO, MA

Date Collected: 06/17/25 09:50
Date Received: 06/17/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	97000		CFU/ml	10	NA	10	-	06/17/25 17:45	121,9215B	TLH
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 08:40	121,3500FE-B	DMO

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-03
Client ID: MW-9
Sample Location: TRURO, MA

Date Collected: 06/17/25 10:45
Date Received: 06/17/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	910		CFU/ml	1.0	NA	1	-	06/17/25 17:45	121,9215B	TLH
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 08:41	121,3500FE-B	DMO

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2537836-04
Client ID: MW-3
Sample Location: TRURO, MA

Date Collected: 06/17/25 11:45
Date Received: 06/17/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	80000		CFU/ml	10	NA	10	-	06/17/25 17:45	121,9215B	TLH
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 08:42	121,3500FE-B	DMO

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-04 Batch: WG2080103-1										
Heterotrophic Plate Count	ND		CFU/ml	1.0	NA	1	-	06/17/25 17:45	121,9215B	TLH
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG2080312-1										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 08:37	121,3500FE-B	DMO

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG2080312-2								
Iron, Ferrous	99		-		90-110	-		

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537836
Report Date: 07/09/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2537836-01A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-01B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-01C	Plastic 120ml unpreserved	A	7	7	5.3	Y	Absent		FERROUS(1)
L2537836-01D	Plastic 250ml HNO3 preserved	A	<2	<2	5.3	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)
L2537836-02A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-02B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-02C	Plastic 120ml unpreserved	A	7	7	5.3	Y	Absent		FERROUS(1)
L2537836-02D	Plastic 250ml HNO3 preserved	A	<2	<2	5.3	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)
L2537836-03A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-03B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-03C	Plastic 120ml unpreserved	A	7	7	5.3	Y	Absent		FERROUS(1)
L2537836-03D	Plastic 250ml HNO3 preserved	A	<2	<2	5.3	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)
L2537836-04A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-04B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		PLATECT(.33)
L2537836-04C	Plastic 120ml unpreserved	A	7	7	5.3	Y	Absent		FERROUS(1)
L2537836-04D	Plastic 250ml HNO3 preserved	A	<2	<2	5.3	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)

*Values in parentheses indicate holding time in days

Project Name:	TRURO DPW	**Lab Number:**	L2537836
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2537836
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: *Data Usability Report*

Project Name:	TRURO DPW	**Lab Number:**	L2537836
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537836
Report Date: 07/09/25

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSCCAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010; WSC-CAM-IIIA and IIID, January 2024; WSC-CAM-IIIB and VA, February 2024; WSC-CAM-VB and VC, April 2024; and WSC-CAM-VIA, VIB, IXA, and IXB, October 2024.

107 Calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 06/17/25

PACE Job #: L2537836

Pace ANALYTICAL SERVICES
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA.
Phone: 781-210-9840
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been previously analyzed by Pace

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
PACE Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: GW1 Criteria:

MA MCP PRESUMPTIVE CERTAINTY — CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

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

PACE Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Ferrous Iron SM 3500	Ferric Iron	Total Mn 6010D	Heterotrophic Plate Count	Sample Specific Comments	TOTAL # BOTTLES
37836-01	MW-9D	6/17/25	900	GW	ACB	X	X	X	X		4
-02	MW-9M		950			X	X	X	X		4
-03	MW-9		1045			X	X	X	X		4
-04	MW-3		1145			X	X	X	X		4

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do (Please specify below)

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By	Date/Time
Ayden Bohn MCM	6/17/25 @ 1201	MCM	6/17/25 1201
	6/17/25 1522		6/17/25 1527

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

FORM NO: 01-01 (rev. 29-Jan-2025)

Sample Delivery Group Summary

Pace Job Number : L2537836

Account Name : HRP Associates,Inc
Project Number : TRU2501.P2
Project Name : TRURO DPW

Received : 17-JUN-2025
Reviewer : Jordan Riley

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	5.3	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ANALYTICAL REPORT

Lab Number:	L2538224
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	07/09/25

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2538224-01	MW-14D	WATER	TRURO, MA	06/18/25 09:00	06/18/25
L2538224-02	MW-14M	WATER	TRURO, MA	06/18/25 11:00	06/18/25
L2538224-03	MW-14S	WATER	TRURO, MA	06/18/25 09:55	06/18/25

Project Name: TRURO DPW **Lab Number:** L2538224

Project Number: TRU2501.P2 **Report Date:** 07/09/25

MADEP MCP Response Action Analytical Report Certification

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

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name:	TRURO DPW	**Lab Number:**	L2538224
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2538224
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Case Narrative (continued)

Report Submission

July 09, 2025: This final report includes the results of all requested analyses.

June 30, 2025: This is a preliminary report.

MCP Related Narratives

Total Metals

In reference to question I:

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

Non-MCP Related Narratives

Heterotrophic Plate Count

L2538224-01 through -03: The result is estimated due to the elevated concentration in the sample. Due to the expiration of the method required holding time, re-analysis could not be performed.

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

Authorized Signature: Kelly O'Neill

Title: Technical Director/Representative Date: 07/09/25

QC OUTLIER SUMMARY REPORT

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

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

There are no QC Outliers associated with this report.

METALS

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538224
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538224-01
Client ID: MW-14D
Sample Location: TRURO, MA
Date Collected: 06/18/25 09:00
Date Received: 06/18/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	0.108		mg/l	0.0500	--	1	06/23/25 21:55	07/09/25 11:03	EPA 3005A	97,6010D	MFR
Manganese, Total	0.468		mg/l	0.0100	--	1	06/23/25 21:55	07/09/25 11:03	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	ND		mg/l	0.50	--	1		07/09/25 11:03	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538224
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538224-02
Client ID: MW-14M
Sample Location: TRURO, MA
Sample Depth:
Matrix: Water

Date Collected: 06/18/25 11:00
Date Received: 06/18/25
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	0.400		mg/l	0.0500	--	1	06/23/25 21:55	07/09/25 11:08	EPA 3005A	97,6010D	MFR
Manganese, Total	0.213		mg/l	0.0100	--	1	06/23/25 21:55	07/09/25 11:08	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	ND		mg/l	0.50	--	1		07/09/25 11:08	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538224
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538224-03
Client ID: MW-14S
Sample Location: TRURO, MA
Sample Depth:
Matrix: Water

Date Collected: 06/18/25 09:55
Date Received: 06/18/25
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	0.467		mg/l	0.0500	--	1	06/23/25 21:55	07/09/25 11:12	EPA 3005A	97,6010D	MFR
Manganese, Total	0.144		mg/l	0.0100	--	1	06/23/25 21:55	07/09/25 11:12	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	ND		mg/l	0.50	--	1		07/09/25 11:12	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG2082459-1										
Iron, Total	ND		mg/l	0.0500	--	1	06/23/25 21:55	06/24/25 16:17	97,6010D	EFM
Manganese, Total	ND		mg/l	0.0100	--	1	06/23/25 21:55	06/24/25 16:17	97,6010D	EFM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG2082459-2 WG2082459-3								
Iron, Total	120		120		80-120	0		20
Manganese, Total	117		116		80-120	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538224-01
Client ID: MW-14D
Sample Location: TRURO, MA

Date Collected: 06/18/25 09:00
Date Received: 06/18/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	150000		CFU/ml	10	NA	10	-	06/18/25 15:38	121,9215B	MAW
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 23:14	121,3500FE-B	AAS

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538224-02
Client ID: MW-14M
Sample Location: TRURO, MA

Date Collected: 06/18/25 11:00
Date Received: 06/18/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	13000		CFU/ml	1.0	NA	1	-	06/18/25 15:38	121,9215B	MAW
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 23:14	121,3500FE-B	AAS

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538224-03
Client ID: MW-14S
Sample Location: TRURO, MA

Date Collected: 06/18/25 09:55
Date Received: 06/18/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	14000		CFU/ml	1.0	NA	1	-	06/18/25 15:38	121,9215B	MAW
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 23:15	121,3500FE-B	AAS

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-03 Batch: WG2080615-1										
Heterotrophic Plate Count	ND		CFU/ml	1.0	NA	1	-	06/18/25 15:38	121,9215B	MAW
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG2080678-1										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/18/25 23:13	121,3500FE-B	AAS

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG2080678-2								
Iron, Ferrous	101		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG2080678-4 QC Sample: L2538224-02 Client ID: MW-14M												
Iron, Ferrous	ND	1	0.90	90		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: TRURO DPW

Project Number: TRU2501.P2

Lab Number: L2538224

Report Date: 07/09/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG2080678-3 QC Sample: L2538224-01 Client ID: MW-14D						
Iron, Ferrous	ND	ND	mg/l	NC		20

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538224
Report Date: 07/09/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2538224-01A	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		PLATECT(.33)
L2538224-01B	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		PLATECT(.33)
L2538224-01C	Plastic 120ml unpreserved	A	7	7	3.8	Y	Absent		FERROUS(1)
L2538224-01D	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)
L2538224-02A	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		PLATECT(.33)
L2538224-02B	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		PLATECT(.33)
L2538224-02C	Plastic 120ml unpreserved	A	7	7	3.8	Y	Absent		FERROUS(1)
L2538224-02D	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)
L2538224-03A	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		PLATECT(.33)
L2538224-03B	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		PLATECT(.33)
L2538224-03C	Plastic 120ml unpreserved	A	7	7	3.8	Y	Absent		FERROUS(1)
L2538224-03D	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)

*Values in parentheses indicate holding time in days

Project Name:	TRURO DPW	**Lab Number:**	L2538224
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538224
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: *Data Usability Report*

Project Name:	TRURO DPW	**Lab Number:**	L2538224
Project Number:	TRU2501.P2	**Report Date:**	07/09/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538224
Report Date: 07/09/25

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSCCAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010; WSC-CAM-IIIA and IIID, January 2024; WSC-CAM-IIIB and VA, February 2024; WSC-CAM-VB and VC, April 2024; and WSC-CAM-VIA, VIB, IXA, and IXB, October 2024.

107 Calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Pace Analytical Services

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 6/18/25

PACE Job #: L25 38224

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA
Phone: 781-210-9840
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been previously analyzed by Pace

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
PACE Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: GW1 Criteria:

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

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

ANALYSIS: Ferric Iron; Ferrous Iron SM 3500; Total Mn 6010D; Heterotrophic Plate Count

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

PACE Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Ferric Iron	Ferrous Iron SM 3500	Total Mn 6010D	Heterotrophic Plate Count	Sample Specific Comments	TOTAL # BOTTLES
38224-01	MW-14D	6/18/25	900	GW	ACB	X	X	X	X		4
-02	MW-14M	↓	1100	↓	↓	X	X	X	X		4
-03	MW-14S	↓	955	↓	↓	X	X	X	X		4

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/18/25 @ 1133	[signature]	6/18/25 1133
	6/18/25 1357		6/18/25 1354

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

FORM NO: 01-01 (rev. 29-Jan-2025)

Sample Delivery Group Summary

Pace Job Number : L2538224

Account Name : HRP Associates,Inc
Project Number : TRU2501.P2
Project Name : TRURO DPW

Received : 18-JUN-2025
Reviewer : Craig Sloma-Green

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	3.8	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ANALYTICAL REPORT

Lab Number:	L2538611
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501
Report Date:	07/09/25

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2538611-01	DUALSORB	WATER	TRURO	06/19/25 10:20	06/19/25

Project Name: TRURO DPW **Lab Number:** L2538611

Project Number: TRU2501 **Report Date:** 07/09/25

MADEP MCP Response Action Analytical Report Certification

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

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Case Narrative (continued)

MCP Related Narratives

Total Metals

In reference to question I:

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

Non MCP Related Narratives

Heterotrophic Plate Count

L2538611-01: The result is estimated due to the elevated concentration in the sample. Due to the expiration of the method required holding time, re-analysis could not be performed.

Iron, Ferrous

L2538611-01: The sample has an elevated detection limit due to the dilution required by the sample matrix.

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

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 07/09/25

QC OUTLIER SUMMARY REPORT

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

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

There are no QC Outliers associated with this report.

METALS

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538611
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538611-01
Client ID: DUALSORB
Sample Location: TRURO
Sample Depth:
Matrix: Water
Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	5.97		mg/l	0.0500	--	1	06/23/25 21:55	07/09/25 11:17	EPA 3005A	97,6010D	MFR
Manganese, Total	9.03		mg/l	0.0100	--	1	06/23/25 21:55	07/09/25 11:17	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	6.0		mg/l	2.5	--	1		07/09/25 11:17	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538611
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG2082459-1										
Iron, Total	ND		mg/l	0.0500	--	1	06/23/25 21:55	06/24/25 16:17	97,6010D	EFM
Manganese, Total	ND		mg/l	0.0100	--	1	06/23/25 21:55	06/24/25 16:17	97,6010D	EFM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG2082459-2 WG2082459-3								
Iron, Total	120		120		80-120	0		20
Manganese, Total	117		116		80-120	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538611-01
Client ID: DUALSORB
Sample Location: TRURO

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	12000		CFU/ml	1.0	NA	1	-	06/19/25 16:30	121,9215B	MAW
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	2.5	--	5	-	06/20/25 07:41	121,3500FE-B	CAR

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538611
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG2081136-1										
Heterotrophic Plate Count	ND		CFU/ml	1.0	NA	1	-	06/19/25 16:30	121,9215B	MAW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG2081350-1										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/20/25 07:40	121,3500FE-B	CAR

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG2081350-2								
Iron, Ferrous	101		-		90-110	-		

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2538611-01A	Bacteria Cup Na2S2O3 preserved	A	NA		5.0	Y	Absent		PLATECT(.33)
L2538611-01B	Bacteria Cup Na2S2O3 preserved	A	NA		5.0	Y	Absent		PLATECT(.33)
L2538611-01C	Plastic 250ml HNO3 preserved	A	<2	<2	5.0	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)
L2538611-01D	Plastic 120ml unpreserved	A	7	7	5.0	Y	Absent		FERROUS(1)

*Values in parentheses indicate holding time in days

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW **Lab Number:** L2538611

Project Number: TRU2501 **Report Date:** 07/09/25

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSCCAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010; WSC-CAM-IIIA and IIID, January 2024; WSC-CAM-IIIB and VA, February 2024; WSC-CAM-VB and VC, April 2024; and WSC-CAM-VIA, VIB, IXA, and IXB, October 2024.

107 Calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/19/25

ALPHA Job #: L2538611

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Truro DPW
Project Location: Truro
Project #: TRU2501
Project Manager: Bryan Massa
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth MA 02360
Phone: 781-293-1527
Email: bryan.massa@hrpassociates.com

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

ANALYSIS

- VOC: ☐ 8260 ☐ 624 ☐ 524.2
- SVOC: ☐ ABN ☐ PAH
- METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
- METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
- EPH: ☐ Ranges & Targets ☐ Ranges Only
- VPH: ☐ Ranges & Targets ☐ Ranges Only
- ☐ PCB ☐ PEST
- TPH: ☐ Quant Only ☐ Fingerprint
- Ferric & Ferrous Iron
- Manganese
- Heterotrophic Plate Count

SAMPLE INFO
Filtration ☐ Field ☐ Lab to do
Preservation ☐ Lab to do
Sample Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Ferric & Ferrous Iron	Manganese	Heterotrophic Plate Count	TOTAL # BOTTLES
38611-01	Dualsand	6/19/25	10:20	PRAS free water	BSM	X	X	X	

Container Type																			
Preservative																			

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_3$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	6/19/25 1143	JANG	6-19-25 11:45
	6-19-25 15:15		

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Sample Delivery Group Summary

Pace Job Number : L2538611

Account Name : HRP Associates,Inc
Project Number : TRU2501
Project Name : TRURO DPW

Received : 19-JUN-2025
Reviewer : Chris Tebeau

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	5.0	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ANALYTICAL REPORT

Lab Number:	L2538612
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501
Report Date:	07/02/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2538612-01	DUALSORB	WATER	TRURO	06/19/25 10:20	06/19/25
L2538612-02	FIELD BLANK	WATER	TRURO	06/19/25 10:30	06/19/25

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by 1633

L2538612-01: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2538612-01RE: The sample was re-extracted at lesser volume due to EIS failure in the original extraction. The results of the re-extraction are reported for the associated target compounds.

L2538612-01: The Extracted Internal Standard recoveries were below the acceptance criteria for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (39%); however, the associated target analytes are not reported from this analysis.

The WG2085390-2 LCS recovery associated with L2538612-01RE is above the acceptance criteria for 3-perfluoropropyl propanoic acid (3:3ftca) (133%); however this compound is not reported in the associated sample.

The WG2085390-3 LCS recovery associated with L2538612-01RE is above the acceptance criteria for 3-perfluoropropyl propanoic acid (3:3ftca) (132%); however, this compound is not reported in the associated sample.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 07/02/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01
Client ID: DUALSORB
Sample Location: TRURO

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/27/25 21:01
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	64.0	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	32.0	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	16.0	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	64.0	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	16.0	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	16.0	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	16.0	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	16.0	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	16.0	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	64.0	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	16.0	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	16.0	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	16.0	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	16.0	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	64.0	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	16.0	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	16.0	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	16.0	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	16.0	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	16.0	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	16.0	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	16.0	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	16.0	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	64.0	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	64.0	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	16.0	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	64.0	--	1

Project Name: TRURO DPW **Lab Number:** L2538612

Project Number: TRU2501 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 Date Collected: 06/19/25 10:20

Client ID: DUALSORB Date Received: 06/19/25

Sample Location: TRURO Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	64.0	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	16.0	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	16.0	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	160	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	160	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	32.0	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	32.0	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	32.0	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	32.0	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	80.0	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	400	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	400	--	1

Project Name: TRURO DPW **Lab Number:** L2538612

Project Number: TRU2501 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 Date Collected: 06/19/25 10:20

Client ID: DUALSORB Date Received: 06/19/25

Sample Location: TRURO Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	78		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	79		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	62		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	57		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	79		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	75		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	63		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	80		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	55		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	78		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	62		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	51		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	**39**	Q	40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	75		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	71		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	39		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	66		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	42		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	60		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	63		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	71		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70		10-130

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 RE
Client ID: DUALSORB
Sample Location: TRURO

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 07/02/25 08:13
Analyst: AC

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	160	--	1

Project Name: TRURO DPW **Lab Number:** L2538612

Project Number: TRU2501 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 RE
Client ID: DUALSORB
Sample Location: TRURO

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	86		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	85		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	76		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	93		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	76		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	82		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	84		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	81		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	61		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	84		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	62		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	58		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	76		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	57		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	66		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	72		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	77		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	79		10-130

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2084242-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2084242-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2084242-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	102		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	105		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	103		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	95		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	92		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	103		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	100		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	93		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	106		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	81		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	80		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	50		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	54		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	70		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	68		10-130

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 07:10
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2085390-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 07:10
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2085390-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 07:10
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2085390-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	99		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	96		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	107		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	111		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	98		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	79		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	101		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	72		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	73		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	93		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	68		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	83		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	56		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	88		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	96		10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	108		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	100		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	111		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	99		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	105		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	104		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	107		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	103		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	117		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	101		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	106		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	78		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	113		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	112		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	73		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	110		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	113		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	106		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	104		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	105		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	112		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	72		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	107		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	82		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	103		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	99		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	97		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	104		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	104		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	96		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	130		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	105		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	95		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	103				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	109				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	107				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	113				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	114				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	102				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	94				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	106				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	105				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	75				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	92				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	73				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	69				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	77				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	58				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	107				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	55				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-3								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	107		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	110		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	103		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	112		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	100		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	112		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	108		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	112		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	115		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	101		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	105		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	90		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	109		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	111		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	84		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	102		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	105		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-3								
Perfluorododecanoic Acid (PFDoA)	122		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	114		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	108		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	101		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	128		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	86		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	120		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	99		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	102		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	113		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	118		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	99		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	107		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	103		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	100		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	118		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	109		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	92		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	90				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	80				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	68				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	72				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	69				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	71				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	68				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	60				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	76				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	57				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	51				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	54				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	113		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	111		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	96		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	96		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	97		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	103		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	105		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	103		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	102		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	111		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	119		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	105		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	114		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	102		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	106		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	88		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	117		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	98		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	83		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	112		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	88		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	107		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	101		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	109		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	109		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	140		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	74		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	122		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	93		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	65		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	74		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	114		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	98		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	111		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	108		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	107		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	**133**	Q	-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	106		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	91		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	120				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	118				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	134				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	108				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	123				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	108				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	117				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	126				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	99				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	126				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	101				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	104				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	77				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	71				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	100				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	85				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	70				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	82				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	62				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	122				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	75				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	77				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	98				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	98				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-3								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	103		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	109		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	104		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	99		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	109		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	106		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	105		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	105		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	104		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	98		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	109		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	104		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	99		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	88		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	96		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	93		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	102		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	97		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-3								
Perfluorododecanoic Acid (PFDoA)	97		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	106		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	107		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	106		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	127		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	82		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	119		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	105		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	67		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	71		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	106		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	96		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	106		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	108		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	91		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	**132**	Q	-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	107		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	102		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	104				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	100				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	105				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	83				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	106				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	99				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	93				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	81				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	95				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	101				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	75				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	69				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	92				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	69				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	101				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	61				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	64				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	90				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	91				10-130

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2538612-01A	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		A2-1633(28)
L2538612-01B	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		A2-1633(28)
L2538612-02A	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		HOLD-1633(28)
L2538612-02B	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		HOLD-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

REFERENCES

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/19/25

ALPHA Job #: L2538612

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Itrp Associates
Address: 13 Court Street
Plymouth MA 02360
Phone: bryan.massa@hrpassociates.com
Email: Tel 213-1527

Project Information

Project Name: Truro DPW
Project Location: Truro
Project #: Tru2501
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

* Analyze Field Blank if PFAS detected in Duelsorb Sample

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PFAS 1633	Sample Comments
38612-01	DUELSORB	6/19/25	10:20	PFAS free water	MDM	X	
-02	Field Blank *	6/19/25	10:30	↓	↓		*

ANALYSIS: ☐ VOC: ☐ 8260 ☐ 624 ☐ 524.2 ☐ SVOC: ☐ ABN ☐ PAH ☐ METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 ☐ RCRA5 ☐ RCRA8 ☐ PP13 ☐ EPH: ☐ Ranges & Targets ☐ Ranges Only ☐ VPH: ☐ Ranges & Targets ☐ Ranges Only ☐ PCB ☐ PEST ☐ TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration ☐ Field ☐ Lab to do
Preservation ☐ Lab to do

TOTAL # BOTTLES

Container Type																		P	
Preservative																			

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	6/19/25 1143	DAVIS	6-19-25 11:40
	6-19-25 13:15		6/19/25 13:15
	6/19/25		6/19/25 1507
	6/19/25 1652		6/19/25 1652

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Sample Delivery Group Summary

Pace Job Number : L2538612

Account Name : HRP Associates,Inc
Project Number : TRU2501
Project Name : TRURO DPW

Received : 19-JUN-2025
Reviewer : Dylan LeBlanc

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	5.0	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ANALYTICAL REPORT

Lab Number:	L2538814
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	07/02/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2538814-01	MW-14D	WATER	TRURO, MA	06/18/25 09:00	06/19/25
L2538814-02	MW-12M	WATER	TRURO, MA	06/18/25 09:40	06/19/25
L2538814-03	MW-12D	WATER	TRURO, MA	06/18/25 08:45	06/19/25
L2538814-04	MW-13M	WATER	TRURO, MA	06/18/25 12:10	06/19/25
L2538814-05	MW-13M	WATER	TRURO, MA	06/18/25 11:00	06/19/25

Project Name:	TRURO DPW	**Lab Number:**	L2538814
Project Number:	TRU2501.P2	**Report Date:**	07/02/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2538814
Project Number:	TRU2501.P2	**Report Date:**	07/02/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by 1633

L2538814-03: The Non-extracted Internal Standard (NIS) response was below the acceptance criteria for 13C3-PFBA; however, the criteria were achieved upon re-analysis on dilution. The results of the re-analysis are reported for the associated target analytes.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 07/02/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-01
Client ID: MW-14D
Sample Location: TRURO, MA

Date Collected: 06/18/25 09:00
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/27/25 22:30
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.20	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.10	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.20	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.55	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.55	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.55	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.55	--	1
Perfluorooctanoic Acid (PFOA)	1.82		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.20	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.55	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.55	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.20	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.55	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.55	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.55	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.55	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.55	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.55	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.20	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.20	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.55	--	1

Project Name: TRURO DPW **Lab Number:** L2538814

Project Number: TRU2501.P2 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-01 Date Collected: 06/18/25 09:00

Client ID: MW-14D Date Received: 06/19/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.20	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.20	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.5	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.5	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.10	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.10	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.10	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.10	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.75	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.8	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.8	--	1

Project Name: TRURO DPW **Lab Number:** L2538814

Project Number: TRU2501.P2 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-01 Date Collected: 06/18/25 09:00

Client ID: MW-14D Date Received: 06/19/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	108		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	110		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	108		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	123		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	104		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	109		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	139		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	99		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	110		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	101		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	108		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	112		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	112		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	80		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	92		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	82		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	59		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	115		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	62		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	65		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	73		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	72		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538814
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-02
Client ID: MW-12M
Sample Location: TRURO, MA

Date Collected: 06/18/25 09:40
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/27/25 22:39
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.32	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.16	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.32	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.58	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.58	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.58	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.58	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.32	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.58	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.58	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.58	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.32	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.58	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.58	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.58	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.58	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.58	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.58	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.58	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.58	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.58	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.32	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.32	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.58	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538814
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-02
Client ID: MW-12M
Sample Location: TRURO, MA
Date Collected: 06/18/25 09:40
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.32	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.32	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.58	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.58	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.8	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.8	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.16	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.16	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.16	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.16	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.90	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.5	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.5	--	1

Project Name: TRURO DPW **Lab Number:** L2538814

Project Number: TRU2501.P2 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-02 Date Collected: 06/18/25 09:40

Client ID: MW-12M Date Received: 06/19/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	104		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	101		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	106		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	112		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	105		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	107		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	101		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	98		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	109		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	99		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	102		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	100		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	111		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	96		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	108		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	86		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	84		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	55		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	114		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	63		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	68		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	76		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	79		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538814
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-03
Client ID: MW-12D
Sample Location: TRURO, MA

Date Collected: 06/18/25 08:45
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/27/25 22:48
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.10	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.20	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.55	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.55	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.55	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.55	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.20	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.55	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.55	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.20	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.55	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.55	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.55	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.55	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.55	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.55	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.20	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.20	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.55	--	1

Project Name: TRURO DPW **Lab Number:** L2538814

Project Number: TRU2501.P2 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-03 Date Collected: 06/18/25 08:45

Client ID: MW-12D Date Received: 06/19/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.20	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.20	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.5	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.5	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.10	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.10	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.10	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.74	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.7	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.7	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538814
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-03
Client ID: MW-12D
Sample Location: TRURO, MA
Date Collected: 06/18/25 08:45
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	103		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	101		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	111		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	106		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	106		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	106		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	121		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	104		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	107		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	101		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	107		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	95		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	101		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	71		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	75		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	82		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	53		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	116		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	64		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	66		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	75		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	78		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538814
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-03 D
Client ID: MW-12D
Sample Location: TRURO, MA

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/28/25 21:46
Analyst: SL

Date Collected: 06/18/25 08:45
Date Received: 06/19/25
Field Prep: Not Specified

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	31.0	--	5
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	15.5	--	5

Project Name: TRURO DPW **Lab Number:** L2538814

Project Number: TRU2501.P2 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-03 D
Client ID: MW-12D
Sample Location: TRURO, MA

Date Collected: 06/18/25 08:45
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	112		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	115		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	119		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	103		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	114		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	114		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	112		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	96		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	96		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	118		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	113		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	108		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	95		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	85		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	106		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	81		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	86		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	83		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	64		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	111		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	68		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	72		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	78		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	80		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2538814
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-05
Client ID: MW-13M
Sample Location: TRURO, MA

Date Collected: 06/18/25 11:00
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/27/25 22:57
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.98	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.99	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.98	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.50	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.50	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.50	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.50	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.98	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.50	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.50	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.98	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.50	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.50	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.50	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.50	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.50	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.50	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.98	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.98	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.50	--	1

Project Name: TRURO DPW **Lab Number:** L2538814

Project Number: TRU2501.P2 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-05 Date Collected: 06/18/25 11:00

Client ID: MW-13M Date Received: 06/19/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.98	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.98	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.99	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.99	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.99	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.99	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.48	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.4	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.4	--	1

Project Name: TRURO DPW **Lab Number:** L2538814

Project Number: TRU2501.P2 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538814-05 Date Collected: 06/18/25 11:00

Client ID: MW-13M Date Received: 06/19/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	107		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	101		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	105		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	113		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	105		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	108		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	105		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	91		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	125		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	105		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	107		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	101		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	104		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	86		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	92		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	69		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	74		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	70		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	45		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	115		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	63		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	64		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	65		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	67		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-03,05 Batch: WG2084242-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-03,05 Batch: WG2084242-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-03,05 Batch: WG2084242-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	102		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	105		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	103		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	95		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	92		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	103		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	100		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	93		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	106		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	81		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	80		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	50		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	54		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	70		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	68		10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG2084242-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	108		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	100		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	111		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	99		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	105		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	104		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	107		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	103		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	117		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	101		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	106		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	78		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	113		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	112		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	73		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	110		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG2084242-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	113		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	106		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	104		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	105		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	112		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	72		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	107		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	82		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	103		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	99		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	97		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	104		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	104		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	96		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	130		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	105		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	95		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG2084242-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	103				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	109				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	107				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	113				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	114				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	102				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	94				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	106				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	105				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	75				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	92				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	73				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	69				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	77				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	58				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	107				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	55				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG2084242-3								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	107		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	110		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	103		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	112		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	100		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	112		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	108		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	112		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	115		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	101		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	105		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	90		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	109		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	111		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	84		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	102		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	105		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG2084242-3								
Perfluorododecanoic Acid (PFDoA)	122		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	114		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	108		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	101		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	128		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	86		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	120		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	99		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	102		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	113		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	118		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	99		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	107		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	103		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	100		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	118		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	109		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	92		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG2084242-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	90				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	80				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	68				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	72				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	69				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	71				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	68				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	60				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	76				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	57				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	51				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	54				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70				10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2538814-01A	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)
L2538814-01B	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)
L2538814-02A	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)
L2538814-02B	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)
L2538814-03A	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)
L2538814-03B	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)
L2538814-04A	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		HOLD-1633(28)
L2538814-04B	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		HOLD-1633(28)
L2538814-05A	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)
L2538814-05B	Plastic 500ml unpreserved	A	NA		3.1	Y	Absent		A2-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2538814
Project Number:	TRU2501.P2	**Report Date:**	07/02/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538814
Project Number:	TRU2501.P2	**Report Date:**	07/02/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538814
Project Number:	TRU2501.P2	**Report Date:**	07/02/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2538814
Report Date: 07/02/25

REFERENCES

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
9 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab:

ALPHA Job #:

Client Information

Client: HRP Associates
Address: 13 Court St, Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program ____ Criteria ____

Additional Project Information:

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
PFAS 1633

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PFAS 1633	Sample Comments	TOTAL # BOTTLES
	MW-14D	6/18/25	900	GW	ACB	X		2
	MW-12M	6/19/25	940			X		2
	MW-12D		845			X		2
	~~MW-13M~~		~~1210~~			DO NOT ANALYZE		~~2~~
	~~MW-13D~~ MW-13m		1100			X		2

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/19/25@		

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/19/25

ALPHA Job #: L2538814

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: HRP Associates
Address: 13 Court St, Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Additional Project Information:

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	ANALYSIS: PFAS 1633	Sample Comments	Total # Bottles
38814-01	MW-14D	6/18/25	900	GW	ACB	X		2
-02	MW-12M	6/19/25	940			X		2
-03	MW-12D		845			X		2
-04	MW-13M		1210			X		2
-05	MW-13D		1100			X		2

ANALYSIS: ☐ VOC: 8260 ☐ 624 ☐ 524.2 ☐ SVOC: ☐ ABN ☐ PAH ☐ METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 ☐ RCRA5 ☐ RCRA8 ☐ PP13 ☐ EPH: ☐ Ranges & Targets ☐ Ranges Only ☐ VPH: ☐ Ranges & Targets ☐ Ranges Only ☐ PCB ☐ PEST ☐ TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Container Type			
Preservative			

Relinquished By:	Date/Time	Received By:	Date/Time
Andrew Bashaw	6/19/25 @ 1400	VE Navy PACE	6/19/25 1444
VE Navy PACE	6/19/25 1823		6/19/25 1823
	6/19/25 1930	Dylan Beaudoin ARL	6/19/25 1955
Ed Mendoza ARL	6/19/25 2040		

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Sample Delivery Group Summary

Pace Job Number : L2538814

Account Name : HRP Associates,Inc
Project Number : TRU2501.P2
Project Name : TRURO DPW

Received : 19-JUN-2025
Reviewer : Dylan Beaulieu

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	3.1	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 5G10016
Client Project: Truro DPW

Report Date: 11-July-2025

Prepared for:

Bryan Massa
HRP Associates
13 Court Street
Plymouth, MA 02360

Mike McCallum, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
mike.mccallum@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 07/10/25. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 5G10016. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
5G10016-01	Dual Sorb	Water	07/10/2025	07/10/2025

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Dual Sorb (Lab Number: 5G10016-01)

Analysis	Method
Dissolved Ferrous Iron	SM3500-Fe-B (11)
Dissolved Iron	EPA 6010C
Dissolved Manganese	EPA 6010C
Ferric Iron	Calculation

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Qualifier Definitions

J: Indicates an estimated value that is below the MRL but above the MDL. It is a presumptive indication that the associated analyte is present (see MDL in Additional Notes below).
U: Indicates that the analyte was not detected.
D: Indicates that the result is from an analysis that required a dilution and that, as a consequence, the MDL and MRL are elevated.
R Indicates a reanalysis (Typically when a dilution is performed or to verify an original result).
The absence of a qualifier indicates that the analyte was present at a concentration at or above the MRL.

Additional Notes

1. A result of *ND* indicates that the analyte was not detected.
2. The *MRL* is the Minimum Reporting Limit and corresponds to the minimum threshold at which the laboratory is confident that a reported result is within the constraints of the approved method a valid quantitative result. It takes into consideration practical quantitation limits as well as sample-specific characteristics.
3. The *MDL* is the Minimum Detection Limit. It is a statistic defined by regulatory statute that represents the minimum level at which the laboratory can be confident that a reported result, in an *ideal matrix like dionized water or clean sand*, is not an artifact of procedural or signal noise. Values flagged with a J qualifier should be interpreted cautiously when associated with real-world samples.
4. Certain states stipulate that Reporting Limits (MRLs) rather than Detection Limits (MDLs) be used when completing official forms. This convention is used where required.

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: Dual Sorb

Lab Number: 5G10016-01 (Water)

Analyte	Result	Qual	Detection Limit	Reporting Limit	Units	Dilution	Date Prepared	Date Analyzed
Ferric Iron (Fe III)	ND	U	0.05	0.05	mg/L	1	07/11/25	07/11/25

Results: Dissolved General Chemistry

Sample: Dual Sorb

Lab Number: 5G10016-01 (Water)

Analyte	Result	Qual	Detection Limit	Reporting Limit	Units	Dilution	Date Prepared	Date Analyzed
Ferrous Iron (Fe II)	**0.09**		0.02	0.02	mg/L	1	07/11/25 11:00	07/11/25 11:00

Results: Dissolved Metals

Sample: Dual Sorb

Lab Number: 5G10016-01 (Water)

Analyte	Result	Qual	Detection Limit	Reporting Limit	Units	Dilution	Date Prepared	Date Analyzed
Iron	ND	U	0.050	0.050	mg/L	1	07/11/25	07/11/25
Manganese	ND	U	0.005	0.005	mg/L	1	07/11/25	07/11/25

Quality Control

Dissolved General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B5G0484 - General Chemistry										
Blank (B5G0484-BLK1)					Prepared & Analyzed: 07/11/25					
Ferrous Iron (Fe II)	ND		0.02	mg/L						
LCS (B5G0484-BS1)					Prepared & Analyzed: 07/11/25					
Ferrous Iron (Fe II)	0.99		0.02	mg/L	1.00		98.7	80-120		
Matrix Spike (B5G0484-MS1)		Source: 5G10016-01			Prepared & Analyzed: 07/11/25					
Ferrous Iron (Fe II)	1.02		0.02	mg/L	1.00	0.09	93.5	80-120		

Quality Control
(Continued)

Dissolved Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B5G0483 - Dissolved Metals										
Blank (B5G0483-BLK1)					Prepared & Analyzed: 07/11/25					
Manganese	ND		0.005	mg/L						
Iron	ND		0.050	mg/L						
LCS (B5G0483-BS1)					Prepared & Analyzed: 07/11/25					
Manganese	0.949		0.005	mg/L	1.00		94.9	85-115		
Iron	11.0		0.050	mg/L	10.0		110	85-115		
LCS Dup (B5G0483-BSD1)					Prepared & Analyzed: 07/11/25					
Manganese	0.972		0.005	mg/L	1.00		97.2	85-115	2.32	200
Iron	11.4		0.050	mg/L	10.0		114	85-115	2.91	15

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.
D	Diluted
U	Not Detected
J	Detected below reporting limit
R	Verified reanalysis

Preparative Methods

LabNumber	Analysis	Preparation	Batch
5G10016-01	Metals-RCRA-ICP-Fe-Di	Lab	B5G0483
5G10016-01	Metals-RCRA-ICP-Mn-Di	Lab	B5G0483
5G10016-01	WC-Ferric Iron	Method Defined	B5G0497
5G10016-01	WC-Ferrous-Iron-Dissolv	Method Defined	B5G0484

NEW ENGLAND TESTING LABORATORY, INC.
1254 Douglas Ave.
North Providence, RI 02904
1-888-863-8522

CHAIN OF CUSTODY RECORD

5 G 1 00169

PROJ. NO.	PROJECT NAME/LOCATION
	Truro DPW

CLIENT: HRP Associates, Inc.
REPORT TO: Bryan.Massa@hrpassociates.com
INVOICE TO: same

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS: Dissolved Iron	Dissolved Ferric Iron	Dissolved Ferrous Iron	Dissolved Manganese			REMARKS
7/10/25	0800		X	DualSorb ● ● ●	X			3	N/A	X	X	X	X			DualSorb/DI water (1:4)

Sampled by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	7/10/25 1130		7/10/25 1130
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	7/10/25 1655		
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
			7/10/25 1655

Laboratory Remarks:
Temp. received: 4
Cooled ✓

Special Instructions:
List Specific Detection Limit Requirements:
Lab to filter
Limit = GW-1 / SMCL
CAM methods

Turnaround (Business Days): 1

ANALYTICAL REPORT

Lab Number:	L2532481
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	06/19/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2532481-01	MW-7	WATER	TRURO, MA	05/19/25 13:15	05/22/25
L2532481-02	MW-8	WATER	TRURO, MA	05/19/25 14:00	05/22/25
L2532481-03	MW-9	WATER	TRURO, MA	05/19/25 11:50	05/22/25
L2532481-04	MW-6	WATER	TRURO, MA	05/19/25 12:20	05/22/25
L2532481-05	MW-5	WATER	TRURO, MA	05/20/25 09:00	05/22/25
L2532481-06	MW-4	WATER	TRURO, MA	05/20/25 13:00	05/22/25
L2532481-07	MW-3	WATER	TRURO, MA	05/20/25 10:45	05/22/25
L2532481-08	MW-2	WATER	TRURO, MA	05/20/25 09:45	05/22/25
L2532481-09	MW-1	WATER	TRURO, MA	05/20/25 13:50	05/22/25
L2532481-10	MW-10	WATER	TRURO, MA	05/20/25 12:40	05/22/25
L2532481-11	MW-13	WATER	TRURO, MA	05/21/25 09:00	05/22/25
L2532481-12	MW-11D	WATER	TRURO, MA	05/21/25 10:00	05/22/25
L2532481-13	MW-11S	WATER	TRURO, MA	05/21/25 10:40	05/22/25
L2532481-14	MW-11M	WATER	TRURO, MA	05/21/25 11:15	05/22/25
L2532481-15	MW-12	WATER	TRURO, MA	05/21/25 12:20	05/22/25

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by 1633

L2532481-02: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[13c4]butanoic acid (mpfba) (131%), perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (138%), perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (135%), perfluoro[1,2,3,4-13c4]heptanoic acid (m4pfhpa) (137%), perfluoro[13c8]octanoic acid (m8pfoa) (132%), perfluoro[13c9]nonanoic acid (m9pfna) (132%), perfluoro[1,2,3,4,5,6-13c6]decanoic acid (m6pfda) (133%), and 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (144%). Since the sample was non-detect to the RL for all associated target analytes, re-analysis was not required.

L2532481-06RE: The sample was re-extracted within holding time due to QC failures in the original extraction. The results of the re-extraction are reported.

L2532481-06RE: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2532481-12D and -15D: The sample was re-analyzed on dilution due to EIS failure in the original analysis. The results of the re-analysis are reported for the associated target compounds.

L2532481-12R and WG2077078-3R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2532481-12R: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (143%), perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (150%), perfluoro[1,2,3-13c3]hexanesulfonic acid (m3pfhxs) (134%), perfluoro[13c8]octanoic acid (m8pfoa) (135%), and perfluoro[13c8]octanesulfonamide (m8fosa) (131%); however, any associated target analytes detected above the RL are not reported from this analysis.

L2532481-13: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[13c4]butanoic acid (mpfba) (134%), perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (140%), perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (137%), perfluoro[1,2,3,4-13c4]heptanoic acid (m4pfhpa) (138%), perfluoro[1,2,3-13c3]hexanesulfonic acid (m3pfhxs) (133%), perfluoro[13c8]octanoic acid (m8pfoa) (138%), perfluoro[13c9]nonanoic acid (m9pfna) (136%), and 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (153%). Since the sample was non-detect to the RL

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Case Narrative (continued)

for all associated target analytes, re-analysis was not required.

L2532481-15: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[1,2,3,4,6-13c5]hexanoic acid (m5pfhxa) (135%), perfluoro[1,2,3,4-13c4]heptanoic acid (m4pfhpa) (143%), and 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (148%); however, any associated target analytes detected above the RL are not reported from this analysis.

WG2077078-1: The Extracted Internal Standard recoveries were above the acceptance criteria for perfluoro[13c9]nonanoic acid (m9pfna) (133%). Since the method blank was non-detect to the RL for all associated target analytes, re-analysis was not required.

The Extracted Internal Standard recovery for the WG2077078-2 LCS associated with L2532481-01 through -05 and -07 through -15 is outside the acceptance criteria for perfluoro[2,3,4-13c3]butanesulfonic acid (m3pfbs) (146%); however, all associated target analytes are within overall LCS criteria; therefore, no further action was taken.

The WG2079924-2 LCS recovery associated with L2532481-06RE is above the acceptance criteria for nonafluoro-3,6-dioxaheptanoic acid (nfdha) (163%); however, the associated sample is non-detect to the reporting limit for this target analyte. The results of the original analysis are reported.

The WG2079924-3 LCS recovery associated with L2532481-06RE is above the acceptance criteria for nonafluoro-3,6-dioxaheptanoic acid (nfdha) (169%); however, the associated sample is non-detect to the reporting limit for this target analyte. The results of the original analysis are reported.

The Extracted Internal Standard recovery for the WG2079924-3 LCS associated with L2532481-06RE is outside the acceptance criteria for 2-(n-ethyl-d5-perfluoro-1-octanesulfonamido)ethan-d4-ol (d9-netfose) (131%); however, all associated target analytes are within overall LCS criteria; therefore, no further action was taken.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 06/19/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-01
Client ID: MW-7
Sample Location: TRURO, MA

Date Collected: 05/19/25 13:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:09
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.19	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.10	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.19	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.55	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.55	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.55	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.55	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.19	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.55	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.55	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.55	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.19	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.55	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.55	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.55	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.55	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.55	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.55	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.55	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.19	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.19	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.55	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-01 Date Collected: 05/19/25 13:15

Client ID: MW-7 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.19	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.19	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.55	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.55	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.5	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.5	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.10	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.10	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.10	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.10	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.74	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.7	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.7	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-01
Client ID: MW-7
Sample Location: TRURO, MA
Date Collected: 05/19/25 13:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	95		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	92		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	102		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	99		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	98		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	106		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	100		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	85		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	102		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	76		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	77		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	67		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	93		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	76		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	110		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	89		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	96		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-02
Client ID: MW-8
Sample Location: TRURO, MA

Date Collected: 05/19/25 14:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:18
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.91	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.95	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.91	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.48	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.48	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.48	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.48	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.91	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.48	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.48	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.48	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.48	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.91	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.48	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.48	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.48	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.48	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.48	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.48	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.48	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.48	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.48	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.91	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.91	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.48	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-02 Date Collected: 05/19/25 14:00

Client ID: MW-8 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.91	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.91	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.48	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.48	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.8	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.8	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.95	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.95	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.95	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.95	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.38	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	36.9	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	36.9	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-02 Date Collected: 05/19/25 14:00

Client ID: MW-8 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	**131**	Q	5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	121		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**138**	Q	40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	168		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**135**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	**137**	Q	40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	130		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	**132**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	145		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	**132**	Q	40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	114		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	**133**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	109		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	104		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	118		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	102		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	88		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	126		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	89		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**144**	Q	40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	98		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	110		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	126		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	128		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-03
Client ID: MW-9
Sample Location: TRURO, MA

Date Collected: 05/19/25 11:50
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:27
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	7.20		ng/l	6.32	--	1
Perfluoropentanoic Acid (PFPeA)	13.6		ng/l	3.16	--	1
Perfluorobutanesulfonic Acid (PFBS)	2.07		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.32	--	1
Perfluorohexanoic Acid (PFHxA)	10.2		ng/l	1.58	--	1
Perfluoropentanesulfonic Acid (PFPeS)	1.86		ng/l	1.58	--	1
Perfluoroheptanoic Acid (PFHpA)	7.76		ng/l	1.58	--	1
Perfluorohexanesulfonic Acid (PFHxS)	17.4		ng/l	1.58	--	1
Perfluorooctanoic Acid (PFOA)	14.7		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.32	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.58	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.58	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.58	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.58	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.32	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.58	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.58	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.58	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.58	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.58	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.58	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.58	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.58	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.58	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.32	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.32	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.58	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-03 Date Collected: 05/19/25 11:50

Client ID: MW-9 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.32	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.32	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.58	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.58	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.8	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.8	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.16	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.16	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.16	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.16	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.90	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.5	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.5	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-03 Date Collected: 05/19/25 11:50

Client ID: MW-9 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	92		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	81		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	98		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	192		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	91		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	137		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	96		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	86		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	82		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	89		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	69		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	85		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	85		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	92		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	79		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	85		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	90		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-04
Client ID: MW-6
Sample Location: TRURO, MA

Date Collected: 05/19/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:36
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.01	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	4.73		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.01	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.50	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.50	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.50	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.50	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.01	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.50	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.50	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.01	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.50	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.50	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.50	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.50	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.50	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.50	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.01	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.01	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.50	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-04 Date Collected: 05/19/25 12:20

Client ID: MW-6 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.01	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.01	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.00	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.00	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.00	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.00	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.51	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.6	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.6	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-04 Date Collected: 05/19/25 12:20

Client ID: MW-6 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	98		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	84		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	111		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	122		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	95		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	101		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	102		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	86		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	109		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	111		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	101		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	100		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	97		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	94		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	78		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	79		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	93		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	77		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	79		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	88		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	97		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	105		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-05
Client ID: MW-5
Sample Location: TRURO, MA

Date Collected: 05/20/25 09:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 08:45
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.14	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.07	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.53	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.14	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.53	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.53	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.53	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.53	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.53	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.14	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.53	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.53	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.53	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.53	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.14	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.53	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.53	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.53	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.53	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.53	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.53	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.53	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.53	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.53	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.14	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.14	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.53	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-05 Date Collected: 05/20/25 09:00

Client ID: MW-5 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.14	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.14	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.53	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.53	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.3	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.3	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.07	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.07	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.07	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.07	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.67	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.4	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.4	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-05 Date Collected: 05/20/25 09:00

Client ID: MW-5 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	83		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	72		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	72		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	72		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	78		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	95		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	85		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	78		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	67		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	83		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	74		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	69		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	84		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	99		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	76		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	84		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	99		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	106		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-06 RE
Client ID: MW-4
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/18/25 22:20
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1280	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	640	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	320	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1280	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	320	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	320	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	320	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	320	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	320	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1280	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	320	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	320	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	320	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	320	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1280	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	320	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	320	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	320	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	320	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	320	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	320	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	320	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	320	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	320	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1280	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1280	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	320	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-06 RE
Client ID: MW-4
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1280	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1280	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	320	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	320	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	3200	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	3200	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	640	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	640	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	640	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	640	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	1600	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	8000	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	8000	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-06 RE
Client ID: MW-4
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	75		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	62		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	71		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	81		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	69		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	66		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	83		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	71		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	73		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	78		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	68		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	47		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	61		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	58		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	45		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	57		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	59		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	69		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	45		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	48		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	71		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	69		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-07
Client ID: MW-3
Sample Location: TRURO, MA

Date Collected: 05/20/25 10:45
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:27
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	6.61		ng/l	6.24	--	1
Perfluoropentanoic Acid (PFPeA)	9.46		ng/l	3.12	--	1
Perfluorobutanesulfonic Acid (PFBS)	9.26		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.24	--	1
Perfluorohexanoic Acid (PFHxA)	10.9		ng/l	1.56	--	1
Perfluoropentanesulfonic Acid (PFPeS)	28.2		ng/l	1.56	--	1
Perfluoroheptanoic Acid (PFHpA)	8.45		ng/l	1.56	--	1
Perfluorohexanesulfonic Acid (PFHxS)	176		ng/l	1.56	--	1
Perfluorooctanoic Acid (PFOA)	10.6		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.24	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	4.00		ng/l	1.56	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonic Acid (PFOS)	69.6		ng/l	1.56	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.24	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.56	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.56	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.56	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.56	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.56	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.56	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.56	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.24	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.24	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.56	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-07 Date Collected: 05/20/25 10:45

Client ID: MW-3 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.24	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.24	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.56	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.6	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.6	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.12	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.12	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.12	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.12	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.80	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.0	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.0	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-07 Date Collected: 05/20/25 10:45

Client ID: MW-3 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	100		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	89		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	115		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	100		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	109		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	90		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	90		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	94		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	100		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	115		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	86		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	107		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	82		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	109		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	87		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	105		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	80		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	91		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	99		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-08
Client ID: MW-2
Sample Location: TRURO, MA

Date Collected: 05/20/25 09:45
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:36
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.00	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	3.38		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.00	--	1
Perfluorohexanoic Acid (PFHxA)	2.10		ng/l	1.50	--	1
Perfluoropentanesulfonic Acid (PFPeS)	2.31		ng/l	1.50	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.50	--	1
Perfluorohexanesulfonic Acid (PFHxS)	11.1		ng/l	1.50	--	1
Perfluorooctanoic Acid (PFOA)	2.41		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.50	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.72		ng/l	1.50	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.50	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.50	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonamide (PFOSA)	2.79		ng/l	1.50	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.50	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.50	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.50	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.50	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.00	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.50	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-08 Date Collected: 05/20/25 09:45

Client ID: MW-2 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.00	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.00	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.00	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.00	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.00	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.50	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.5	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.5	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-08 Date Collected: 05/20/25 09:45

Client ID: MW-2 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	94		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	91		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	95		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	110		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	99		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	103		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	97		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	102		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	93		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	93		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	100		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	67		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	89		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	77		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	68		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	86		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	69		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	76		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	85		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	101		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	108		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-09
Client ID: MW-1
Sample Location: TRURO, MA

Date Collected: 05/20/25 13:50
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:44
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.14	--	1
Perfluoropentanoic Acid (PFPeA)	3.81		ng/l	3.07	--	1
Perfluorobutanesulfonic Acid (PFBS)	1.88		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.14	--	1
Perfluorohexanoic Acid (PFHxA)	3.80		ng/l	1.54	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.54	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.54	--	1
Perfluorohexanesulfonic Acid (PFHxS)	1.58		ng/l	1.54	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.14	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.54	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.54	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.54	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.14	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.54	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.54	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.54	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.54	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.54	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.54	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.54	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.14	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.14	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.54	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-09 Date Collected: 05/20/25 13:50

Client ID: MW-1 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.14	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.14	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.54	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.54	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.4	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.4	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.07	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.07	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.07	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.07	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.68	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	38.4	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	38.4	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-09 Date Collected: 05/20/25 13:50

Client ID: MW-1 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	83		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	76		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	86		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	86		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	85		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	98		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	84		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	69		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	72		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	77		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	63		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	68		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	73		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	64		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	70		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	80		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	86		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-10
Client ID: MW-10
Sample Location: TRURO, MA

Date Collected: 05/20/25 12:40
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 09:53
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.02	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.01	--	1
Perfluorobutanesulfonic Acid (PFBS)	2.72		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.02	--	1
Perfluorohexanoic Acid (PFHxA)	1.62	F	ng/l	1.50	--	1
Perfluoropentanesulfonic Acid (PFPeS)	2.16		ng/l	1.50	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.50	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.72		ng/l	1.50	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.02	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.50	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.50	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.50	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.02	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.50	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.50	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.50	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.50	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.50	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.50	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.50	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.02	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.02	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.50	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-10 Date Collected: 05/20/25 12:40

Client ID: MW-10 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.02	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.02	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.50	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.50	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.0	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.0	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.01	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.01	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.01	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.01	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.52	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.6	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.6	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-10
Client ID: MW-10
Sample Location: TRURO, MA
Date Collected: 05/20/25 12:40
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	85		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	87		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	101		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	93		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	102		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	94		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	93		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	111		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	94		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	93		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	68		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	69		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	68		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	59		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	87		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	73		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	67		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	75		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	79		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	89		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-11
Client ID: MW-13
Sample Location: TRURO, MA

Date Collected: 05/21/25 09:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:02
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.36	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.18	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.59	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.36	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.59	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.59	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.59	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.59	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.59	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.36	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.59	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.59	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.59	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.59	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.36	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.59	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.59	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.59	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.59	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.59	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.59	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.59	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.59	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.59	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.36	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.36	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.59	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-11 Date Collected: 05/21/25 09:00

Client ID: MW-13 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.36	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.36	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.59	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.59	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.9	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.9	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.18	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.18	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.18	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.18	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.95	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.8	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.8	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-11 Date Collected: 05/21/25 09:00

Client ID: MW-13 Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	88		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	84		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	99		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	107		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	90		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	74		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	97		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	95		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	81		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	64		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	83		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	78		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	65		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	85		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	74		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	71		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	81		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	102		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	98		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 R
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 13:55
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.25	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.12	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.25	--	1
Perfluoropentanesulfonic Acid (PFPeS)	3.73		ng/l	1.56	--	1
Perfluoroheptanoic Acid (PFHpA)	1.57		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.25	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.56	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonic Acid (PFOS)	5.13		ng/l	1.56	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.56	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.25	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.56	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.56	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.56	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.56	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.56	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.56	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.56	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.56	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.25	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.25	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.56	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.25	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.25	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.56	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 R
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.56	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	15.6	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	15.6	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.12	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.12	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.12	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.12	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.81	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	39.1	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	39.1	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 R
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	122		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	125		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**143**	Q	40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	137		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**150**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	121		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	**134**	Q	40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	**135**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	124		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	127		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	129		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	106		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	87		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	95		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	**131**	Q	40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	95		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	77		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	95		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	93		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	99		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	106		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	95		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	107		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 D
Client ID: MW-11D
Sample Location: TRURO, MA

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/15/25 11:19
Analyst: AC

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	3.12	--	2
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	3.12	--	2
Perfluorohexanesulfonic Acid (PFHxS)	21.0		ng/l	3.12	--	2
Perfluorooctanoic Acid (PFOA)	ND		ng/l	3.12	--	2

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-12 D
Client ID: MW-11D
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:00
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	89		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	90		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	100		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	95		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	89		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	87		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	96		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	81		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	75		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	54		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	61		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	63		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	98		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	49		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	66		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	66		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	72		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	80		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	82		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-13
Client ID: MW-11S
Sample Location: TRURO, MA

Date Collected: 05/21/25 10:40
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:20
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.44	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.22	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.61	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.44	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.61	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.61	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.61	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.61	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.61	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.44	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.61	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.61	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.61	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.61	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.44	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.61	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.61	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.61	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.61	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.61	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.61	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.61	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.61	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.61	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.44	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.44	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.61	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-13 Date Collected: 05/21/25 10:40

Client ID: MW-11S Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.44	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.44	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.61	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.61	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.1	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.1	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.22	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.22	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.22	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.22	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.05	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.3	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.3	--	1

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-13 Date Collected: 05/21/25 10:40

Client ID: MW-11S Date Received: 05/22/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	**134**	Q	5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	120		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**140**	Q	40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	141		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**137**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	**138**	Q	40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	**133**	Q	40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	**138**	Q	40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	134		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	**136**	Q	40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	119		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	119		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	95		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	102		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	92		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	81		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	94		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	72		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**153**	Q	40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	99		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	110		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	111		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	122		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-14
Client ID: MW-11M
Sample Location: TRURO, MA

Date Collected: 05/21/25 11:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:29
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.88	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.94	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.47	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.88	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.47	--	1
Perfluoropentanesulfonic Acid (PFPeS)	1.77		ng/l	1.47	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.47	--	1
Perfluorohexanesulfonic Acid (PFHxS)	9.42		ng/l	1.47	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.47	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.88	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.47	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.47	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.95		ng/l	1.47	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.47	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.88	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.47	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.47	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.47	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.47	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.47	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.47	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.47	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.47	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.47	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.88	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.88	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.47	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-14
Client ID: MW-11M
Sample Location: TRURO, MA
Date Collected: 05/21/25 11:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.88	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.88	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.47	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.47	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.7	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.7	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.94	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.94	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.94	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.94	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.35	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	36.7	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	36.7	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-14
Client ID: MW-11M
Sample Location: TRURO, MA
Date Collected: 05/21/25 11:15
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	111		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	99		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	122		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	129		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	117		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	112		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	111		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	117		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	116		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	107		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	115		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	113		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	99		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	83		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	98		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	83		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	77		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	96		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	79		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	124		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	79		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	89		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	111		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	110		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15
Client ID: MW-12
Sample Location: TRURO, MA

Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 10:38
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	5.96	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.98	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.49	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	5.96	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.49	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.49	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.49	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.49	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	5.96	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.49	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.49	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.49	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.49	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	5.96	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.49	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.49	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.49	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.49	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.49	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.49	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.49	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.49	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.49	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	5.96	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	5.96	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.49	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15
Client ID: MW-12
Sample Location: TRURO, MA
Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	5.96	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	5.96	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.49	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.49	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	14.9	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	14.9	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.98	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.98	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.98	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.98	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	7.45	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	37.2	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	37.2	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15
Client ID: MW-12
Sample Location: TRURO, MA
Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	129		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	124		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	130		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	168		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	**135**	Q	40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	**143**	Q	40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	124		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	123		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	129		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	120		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	121		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	127		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	89		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	89		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	112		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	88		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	86		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	101		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	86		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**148**	Q	40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	96		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	102		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	109		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	110		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15 D
Client ID: MW-12
Sample Location: TRURO, MA

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/14/25 16:46
Analyst: AC

Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.98	--	2

Project Name: TRURO DPW **Lab Number:** L2532481

Project Number: TRU2501.P2 **Report Date:** 06/19/25

SAMPLE RESULTS

Lab ID: L2532481-15 D
Client ID: MW-12
Sample Location: TRURO, MA

Date Collected: 05/21/25 12:20
Date Received: 05/22/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	111		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	117		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	122		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	136		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	113		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	119		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	118		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	122		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	121		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	116		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	106		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	104		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	94		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	86		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	114		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	89		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	83		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	82		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	80		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	82		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	86		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	82		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	86		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/14/25 07:43
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05,07-15 Batch: WG2077078-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/14/25 07:43
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05,07-15 Batch: WG2077078-1					
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/14/25 07:43
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/10/25 13:16

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-05,07-15 Batch: WG2077078-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	115		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	108		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	120		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	97		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	111		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	117		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	121		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	107		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	97		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	**133**	Q	40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	122		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	123		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	91		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	85		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	112		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	94		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	85		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	107		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	88		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	113		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	83		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	92		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	109		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	117		10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/18/25 21:53
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 06 Batch: WG2079924-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/18/25 21:53
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 06 Batch: WG2079924-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/18/25 21:53
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/17/25 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 06 Batch: WG2079924-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	85		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	85		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	75		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	90		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	91		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	82		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	90		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	89		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	77		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	85		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	78		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	89		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	90		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	78		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	86		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	73		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	68		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	73		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	118		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	120		10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	121		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	115		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	97		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	107		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	114		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	126		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	126		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	116		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	105		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	107		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	134		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	112		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	113		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	110		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	87		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	113		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	103		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	83		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	114		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	110		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	104		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	88		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	128		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	117		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	116		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	79		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	112		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	100		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	104		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	100		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	104		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	105		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	110		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	105		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	100		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	127		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	107		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	95		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	102		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	119				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	117				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	**146**	Q			40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	108				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	127				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	125				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	116				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	120				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	106				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	107				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	113				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	117				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	95				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	104				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	89				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	75				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	109				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	88				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	123				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	86				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	90				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	107				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	107				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-3								
Perfluorobutanoic Acid (PFBA)	114		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	114		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	110		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	101		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	106		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	113		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	91		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	103		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	118		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	139		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	104		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	108		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	106		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	103		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	104		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	92		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	101		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	105		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	83		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	100		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	103		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-3								
Perfluorododecanoic Acid (PFDoA)	96		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	94		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	114		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	103		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	100		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	84		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	110		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	99		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	93		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	103		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	102		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	108		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	100		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	99		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	129		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	94		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	94		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	77		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-05,07-15 Batch: WG2077078-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	102				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	103				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	109				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	97				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	106				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	122				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	109				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	113				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	115				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	102				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	101				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	90				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	77				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	73				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	88				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	78				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	123				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	69				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	92				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	97				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	113		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	104		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	109		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	93		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	103		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	112		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	100		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	99		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	100		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	107		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	103		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	104		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	94		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	104		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	78		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	104		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	97		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	80		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	101		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	87		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	100		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	93		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	102		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	112		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	106		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	77		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	104		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	96		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	87		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	86		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	95		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	109		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	96		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	88		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	**163**	Q	-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	101		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	87		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	66		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	111				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	105				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	105				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	124				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	106				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	109				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	92				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	100				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	99				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	110				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	98				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	77				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	94				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	90				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	76				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	95				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	84				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	106				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	70				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	76				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	114				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	114				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorobutanoic Acid (PFBA)	122		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	115		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	104		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	105		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	117		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	113		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	130		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	117		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	116		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	114		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	135		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	104		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	108		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	90		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	115		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	110		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	88		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	111		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	113		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-3								
Perfluorododecanoic Acid (PFDoA)	111		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	105		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	114		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	120		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	111		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	87		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	116		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	107		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	110		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	104		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	109		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	98		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	113		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	104		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	103		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	**169**	Q	-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	94		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	89		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	91		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 06 Batch: WG2079924-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	114				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	112				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	120				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	123				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	112				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	120				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	114				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	115				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	110				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	99				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	110				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	118				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	107				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	86				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	112				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	93				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	80				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	112				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	110				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	121				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	83				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	90				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	122				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	**131**	Q			10-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2532481-01A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-01B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-02A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-02B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-03A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-03B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-04A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-04B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-05A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-05B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-06A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-06B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-07A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-07B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-08A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-08B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-09A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-09B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-10A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-10B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-11A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-11B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-12A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2532481-12B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-13A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-13B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-14A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-14B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-15A	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)
L2532481-15B	Plastic 500ml unpreserved	A	NA		2.1	Y	Absent		A2-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2532481
Report Date: 06/19/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2532481
Project Number:	TRU2501.P2	**Report Date:**	06/19/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2532481
Report Date: 06/19/25

REFERENCES

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 5/22/25

ALPHA Job #: L2582481

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: HRP Associates
Address: 13 Court St, Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Additional Project Information:

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

X Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

X ADEx X EMAIL

Billing Information

X Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

X Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
X Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
PFAS 1633

SAMPLE INFO
Filtration ☐ Field ☐ Lab to do
Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
32481-01	MW-7	5/19/25	1315	GW	ACB	X	22
-02	MW-8	5/19/25	1400			X	22
-03	MW-9	5/20/25	1150			X	22
-04	MW-6	5/19/25	1220			X	22
-05	MW-5	5/20/25	900			X	22
-06	MW-4	5/20/25	1300			X	22
-07	MW-3	5/20/25	1045			X	22
-08	MW-2	5/20/25	945			X	22
-09	MW-1	5/20/25	1350			X	22
-10	MW-10	5/20/25	1240			X	22

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/22/25 @0700	[signature]	5/22/25 915
[signature]	5/22/25 1410	[signature]	5/22/25 1410
[signature]	5/22/25 1655	[signature]	5/22/25 1655

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 5/22/25

ALPHA Job #: L2532481

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Additional Project Information:

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU 2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

X Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

X ADEx X EMAIL

Billing Information

X Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

X Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
X Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
PFAS 1633

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Sample Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	PFAS 1633	TOTAL # BOTTLES
32481-11	MW-13	5/21/25	900	GW	ACB	X	2
-12	MW-11D		1000			X	2
-13	MW-11S		1040			X	2
-14	MW-11M		1115			X	2
-15	MW-12		1220			X	2

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Container Type													
Preservative													

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/22/25 @ 0700	[signature]	5/22/25 945
[signature]	5/22/25 1410	[signature]	5/22/25 1410
[signature]	5/22/25 1655	[signature]	5/22/25 1520
		[signature]	5/22/25 1655

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L2537285
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	06/30/25

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2537285-01	MW-14S (100)	SOIL	TRURO, MA	06/02/25 11:45	06/13/25
L2537285-02	MW-14S (110)	SOIL	TRURO, MA	06/02/25 12:10	06/13/25

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

Case Narrative

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

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

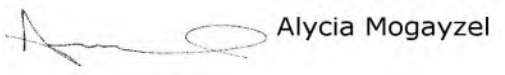
When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded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

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

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

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

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

Authorized Signature:  Alycia Mogayzel

Title: Technical Director/Representative Date: 06/30/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA

Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 145,1633
Analytical Date: 06/28/25 15:39
Analyst: SL
Percent Solids: 94%

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.796	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.398	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.796	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.199	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.199	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.199	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.796	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.199	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.199	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.796	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.199	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.199	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.796	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.796	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.199	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA
Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.796	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.796	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.995	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.97	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.97	--	1

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA
Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	101		8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	103		35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	107		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	100		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	95		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	101		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	90		40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	104		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	106		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	104		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	87		40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	92		40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	119		40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	80		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	78		40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	107		40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	86		20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	76		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	82		20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	84		15-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02
Client ID: MW-14S (110)
Sample Location: TRURO, MA

Date Collected: 06/02/25 12:10
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 145,1633
Analytical Date: 06/28/25 15:48
Analyst: SL
Percent Solids: 92%

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.795	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.398	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.795	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.199	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.199	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.199	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.199	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.795	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.199	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.199	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.199	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.795	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.199	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.199	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.199	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.199	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.199	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.199	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.199	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.795	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.795	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.199	--	1

Project Name: TRURO DPW **Lab Number:** L2537285

Project Number: TRU2501.P2 **Report Date:** 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02 Date Collected: 06/02/25 12:10

Client ID: MW-14S (110) Date Received: 06/13/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.795	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.795	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.199	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.199	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	1.99	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	1.99	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.398	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.398	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.398	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.398	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	0.994	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	4.97	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	4.97	--	1

Project Name: TRURO DPW **Lab Number:** L2537285

Project Number: TRU2501.P2 **Report Date:** 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02 Date Collected: 06/02/25 12:10

Client ID: MW-14S (110) Date Received: 06/13/25

Sample Location: TRURO, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	97		8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	101		35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	101		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	99		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	92		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	95		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	88		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	75		40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	98		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	77		40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	86		40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	110		40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	79		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	83		40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	108		40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	77		20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	92		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	74		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	79		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	80		20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	82		15-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/28/25 15:12
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-02 Batch: WG2084360-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.800	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.400	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.200	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.800	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.200	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.200	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.200	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.200	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.200	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.800	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.200	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.200	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.200	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.200	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.800	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.200	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.200	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.200	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.200	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/g	0.200	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.200	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.200	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.200	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/g	0.200	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/g	0.800	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.800	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/g	0.200	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/28/25 15:12
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-02 Batch: WG2084360-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.800	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.800	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/g	0.200	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/g	0.200	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/g	2.00	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/g	2.00	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/g	0.400	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/g	0.400	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/g	0.400	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/g	0.400	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/g	1.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/g	5.00	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/g	5.00	--

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/28/25 15:12
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 12:40
Cleanup Method: EPA 1633
Cleanup Date: 06/27/25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01-02 Batch: WG2084360-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	88		8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	92		35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	93		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	89		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	86		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	85		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	73		40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	90		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	88		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79		40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	78		40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	96		40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	75		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	74		40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	90		40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	73		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	75		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	78		20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	80		15-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	106		-		60-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	102		-		65-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	98		-		60-150	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		65-140	-		30
Perfluoropentanesulfonic Acid (PFPeS)	105		-		55-160	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		65-145	-		30
Perfluorohexanesulfonic Acid (PFHxS)	108		-		60-150	-		30
Perfluorooctanoic Acid (PFOA)	101		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	86		-		55-200	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	105		-		65-155	-		30
Perfluorononanoic Acid (PFNA)	110		-		70-155	-		30
Perfluorooctanesulfonic Acid (PFOS)	108		-		65-160	-		30
Perfluorodecanoic Acid (PFDA)	106		-		70-155	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		70-150	-		30
Perfluorononanesulfonic Acid (PFNS)	89		-		55-140	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	106		-		65-155	-		30
Perfluoroundecanoic Acid (PFUnA)	97		-		70-155	-		30
Perfluorodecanesulfonic Acid (PFDS)	98		-		40-155	-		30
Perfluorooctanesulfonamide (PFOSA)	103		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	87		-		65-165	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	110		-		70-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	102		-		65-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	107		-		65-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	109		-		70-145	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	132		-		70-160	-		30
Perfluorododecanesulfonic Acid (PFDoS)	90		-		25-160	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	118		-		70-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	110		-		45-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		70-155	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	99		-		70-140	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	109		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	94		-		30-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	105		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	95		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	82		-		60-155	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	120		-		45-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	98		-		60-130	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	114		-		60-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91				8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	92				35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	95				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78				40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	104				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	88				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	88				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	88				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	92				40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	93				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	92				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	95				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	79				40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	87				40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	108				40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	75				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	80				40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	96				40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	64				20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	73				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	78				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	79				20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	81				15-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-3								
Perfluorobutanoic Acid (PFBA)	107		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	104		-		60-150	-		30
Perfluorobutanesulfonic Acid (PFBS)	112		-		65-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	111		-		60-150	-		30
Perfluorohexanoic Acid (PFHxA)	104		-		65-140	-		30
Perfluoropentanesulfonic Acid (PFPeS)	109		-		55-160	-		30
Perfluoroheptanoic Acid (PFHpA)	101		-		65-145	-		30
Perfluorohexanesulfonic Acid (PFHxS)	104		-		60-150	-		30
Perfluorooctanoic Acid (PFOA)	102		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	113		-		55-200	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	94		-		65-155	-		30
Perfluorononanoic Acid (PFNA)	106		-		70-155	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		65-160	-		30
Perfluorodecanoic Acid (PFDA)	105		-		70-155	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	119		-		70-150	-		30
Perfluorononanesulfonic Acid (PFNS)	86		-		55-140	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	100		-		65-155	-		30
Perfluoroundecanoic Acid (PFUnA)	106		-		70-155	-		30
Perfluorodecanesulfonic Acid (PFDS)	87		-		40-155	-		30
Perfluorooctanesulfonamide (PFOSA)	108		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	106		-		65-165	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-3								
Perfluorododecanoic Acid (PFDoA)	113		-		70-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	103		-		65-150	-		30
Perfluorotetradecanoic Acid (PFTeDA)	109		-		65-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	108		-		70-145	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	120		-		70-160	-		30
Perfluorododecanesulfonic Acid (PFDoS)	87		-		25-160	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	111		-		70-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	102		-		45-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	108		-		70-155	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	102		-		70-140	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	110		-		70-140	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	116		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	98		-		30-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	107		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	117		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	99		-		60-155	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	118		-		45-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	112		-		60-130	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	117		-		60-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2084360-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	95				8-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	97				35-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	93				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78				40-165
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	91				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	93				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	90				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	80				40-215
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	104				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	80				40-275
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	88				40-135
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	102				40-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	77				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	77				40-150
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	99				40-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	63				20-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	75				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	80				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	82				20-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	84				15-130

INORGANICS
&
MISCELLANEOUS

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-01
Client ID: MW-14S (100)
Sample Location: TRURO, MA

Date Collected: 06/02/25 11:45
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.3		%	0.100	--	1	-	06/23/25 19:35	121,2540G	ASL

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

SAMPLE RESULTS

Lab ID: L2537285-02
Client ID: MW-14S (110)
Sample Location: TRURO, MA

Date Collected: 06/02/25 12:10
Date Received: 06/13/25
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.3		%	0.100	--	1	-	06/23/25 19:35	121,2540G	ASL

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2537285-01A	Plastic 2oz unpreserved for TS	NA	NA			Y	Absent		A2-TS(7)
L2537285-01B	Plastic 8oz unpreserved	NA	NA			Y	Absent		A2-1633(90)
L2537285-02A	Plastic 2oz unpreserved for TS	NA	NA			Y	Absent		A2-TS(7)
L2537285-02B	Plastic 8oz unpreserved	NA	NA			Y	Absent		A2-1633(90)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2537285
Report Date: 06/30/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2537285
Project Number:	TRU2501.P2	**Report Date:**	06/30/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2537285
Report Date: 06/30/25

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/13/25

ALPHA Job #: L2537285

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
PFAS 1633
Total Solids

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
37285 01	MW-14S (100)	6/2/25	1145	S	ACB		1
02	MW-14S (110)	6/2/25	1210	S	ACB		1

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Amber Bylow	6/13/25 @ 700	Dana Masterson	6/13/25 1150
Dana Masterson	6/13/25 1655		6/13/25 1655

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L2526873
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526873-01	1 BRIDGE LN	DW	TRURO, MA	04/29/25 12:15	05/01/25
L2526873-02	1 BRIDGE LN DUP	DW	TRURO, MA	04/29/25 12:15	05/01/25
L2526873-03	1 BRIDGE LN FB	DW	TRURO, MA	04/29/25 12:20	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526873
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Case Narrative

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

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

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

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

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

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

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/13/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526873
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526873-01
Client ID: 1 BRIDGE LN
Sample Location: TRURO, MA

Date Collected: 04/29/25 12:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 19:24
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	100		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	104		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526873
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526873-02
Client ID: 1 BRIDGE LN DUP
Sample Location: TRURO, MA

Date Collected: 04/29/25 12:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 19:32
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	102		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	89		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	102		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	106		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:14
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2065352-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	90		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								
Perfluorobutanesulfonic Acid (PFBS)	103		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	110		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	93		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	102		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	123		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	105		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	114		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	97		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	117		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	121		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	88		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	110		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	94		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	105		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	102		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526873
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	7.42	135	135	94		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	9.36	152	167	104		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	152	134	88		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	6.85	152	158	99		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	8.90	139	139	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	144	159	111		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	14.7	152	156	93		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	17.8	152	177	105		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	6.82	141	149	101		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	152	152	100		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	142	160	113		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	152	138	91		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	152	145	95		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	152	136	89		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	152	151	99		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	144	138	96		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	152	141	93		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	152	141	93		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526873
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	87				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	91				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	121		122		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119		109		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	113		109		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108		103		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	*Custody Seal*
A	Absent
B	Absent

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2526873-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526873-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526873-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526873
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526873
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526873
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526873
Report Date: 05/13/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526873

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d vl

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26873-01	Bridge LN	4/29/25	1215	DW	ST	☒	☐	1
-02	Bridge LN DUP	↓	1215	↓	↓	☒	☐	1
-03	Bridge LN FB	↓	1220	PFAS Free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-		
Preservative	T	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VE Nancy PACE	5/1/25 12:40
VE Nancy PACE 05101125-1821	5/1/25 1821	[illegible] 05101125-1821	5/1/25 1821
[illegible] Mendoza	5/1/25 2053	Dylan Beaulieu	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2526880
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/15/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526880-01	3 BRIDGE LN	DW	TRURO, MA	04/30/25 10:20	05/01/25
L2526880-02	3 BRIDGE LN DUP	DW	TRURO, MA	04/30/25 10:20	05/01/25
L2526880-03	3 BRIDGE LN FB	DW	TRURO, MA	04/30/25 10:25	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526880
Project Number:	TRU2501.P2	**Report Date:**	05/15/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526880
Project Number:	TRU2501.P2	**Report Date:**	05/15/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

L2526880-01R and WG2065577-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

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

Authorized Signature: Darian Dailey

Title: Technical Director/Representative Date: 05/15/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526880
Report Date: 05/15/25

SAMPLE RESULTS

Lab ID: L2526880-01 R
Client ID: 3 BRIDGE LN
Sample Location: TRURO, MA

Date Collected: 04/30/25 10:20
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/13/25 12:07
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	3.13		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	9.11		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	9.11		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	86		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526880
Report Date: 05/15/25

SAMPLE RESULTS

Lab ID: L2526880-02
Client ID: 3 BRIDGE LN DUP
Sample Location: TRURO, MA

Date Collected: 04/30/25 10:20
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/13/25 00:07
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	3.57		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	7.94		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	7.94		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	93		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	78		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	94		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526880
Report Date: 05/15/25

SAMPLE RESULTS

Lab ID: L2526880-03
Client ID: 3 BRIDGE LN FB
Sample Location: TRURO, MA

Date Collected: 04/30/25 10:25
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/13/25 00:16
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	90		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/12/25 21:00
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 16:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-03 Batch: WG2065577-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	107		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-03 Batch: WG2065577-2								
Perfluorobutanesulfonic Acid (PFBS)	89		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	105		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	82		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	117		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	125		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	114		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	111		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	106		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	108		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	106		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	95		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	114		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	98		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	117		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	114		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	116		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-03 Batch: WG2065577-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	95				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	101				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526880
Report Date: 05/15/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG2065577-3 QC Sample: L2526080-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	32.3	30.0	93		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	36.4	37.4	103		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	36.4	29.6	81		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	36.4	37.7	104		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	33.2	30.2	91		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	34.3	39.1	114		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	36.4	39.6	109		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	36.4	38.9	107		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	33.7	29.6	88		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	36.4	40.8	112		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	33.9	33.9	100		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	36.4	33.8	93		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	36.4	38.5	106		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	36.4	36.1	99		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	36.4	39.0	107		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	34.3	30.3	88		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	36.4	37.9	104		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	36.4	38.0	105		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526880
Report Date: 05/15/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG2065577-3 QC Sample: L2526080-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	107				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	109				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	97				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG2065577-4 QC Sample: L2526080-03 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG2065577-4 QC Sample: L2526080-03 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	93		88		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	85		81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		90		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	86		71		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526880-01A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-MA-537.1(14)
L2526880-02A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-MA-537.1(14)
L2526880-03A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-MA-537.1(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526880
Project Number:	TRU2501.P2	**Report Date:**	05/15/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526880
Project Number:	TRU2501.P2	**Report Date:**	05/15/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526880
Project Number:	TRU2501.P2	**Report Date:**	05/15/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526880
Report Date: 05/15/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526880

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d ∪ P

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26880-01	3 Bridge LN	4/30/25	1020	DW	ST	☒	☐	1
-02	3 Bridge LN DUP	↓	1020	↓	↓	☒	☐	1
-03	3 Bridge LN FB	↓	1025	PFAS Free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-			
Preservative	T	-	-	-	-	-	-	-	-	-	-	-			

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VE Nancy PACE 05101125-1930	5/1/25 12:40
VE Nancy PACE 05101125-1930	5/1/25 18:18	Luis Mendoza ASL	5/1/25 1535
Luis Mendoza ASL	5/1/25 2050	Dylan Beaulieu ASL	5/1/25 20:50

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

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

Laboratory Report

H2O Care
18 Lonergan Road
Middleton, MA 01949

Date Printed:	**07/07/2025**
Work Order #:	**2507-00361**
Client Job #:	
Date Received:	**07/01/2025**
Sample collected in:	**Massachusetts**

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of the analyzing laboratory's Quality Assurance Plan, Standard Operating Procedures and State Accreditation. This certificate shall not be reproduced, except in full, without the written approval of the analyzing laboratory. The results presented in this report relate to the samples listed on the following pages in the condition in which they were received. Accreditation for each analyte is identified by the * symbol following the analyte name. Location of our analyzing laboratory is identified by the code in the Analyst Column.

A & L Laboratory:
Identified by ME in Analyst Column
155 Center Street, Auburn, Maine 04210
www.allaboratory.com

Granite State Analytical Services LLC:
Identified by NH in Analyst Column
22 Manchester Road, Derry, NH 03038
www.granitestateanalytical.com

Nashoba Analytical:
Identified by MA in the Analyst Column
31A Willow Road, Ayer, MA 01432
www.nashobaanalytical.com

ANALYSIS RELATED NOTES:

- RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.
- DF: "Dilution factor" means the ratio of the volume of the sample to the volume of the final (dilute) solution.
- MDL: "Minimum Detection Limit" means the minimum result which can be reliably discriminated from a blank with a predetermined confidence level.
- ND: Non-detect. Results reported as Non-Detect (ND) have been evaluated down to the concentration listed in the MDL column.
- A & L Laboratory / Granite State Analytical Services LLC / Nashoba Analytical. accreditation lists can be found on our websites listed above.
- Subcontracted samples will be identified by the Accreditation number of the subcontract laboratory in the analyst field for each analyte and the appropriate laboratory will be listed here. None
- Data Qualifiers (DQ) Flags provide additional information in regards to the receipt, analysis or quality control of a sample. These are indicated under the DQ Flags Column on your report and listed here if necessary: Data Qualifier (DQ) Flags: None

SAMPLE STATE SPECIFIC NOTES:

Additional Narrative or Comments: None

We appreciate the opportunity to provide you with laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be happy to assist you.

Erin Shaw
Erin Shaw
Laboratory Director

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 07/07/2025
CLIENT NAME: H2O Care
CLIENT ADDRESS: 18 Lonergan Road
Middleton, MA 01949
SAMPLE ID #: 2507-00361-001
SAMPLED BY: Jared M.
SAMPLE ADDRESS: Town of Truro DPW
(Guest House) 3 Bridge Ln
Truro MA
MORE LOC INFO: 4 Guest House Post Draw

Legend
Passes
Fails EPA Primary
Fails EPA Secondary
Fails State Guideline
Attention

DATE AND TIME COLLECTED: 06/30/2025 01:30PM
DATE AND TIME RECEIVED: 07/01/2025 02:40PM
ANALYSIS PACKAGE: M-H2O Care-PFAS-18-MA
RECEIPT TEMPERATURE: 12.9° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
4,8-dioxa-3H-perfluorononanoic acid (ADONA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Date Extracted	-					No Limit	EPA 537.1	TF-NH	07/02/2025 12:15PM
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorobutanesulfonic Acid (PFBS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorodecanoic Acid (PFDA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorododecanoic Acid (PFDoA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluoroheptanoic Acid (PFHpA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorohexanesulfonic Acid (PFHxS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM

Erin Shaw
Erin Shaw
Laboratory Director

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 07/07/2025
CLIENT NAME: H2O Care
CLIENT ADDRESS: 18 Lonergan Road
Middleton, MA 01949

SAMPLE ID #: 2507-00361-001
SAMPLED BY: Jared M.
SAMPLE ADDRESS: Town of Truro DPW
(Guest House) 3 Bridge Ln
Truro MA
MORE LOC INFO: 4 Guest House Post Draw

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 06/30/2025 01:30PM
DATE AND TIME RECEIVED: 07/01/2025 02:40PM
ANALYSIS PACKAGE: M-H2O Care-PFAS-18-MA
RECEIPT TEMPERATURE: 12.9° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Perfluorohexanoic Acid (PFHxA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorononanoic Acid (PFNA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorooctanesulfonic Acid (PFOS)*	<2.00	ng/L	✓		2.00	70 ng/L	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorooctanoic Acid (PFOA)*	<2.00	ng/L	✓		2.00	70 ng/L	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorotetradecanoic Acid (PFTA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluorotridecanoic Acid (PFTrDA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Perfluoroundecanoic Acid (PFUnA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:50PM
Total 6 (PFOS PFOA PFNA PFHxS PFHpA PFDA)*	<2.00	ng/L	✓		2.00	20 ng/L	EPA 537.1 - Calculation	DL-NH	07/03/2025 12:50PM
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:50PM
Perfluoro-n-[1,2-13C2]decanoic Acid (13C2-PFDA)	102	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:50PM
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C2-PFHxA)	101	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:50PM
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic Acid (13C3-HFPO-DA)	90	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:50PM

Erin Shaw
Erin Shaw
Laboratory Director

2507-00361

Water Testing Form
1-800-539-1100

H2O care
MAKING WATER BETTER
18 Lonergan Road Middleton, MA 01949
(978)777-8330 · Fax (978)777-8385

8173

Date of Appt: 6-30-25	**Completed By:** Jared M	**Truck #:**
Company:		**Phone 1:**
Contact Name: Jared Cabral (Town of Truro DPW)		**Email:**
Address: 3 Bridge Ln, Truro MA - Guest House		

Water tests ordered by: ☐ Customer ☐ Service tech ☐ Sales

Results should be forwarded to the following H2O Care representative for review:

Sample ID Key:

Sample Bottle # 0 - This sample bottle will contain only completely untreated or raw water sample. (i.e.; water that has not traveled through any treatment system.

Sample Bottle # 1– This sample bottle would contain only a sample that is pre treated through various types of water treatment components. The exact sampling point should be identified under location. If it is pretreated in any way it should be Sample ID – 1 If multiple pre treatment points you would use Sample ID 1A 30 micron pre filter out – Sample ID 1B Iron Filter outlet – Sample 1C Water softener outlet.

Sample Bottle # 2 – (Arsenic samples Only) This sample bottle will contain only a sample taken from the outlet of a Lead tank in a lead lag Arsenic treatment system. (i.e.; water that has traveled through the pre treatment system process if any and the 1st arsenic reduction or lead tank)

Sample Bottle # 3 - (Arsenic samples Only) This sample bottle will contain only a FINAL treated water sample. This sample must be the lag tank out sample in a lead lag system or a final or finished water test from an end point of use. (i.e.; water that has traveled through the entire treatment system process)

Sample Bottle # 4 This sample bottle will contain only a FINAL treated water sample. This sample must be the finished water test from an end point of use. (i.e.; water that has traveled through the entire treatment system process)

Bottle ID # 4	**Location Detail**	**Bottle ID #**	**Location Detail**
Time Taken: 1:30pm		**Time Taken:**	
☐ Arsenic:		☐ Arsenic:	
☐ Arsenic Speciation		☐ Arsenic Speciation	
☐ Radon		☐ Radon	
☐ Bacteria		☐ Bacteria	
☐ Group 1 Stain Package		☐ Group 1 Stain Package	
☐ Group 2 Base well		☐ Group 2 Base well	
☐ Group 3 Base plus VOC		☐ Group 3 Base plus VOC	
☑ PFAS	Guest House Post Prv W	☐	
☐		☐	
Bottle ID #	**Location Detail**	**Bottle ID #**	**Location Detail**
Time Taken:		**Time Taken:**	
☐ Arsenic:		☐ Arsenic:	
☐ Arsenic Speciation		☐ Arsenic Speciation	
☐ Radon		☐ Radon	
☐ Bacteria		☐ Bacteria	
☐ Group 1 Stain Package		☐ Group 1 Stain Package	
☐ Group 2 Base well		☐ Group 2 Base well	
☐ Group 3 Base plus VOC		☐ Group 3 Base plus VOC	
☐		☐	
☐		☐	

Chain- Of- Custody Samples delivered to: ☐ Shop for Transfer ☐ Nashoba Analytical Laboratory ☐ Radon to Accustar ☐ Nelson ☐ Absolute Resources

Other Lab (specify):	Date Pulled:	Date Delivered to Shop:	Date Transferred to the Lab:	Delivery to Lab Completed By:

Payment Information PLEASE MAKE CHECKS PAYABLE TO H20 Care 18 Lonergan Rd Middleton, MA 01949

Work Performed	Qty.	Test package or parameter	Price
		Total	

Payment was collected: ☐ Yes ☐ No, If no why:

☐ Check # ☐ Cash

☐ Credit Card

Billing Zip:

Note: A $25.00 dollar billing charge will be added if payment is not received the day of service. Water Test results will not be released until payment has been received.

☐ H2O Care is authorized to process my payment as listed above.

12.9°C 7/1/25

1440

Authorized Signature: **Date:**

Ref No: G054500601

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

Laboratory Report

H2O Care
18 Lonergan Road
Middleton, MA 01949

Date Printed:	**07/07/2025**
Work Order #:	**2507-00351**
Client Job #:	
Date Received:	**07/01/2025**
Sample collected in:	**Massachusetts**

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of the analyzing laboratory's Quality Assurance Plan, Standard Operating Procedures and State Accreditation. This certificate shall not be reproduced, except in full, without the written approval of the analyzing laboratory. The results presented in this report relate to the samples listed on the following pages in the condition in which they were received. Accreditation for each analyte is identified by the * symbol following the analyte name. Location of our analyzing laboratory is identified by the code in the Analyst Column.

A & L Laboratory:
Identified by ME in Analyst Column
155 Center Street, Auburn, Maine 04210
www.allaboratory.com

Granite State Analytical Services LLC:
Identified by NH in Analyst Column
22 Manchester Road, Derry, NH 03038
www.granitestateanalytical.com

Nashoba Analytical:
Identified by MA in the Analyst Column
31A Willow Road, Ayer, MA 01432
www.nashobaanalytical.com

ANALYSIS RELATED NOTES:

- RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.
- DF: "Dilution factor" means the ratio of the volume of the sample to the volume of the final (dilute) solution.
- MDL: "Minimum Detection Limit" means the minimum result which can be reliably discriminated from a blank with a predetermined confidence level.
- ND: Non-detect. Results reported as Non-Detect (ND) have been evaluated down to the concentration listed in the MDL column.
- A & L Laboratory / Granite State Analytical Services LLC / Nashoba Analytical. accreditation lists can be found on our websites listed above.
- Subcontracted samples will be identified by the Accreditation number of the subcontract laboratory in the analyst field for each analyte and the appropriate laboratory will be listed here. None
- Data Qualifiers (DQ) Flags provide additional information in regards to the receipt, analysis or quality control of a sample. These are indicated under the DQ Flags Column on your report and listed here if necessary: Data Qualifier (DQ) Flags: None

SAMPLE STATE SPECIFIC NOTES:

Additional Narrative or Comments: None

We appreciate the opportunity to provide you with laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be happy to assist you.

Erin Shaw
Erin Shaw
Laboratory Director

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 07/07/2025
CLIENT NAME: H2O Care
CLIENT ADDRESS: 18 Lonergan Road
Middleton, MA 01949
SAMPLE ID #: 2507-00351-001
SAMPLED BY: Jared M.
SAMPLE ADDRESS: Town of Truro DPW
(Main House) 3 Bridge Ln
Truro MA
MORE LOC INFO: 4 Post Draw

Legend
Passes
Fails EPA Primary
Fails EPA Secondary
Fails State Guideline
Attention

DATE AND TIME COLLECTED: 06/30/2025 01:45PM
DATE AND TIME RECEIVED: 07/01/2025 02:40PM
ANALYSIS PACKAGE: M-H2O Care-PFAS-18-MA
RECEIPT TEMPERATURE: 12.9° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
4,8-dioxa-3H-perfluorononanoic acid (ADONA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Date Extracted	-					No Limit	EPA 537.1	TF-NH	07/02/2025 12:15PM
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorobutanesulfonic Acid (PFBS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorodecanoic Acid (PFDA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorododecanoic Acid (PFDoA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluoroheptanoic Acid (PFHpA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorohexanesulfonic Acid (PFHxS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM

Erin Shaw
Erin Shaw
Laboratory Director

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 07/07/2025
CLIENT NAME: H2O Care
CLIENT ADDRESS: 18 Lonergan Road
Middleton, MA 01949

SAMPLE ID #: 2507-00351-001
SAMPLED BY: Jared M.
SAMPLE ADDRESS: Town of Truro DPW
(Main House) 3 Bridge Ln
Truro MA
MORE LOC INFO: 4 Post Draw

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 06/30/2025 01:45PM
DATE AND TIME RECEIVED: 07/01/2025 02:40PM
ANALYSIS PACKAGE: M-H2O Care-PFAS-18-MA
RECEIPT TEMPERATURE: 12.9° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Perfluorohexanoic Acid (PFHxA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorononanoic Acid (PFNA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorooctanesulfonic Acid (PFOS)*	<2.00	ng/L	✓		2.00	70 ng/L	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorooctanoic Acid (PFOA)*	<2.00	ng/L	✓		2.00	70 ng/L	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorotetradecanoic Acid (PFTA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluorotridecanoic Acid (PFTrDA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Perfluoroundecanoic Acid (PFUnA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 11:28AM
Total 6 (PFOS PFOA PFNA PFHxS PFHpA PFDA)*	<2.00	ng/L	✓		2.00	20 ng/L	EPA 537.1 - Calculation	DL-NH	07/03/2025 11:28AM
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 11:28AM
Perfluoro-n-[1,2-13C2]decanoic Acid (13C2-PFDA)	113	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 11:28AM
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C2-PFHxA)	108	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 11:28AM
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic Acid (13C3-HFPO-DA)	103	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 11:28AM

Erin Shaw
Erin Shaw
Laboratory Director

2507-00351

Water Testing Form
1-800-539-1100

H2O care
MAKING WATER BETTER
18 Lonergan Road Middleton, MA 01949
(978)777-8330 · Fax (978)777-8385

8172

Date of Appt: 6-30-25	**Completed By:** Jared M.	**Truck #:**
Company:		**Phone 1:**
Contact Name: Jared Cabral (Town of Truro DPW)		**Email:**
Address: 3 Bridge Ln, Truro, MA - Main House		

Water tests ordered by: ☐ Customer ☐ Service tech ☐ Sales

Results should be forwarded to the following H2O Care representative for review:

Sample ID Key:

Sample Bottle # 0 - This sample bottle will contain only completely untreated or raw water sample. (i.e.; water that has not traveled through any treatment system.

Sample Bottle # 1– This sample bottle would contain only a sample that is pre treated through various types of water treatment components. The exact sampling point should be identified under location. If it is pretreated in any way it should be Sample ID – 1 If multiple pre treatment points you would use Sample ID 1A 30 micron pre filter out – Sample ID 1B Iron Filter outlet – Sample 1C Water softener outlet.

Sample Bottle # 2 – (Arsenic samples Only) This sample bottle will contain only a sample taken from the outlet of a Lead tank in a lead lag Arsenic treatment system. (i.e.; water that has traveled through the pre treatment system process if any and the 1st arsenic reduction or lead tank)

Sample Bottle # 3 - (Arsenic samples Only) This sample bottle will contain only a FINAL treated water sample. This sample must be the lag tank out sample in a lead lag system or a final or finished water test from an end point of use. (i.e.; water that has traveled through the entire treatment system process)

Sample Bottle # 4 This sample bottle will contain only a FINAL treated water sample. This sample must be the finished water test from an end point of use. (i.e.; water that has traveled through the entire treatment system process)

Bottle ID # 4	**Location Detail**	**Bottle ID #**	**Location Detail**
Time Taken: 1:45pm		**Time Taken:**	
☐ Arsenic:		☐ Arsenic:	
☐ Arsenic Speciation		☐ Arsenic Speciation	
☐ Radon		☐ Radon	
☐ Bacteria		☐ Bacteria	
☐ Group 1 Stain Package		☐ Group 1 Stain Package	
☐ Group 2 Base well		☐ Group 2 Base well	
☐ Group 3 Base plus VOC		☐ Group 3 Base plus VOC	
☑ PFas	Post Draw	☐	
☐		☐	

Bottle ID #	**Location Detail**	**Bottle ID #**	**Location Detail**
Time Taken:		**Time Taken:**	
☐ Arsenic:		☐ Arsenic:	
☐ Arsenic Speciation		☐ Arsenic Speciation	
☐ Radon		☐ Radon	
☐ Bacteria		☐ Bacteria	
☐ Group 1 Stain Package		☐ Group 1 Stain Package	
☐ Group 2 Base well		☐ Group 2 Base well	
☐ Group 3 Base plus VOC		☐ Group 3 Base plus VOC	
☐		☐	
☐		☐	

Chain- Of- Custody Samples delivered to: ☐ Shop for Transfer ☐ Nashoba Analytical Laboratory ☐ Radon to Accustar ☐ Nelson ☐ Absolute Resources

Other Lab (specify):	Date Pulled:	Date Delivered to Shop:	Date Transferred to the Lab:	Delivery to Lab Completed By:

Payment Information PLEASE MAKE CHECKS PAYABLE TO H20 Care 18 Lonergan Rd Middleton, MA 01949

Work Performed	Qty.	Test package or parameter	Price
		Total	

Payment was collected: ☐ Yes ☐ No, If no why:

☐ Check # ☐ Cash

☐ Credit Card

Billing Zip:

Note: A $25.00 dollar billing charge will be added if payment is not received the day of service. Water Test results will not be released until payment has been received.

☐ H2O Care is authorized to process my payment as listed above.

12.9°C 7/1/25

1440

Authorized Signature: **Date:**

Ref No: G054500601

ANALYTICAL REPORT

Lab Number:	L2526861
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526861-01	3 FIRST PARISH LN	DW	TRURO, MA	04/28/25 10:15	05/01/25
L2526861-02	3 FIRST PARISH LN DUP	DW	TRURO, MA	04/28/25 10:15	05/01/25
L2526861-03	3 FIRST PARISH LN FB	DW	TRURO, MA	04/28/25 10:20	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526861
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526861
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

WG2064300-1R and WG2064300-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/12/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526861
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526861-01
Client ID: 3 FIRST PARISH LN
Sample Location: TRURO, MA

Date Collected: 04/28/25 10:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 17:04
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	79		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	85		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	79		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526861
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526861-02
Client ID: 3 FIRST PARISH LN DUP
Sample Location: TRURO, MA

Date Collected: 04/28/25 10:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 17:13
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	99		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	101		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:05
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2064300-1 R					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								
Perfluorobutanesulfonic Acid (PFBS)	94		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	83		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	85		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	97		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	94		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	87		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	86		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	84		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	89		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	87		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	91		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	121		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526861
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	130	113	87		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	146	130	89		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	146	123	84		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	146	140	96		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	134	125	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	130	94		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	146	133	91		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	146	123	84		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	136	122	90		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	146	120	82		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	136	122	90		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	120	82		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	146	106	72		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	127	87		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	146	114	78		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	120	87		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	118	81		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	144	98		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: TRURO DPW

Project Number: TRU2501.P2

Lab Number: L2526861

Report Date: 05/12/25

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	81				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	2.32V	2.58	ng/l	11		30
Perfluorohexanoic Acid (PFHxA)	NDV	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	NDV	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	5.79V	6.06	ng/l	5		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NDV	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	6.30V	6.17	ng/l	2		30
Perfluorononanoic Acid (PFNA)	NDV	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	9.87V	10.5	ng/l	6		30
Perfluorodecanoic Acid (PFDA)	NDV	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NDV	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NDV	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	NDV	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NDV	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	NDV	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NDV	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	NDV	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	NDV	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	**62**	Q	71		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	78		80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	**67**	Q	**65**	Q	70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**67**	Q	**67**	Q	70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526861-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526861-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526861-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526861
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526861
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526861
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526861
Report Date: 05/12/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526861

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26861-01	3 First Parish LN	4/28/25	1015	DW	ST	☒	☐	1
-02	3 First Parish LN Dup	↓	1015	↓	↓	☒	☐	1
-03	3 First Parish LN FB	↓	1020	PFAS free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	PC Nancy PACE	5/1/25 12:40
PC Nancy PACE	5/1/25 18:16	0510112525-1816	
0510112525-1930		Ed Mendoza AAL	5/1/25 1815
Ed Mendoza AAL	5/1/25 2015	Dylan Beaulieu AAL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2526854
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526854-01	4 BRIDGE LANE	DW	TRURO, MA	04/29/25 10:15	05/01/25
L2526854-02	4 BRIDGE LANE DUP	DW	TRURO, MA	04/29/25 10:15	05/01/25
L2526854-03	4 BRIDGE LANE FB	DW	TRURO, MA	04/29/25 10:20	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526854
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Case Narrative

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

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

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

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

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

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

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

Authorized Signature:  Ashley Leitao

Title: Technical Director/Representative Date: 05/13/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526854
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526854-01
Client ID: 4 BRIDGE LANE
Sample Location: TRURO, MA

Date Collected: 04/29/25 10:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:49
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	115		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526854
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526854-02
Client ID: 4 BRIDGE LANE DUP
Sample Location: TRURO, MA

Date Collected: 04/29/25 10:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:57
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	98		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	91		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	89		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:14
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2065352-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	90		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								
Perfluorobutanesulfonic Acid (PFBS)	103		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	110		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	93		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	102		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	123		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	105		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	114		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	97		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	117		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	121		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	88		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	110		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	94		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	105		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	102		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526854
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	7.42	135	135	94		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	9.36	152	167	104		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	152	134	88		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	6.85	152	158	99		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	8.90	139	139	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	144	159	111		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	14.7	152	156	93		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	17.8	152	177	105		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	6.82	141	149	101		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	152	152	100		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	142	160	113		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	152	138	91		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	152	145	95		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	152	136	89		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	152	151	99		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	144	138	96		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	152	141	93		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	152	141	93		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: TRURO DPW

Project Number: TRU2501.P2

Lab Number: L2526854

Report Date: 05/13/25

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	87				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	91				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	121		122		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119		109		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	113		109		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108		103		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526854-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526854-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526854-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526854
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526854
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526854
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526854
Report Date: 05/13/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526854

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26854-01	4 Bridge Lane	4/29/25	1015	DW	ST	☒	☐	1
-02	4 Bridge Lane Dup	↓	1015	↓	↓	☒	☐	1
-03	4 Bridge Lane FB	↓	1020	PFAS Free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-		
Preservative	T	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	Vanj PACE	5/1/25 12:40
Vanj PACE	5/1/25 18:16	05101125-181	
05101125-1930		R Mendoza ASL	5/1/25 1930
R Mendoza ASL	5/1/25 2050	Dylan Beaulieu MAL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2526867
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526867-01	4 CASTLE HILL LN	DW	TRURO, MA	04/28/25 09:15	05/01/25
L2526867-02	4 CASTLE HILL LN DUP	DW	TRURO, MA	04/28/25 09:15	05/01/25
L2526867-03	4 CASTLE HILL LN FB	DW	TRURO, MA	04/28/25 09:20	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526867
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526867
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

WG2064300-1R and WG2064300-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/12/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526867
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526867-01
Client ID: 4 CASTLE HILL LN
Sample Location: TRURO, MA

Date Collected: 04/28/25 09:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 17:30
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	90		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	82		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526867
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526867-02
Client ID: 4 CASTLE HILL LN DUP
Sample Location: TRURO, MA

Date Collected: 04/28/25 09:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:14
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	86		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	83		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	84		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	77		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:05
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2064300-1 R					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								
Perfluorobutanesulfonic Acid (PFBS)	94		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	83		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	85		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	97		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	94		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	87		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	86		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	84		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	89		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	87		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	91		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	121		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526867
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	130	113	87		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	146	130	89		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	146	123	84		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	146	140	96		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	134	125	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	130	94		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	146	133	91		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	146	123	84		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	136	122	90		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	146	120	82		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	136	122	90		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	120	82		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	146	106	72		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	127	87		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	146	114	78		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	120	87		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	118	81		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	144	98		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: TRURO DPW

Project Number: TRU2501.P2

Lab Number: L2526867

Report Date: 05/12/25

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	81				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	2.32V	2.58	ng/l	11		30
Perfluorohexanoic Acid (PFHxA)	NDV	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	NDV	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	5.79V	6.06	ng/l	5		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NDV	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	6.30V	6.17	ng/l	2		30
Perfluorononanoic Acid (PFNA)	NDV	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	9.87V	10.5	ng/l	6		30
Perfluorodecanoic Acid (PFDA)	NDV	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NDV	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NDV	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	NDV	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NDV	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	NDV	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NDV	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	NDV	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	NDV	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	**62**	Q	71		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	78		80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	**67**	Q	**65**	Q	70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**67**	Q	**67**	Q	70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526867-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526867-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526867-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526867
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526867
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526867
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526867
Report Date: 05/12/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526867

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d uP

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1	1,4-Dioxane 524	TOTAL # BOTTLES
26867-01	4 Castle Hill LW	4/28/25	0915	DW	ST	☒	☐	1
-02	4 Castle Hill LW DUP	↓	0915	↓	↓	☒	☐	1
-03	4 Castle Hill LW FB	↓	0920	PFAS Free water	↓	☐	☐	1

Container Type: P
Preservative: T

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
R	5/1/25 12:40	VC Navis PACE	5/1/25 12:40
VC Navis PACE	5/1/25 18:16	0510125-1615	
0510125-1930		Ed Mendoza ASL	5/1/25 1535
Ed Mendoza ASL	5/1/25 2250	Dylan Beaulieu ASL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2526892
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526892-01	6 BRIDGE LN	DW	TRURO, MA	04/28/25 11:15	05/01/25
L2526892-02	6 BRIDGE LN DUP	DW	TRURO, MA	04/28/25 11:15	05/01/25
L2526892-03	6 BRIDGE LN FB	DW	TRURO, MA	04/28/25 11:20	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526892
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526892
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

WG2064708-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

The WG2064708-2R LCS recovery associated with L2526892-01 and -02 is above the acceptance criteria for perfluoroundecanoic acid (pfuna) (131%); however, the associated samples are non-detect to the reporting limit for this target analyte. The results of the original analysis are reported.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/13/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526892
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526892-01
Client ID: 6 BRIDGE LN
Sample Location: TRURO, MA

Date Collected: 04/28/25 11:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/11/25 19:01
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/09/25 16:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	109		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	92		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	122		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	100		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526892
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526892-02
Client ID: 6 BRIDGE LN DUP
Sample Location: TRURO, MA

Date Collected: 04/28/25 11:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/11/25 19:09
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/09/25 16:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	102		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	82		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	105		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	105		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/11/25 16:05
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/09/25 16:29

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2064708-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	106		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064708-2								
Perfluorobutanesulfonic Acid (PFBS)	117		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	119		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	99		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	118		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	113		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	129		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	109		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	127		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	110		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	112		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	119		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	107		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	**131**	Q	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	111		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	128		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	105		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	118		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	120		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064708-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526892
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064708-3 QC Sample: L2526185-04 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	130	130	100		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	7.29	146	164	107		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	146	132	90		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	3.14	146	168	113		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	133	143	107		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	169	123		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	4.78	146	189	126		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	NDZ	146	199	**136**	Q	-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	136	143	106		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	146	168	115		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NDZ	136	180	**132**	Q	-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	154	105		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	NDZ	146	208	**142**	Q	-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	158	108		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	146	175	120		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	152	110		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	160	110		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	167	114		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526892
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064708-3 QC Sample: L2526185-04 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	82				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	109				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064708-4 QC Sample: L2526185-06 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	8.52	8.65	ng/l	2		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	3.97	3.77	ng/l	5		30
Perfluorohexanesulfonic Acid (PFHxS)	2.82	3.00	ng/l	6		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	5.51	5.58	ng/l	1		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	3.27	3.16	ng/l	3		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064708-4 QC Sample: L2526185-06 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	93		90		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	105		110		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	92		95		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	94		99		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526892-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526892-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526892-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526892
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526892
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526892
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526892
Report Date: 05/13/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526892

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d VP

ANALYSIS

PFAS 537.1 (Drinking Water)

1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials												
26892-01	6 Bridge LN	4/28/25	1115	PW	ST	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-02	6 Bridge LN DUP	↓	1115	↓	↓	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-03	6 Bridge LN FB	↓	1120	PFAS Free Water	↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40		
Dave RACE	5/1/25 18:16		
05101125-1930		05101125-1930	
Hector Mendoza AAL	5/1/25 2057	Dylan Beaulieu AAL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2526857
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526857-01	8 SNOWS FIELD RD	DW	TRURO, MA	04/28/25 08:45	05/01/25
L2526857-02	8 SNOWS FIELD RD DUP	DW	TRURO, MA	04/28/25 08:45	05/01/25
L2526857-03	8 SNOWS FIELD RD FB	DW	TRURO, MA	04/28/25 08:50	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526857
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526857
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

WG2064300-1R and WG2064300-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/12/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526857
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526857-01
Client ID: 8 SNOWS FIELD RD
Sample Location: TRURO, MA

Date Collected: 04/28/25 08:45
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 16:13
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	87		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	92		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	77		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526857
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526857-02
Client ID: 8 SNOWS FIELD RD DUP
Sample Location: TRURO, MA

Date Collected: 04/28/25 08:45
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 16:21
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	80		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	82		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:05
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2064300-1 R					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								
Perfluorobutanesulfonic Acid (PFBS)	94		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	83		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	85		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	97		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	94		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	87		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	86		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	84		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	89		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	87		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	91		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	121		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526857
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	130	113	87		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	146	130	89		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	146	123	84		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	146	140	96		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	134	125	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	130	94		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	146	133	91		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	146	123	84		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	136	122	90		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	146	120	82		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	136	122	90		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	120	82		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	146	106	72		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	127	87		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	146	114	78		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	120	87		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	118	81		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	144	98		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526857
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	81				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	2.32V	2.58	ng/l	11		30
Perfluorohexanoic Acid (PFHxA)	NDV	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	NDV	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	5.79V	6.06	ng/l	5		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NDV	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	6.30V	6.17	ng/l	2		30
Perfluorononanoic Acid (PFNA)	NDV	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	9.87V	10.5	ng/l	6		30
Perfluorodecanoic Acid (PFDA)	NDV	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NDV	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NDV	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	NDV	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NDV	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	NDV	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NDV	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	NDV	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	NDV	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	**62**	Q	71		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	78		80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	**67**	Q	**65**	Q	70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**67**	Q	**67**	Q	70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	*Custody Seal*
A	Absent
B	Absent

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2526857-01A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-MA-537.1(14)
L2526857-02A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-MA-537.1(14)
L2526857-03A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526857
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526857
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526857
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526857
Report Date: 05/12/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526857

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26857-01	8 Shows Field N2	4/28/25	0845	DW	ST	☒	☐	1
-02	8 Shows Field N2 DUP	↓	0845	↓	↓	☒	☐	1
-03	8 Shows Field N2 FB	↓	0850	PFAS Free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VC Nanis PACE	5/1/25 12:40
VC Nanis PACE	5/1/25 18:16	05101125-1815	
05101125-1930		RB Mendoza ARL	5/1/25 1730
RB Mendoza ARL	5/1/25 2050	Dylan Beaulieu ARL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2534611
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	06/20/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2534611-01	21 CASTLE RD	DW	TRURO, MA	06/03/25 08:40	06/04/25
L2534611-02	DUPLICATE	DW	TRURO, MA	06/03/25 08:40	06/04/25
L2534611-03	FIELD BLANK	DW	TRURO, MA	06/03/25 08:30	06/04/25

Project Name:	TRURO DPW	**Lab Number:**	L2534611
Project Number:	TRU2501.P2	**Report Date:**	06/20/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2534611
Project Number:	TRU2501.P2	**Report Date:**	06/20/25

Case Narrative (continued)

Sample Receipt

L2534611-03: The analysis of PFAAs via 537.1 was canceled due to QC failures in the original analysis.

Perfluorinated Alkyl Acids by EPA 537.1

WG2078857-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

The WG2078857-2R LCS recovery associated with L2534611-01 and -02 is above the acceptance criteria for perfluorododecanoic acid (pfdoa) (136%); however, the associated samples are non-detect to the reporting limit for this target analyte. The results of the original analysis are reported.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 06/20/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2534611
Report Date: 06/20/25

SAMPLE RESULTS

Lab ID: L2534611-01
Client ID: 21 CASTLE RD
Sample Location: TRURO, MA

Date Collected: 06/03/25 08:40
Date Received: 06/04/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 06/14/25 18:47
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 06/14/25 08:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	121		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	107		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2534611
Report Date: 06/20/25

SAMPLE RESULTS

Lab ID: L2534611-02
Client ID: DUPLICATE
Sample Location: TRURO, MA

Date Collected: 06/03/25 08:40
Date Received: 06/04/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 06/14/25 18:56
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 06/14/25 08:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	79		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	102		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 06/14/25 16:11
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 06/14/25 08:07

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2078857-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	74		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	101		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	116		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2078857-2								
Perfluorobutanesulfonic Acid (PFBS)	73		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	78		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	80		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	108		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	114		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	111		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	109		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	104		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	101		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	112		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	122		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	98		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	112		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	103		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	**136**	Q	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	116		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	121		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	116		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2078857-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	81				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	105				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	105				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2534611
Report Date: 06/20/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2078857-3 QC Sample: L2534271-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	121	87.0	72		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	136	134	99		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	136	119	88		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	136	164	121		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	124	139	112		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	128	159	124		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	136	158	116		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	136	142	104		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	126	123	98		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	136	141	104		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	127	134	106		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	136	111	82		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	136	159	117		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	136	126	93		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	136	162	119		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	128	130	101		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	136	170	125		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	136	164	121		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2534611
Report Date: 06/20/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab	Associated sample(s): 01-02	QC Batch ID: WG2078857-3	QC Sample: L2534271-01	Client ID: MS Sample								

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	89				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	123				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	99				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2078857-4 QC Sample: L2534271-02 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	3.59	3.70	ng/l	3		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	6.29	6.76	ng/l	7		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2078857-4 QC Sample: L2534271-02 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	79		82		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	75		75		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	104		104		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	109		99		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2534611-01A	Plastic 250ml Trizma preserved	A	NA		5.4	Y	Absent		A2-MA-537.1(14)
L2534611-01B	Plastic 250ml Trizma preserved	A	NA		5.4	Y	Absent		A2-MA-537.1(14)
L2534611-02A	Plastic 250ml Trizma preserved	A	NA		5.4	Y	Absent		A2-MA-537.1(14)
L2534611-02B	Plastic 250ml Trizma preserved	A	NA		5.4	Y	Absent		A2-MA-537.1(14)
L2534611-03A	Plastic 250ml Trizma preserved	A	NA		5.4	Y	Absent		CANCELLED()

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2534611
Report Date: 06/20/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2534611
Project Number:	TRU2501.P2	**Report Date:**	06/20/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2534611
Project Number:	TRU2501.P2	**Report Date:**	06/20/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2534611
Project Number:	TRU2501.P2	**Report Date:**	06/20/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2534611
Report Date: 06/20/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 6/4/25

ALPHA Job #: L2534641

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA
Phone: 781-210-9840
Email: bryan.massa@hrpassociates.com

Additional Project Information:

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

X Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

X ADEx X EMAIL

Billing Information

X Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

X Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
X Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	A2-537.1 PFAS	Sample Comments	TOTAL # BOTTLES
3411611-01	21 Castle Rd	6/3/25	840	DW	ACB									X		2
	Duplicate	↓	840	DW	↓									X		2
	Field Blank		830	-										X		2

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type											
Preservative											

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Andrew Bisbee	6/4/25 @ 700		
	6/4/25 1130		6/4/25 915
	6/4/25 15:20		6/4/25 1230
	6/4/25 0552		6/4/25 1500
			6/4/25 15:52

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L2526859
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526859-01	22 CASTLE RD	DW	TRURO, MA	04/28/25 12:00	05/01/25
L2526859-02	22 CASTLE RD DUP	DW	TRURO, MA	04/28/25 12:00	05/01/25
L2526859-03	22 CASTLE RD FB	DW	TRURO, MA	04/28/25 12:05	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526859
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526859
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

WG2064300-1R and WG2064300-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/12/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526859
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526859-01
Client ID: 22 CASTLE RD
Sample Location: TRURO, MA

Date Collected: 04/28/25 12:00
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 16:38
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	89		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	80		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526859
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526859-02
Client ID: 22 CASTLE RD DUP
Sample Location: TRURO, MA

Date Collected: 04/28/25 12:00
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 16:47
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	87		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	84		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	83		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:05
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2064300-1 R					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								
Perfluorobutanesulfonic Acid (PFBS)	94		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	83		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	85		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	97		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	94		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	87		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	86		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	84		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	89		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	87		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	91		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	121		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526859
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	130	113	87		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	146	130	89		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	146	123	84		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	146	140	96		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	134	125	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	130	94		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	146	133	91		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	146	123	84		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	136	122	90		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	146	120	82		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	136	122	90		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	120	82		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	146	106	72		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	127	87		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	146	114	78		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	120	87		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	118	81		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	144	98		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526859
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	81				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	2.32V	2.58	ng/l	11		30
Perfluorohexanoic Acid (PFHxA)	NDV	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	NDV	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	5.79V	6.06	ng/l	5		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NDV	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	6.30V	6.17	ng/l	2		30
Perfluorononanoic Acid (PFNA)	NDV	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	9.87V	10.5	ng/l	6		30
Perfluorodecanoic Acid (PFDA)	NDV	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NDV	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NDV	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	NDV	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NDV	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	NDV	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NDV	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	NDV	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	NDV	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	**62**	Q	71		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	78		80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	**67**	Q	**65**	Q	70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**67**	Q	**67**	Q	70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526859-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526859-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526859-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526859
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526859
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526859
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526859
Report Date: 05/12/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526859

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

ANALYSIS

PFAS 537.1 (Drinking Water)

1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials													
26859-01	22 Custis Rd	4/28/25	1200	DW	ST	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1
-02	22 Custis Rd DUP	↓	1200	↓	↓	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1
-03	22 Custis Rd FB	↓	1205	PFAS Free Water	↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	PC Nanos PACE	5/1/25 12:40
PC Nanos PACE 5/1/25 18:26		0510172 5-1816	
0510172 5-1930		L Mendoza ASL	5/1/25 1820
L Mendoza ASL 5/1/25 2050		Dylan Beaulieu AAL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2526863
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526863-01	23 MEETINGHOUSE RD	DW	TRURO, MA	04/29/25 11:15	05/01/25
L2526863-02	23 MEETINGHOUSE RD DUP	DW	TRURO, MA	04/29/25 11:15	05/01/25
L2526863-03	23 MEETINGHOUSE RD FB	DW	TRURO, MA	04/29/25 11:20	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526863
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Case Narrative

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

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

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

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

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

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

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

Authorized Signature:  Ashley Leitao

Title: Technical Director/Representative Date: 05/13/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526863
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526863-01
Client ID: 23 MEETINGHOUSE RD
Sample Location: TRURO, MA

Date Collected: 04/29/25 11:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 17:15
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	89		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	82		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	85		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526863
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526863-02
Client ID: 23 MEETINGHOUSE RD DUP
Sample Location: TRURO, MA

Date Collected: 04/29/25 11:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 17:23
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	98		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	82		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:14
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2065352-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	90		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								
Perfluorobutanesulfonic Acid (PFBS)	103		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	110		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	93		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	102		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	123		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	105		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	114		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	97		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	117		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	121		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	88		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	110		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	94		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	105		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	102		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	7.42	135	135	94		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	9.36	152	167	104		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	152	134	88		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	6.85	152	158	99		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	8.90	139	139	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	144	159	111		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	14.7	152	156	93		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	17.8	152	177	105		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	6.82	141	149	101		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	152	152	100		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	142	160	113		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	152	138	91		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	152	145	95		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	152	136	89		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	152	151	99		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	144	138	96		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	152	141	93		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	152	141	93		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526863
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	87				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	91				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	121		122		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119		109		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	113		109		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108		103		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526863-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526863-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526863-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526863
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526863
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526863
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526863

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d up

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26863-01	23 Meetinghouse RZ	4/29/25	1115	DW	ST	☒	☐	1
-02	23 Meetinghouse RZ DUP	↓	1115	↓	↓	☒	☐	1
-03	23 Meeting house RZ FB	↓	1120	PFAS Free Water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	
Preservative	T	-	-	-	-	-	-	-	-	-	-	-	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VE Nancy PACE	5/1/25 12:40
VE Nancy PACE	5/1/25 18:16	05101125-1691	
05101125-1930			
B Mendoza ASL	5/1/25 2050	Dylan Beaulieu ASL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2539814
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	07/08/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2539814-01	25 TOWN HALL ROAD	DW	TRURO, MA	06/24/25 14:15	06/25/25
L2539814-02	25 TOWN HALL ROAD DUP	DW	TRURO, MA	06/24/25 14:15	06/25/25
L2539814-03	25 TOWN HALL ROAD FIELD BLANK	DW	TRURO, MA	06/24/25 14:10	06/25/25

Project Name:	TRURO DPW	**Lab Number:**	L2539814
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2539814
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

L2539814-01: The sample was received with insufficient preservation. During sample preparation, Trizma was added to meet the acceptable pH range for the method.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 07/08/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539814
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539814-01
Client ID: 25 TOWN HALL ROAD
Sample Location: TRURO, MA

Date Collected: 06/24/25 14:15
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 13:11
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	115		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	109		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	93		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539814
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539814-02
Client ID: 25 TOWN HALL ROAD DUP
Sample Location: TRURO, MA

Date Collected: 06/24/25 14:15
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 13:20
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	107		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	105		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/05/25 10:17
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2086840-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	113		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	106		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	107		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2086840-2								
Perfluorobutanesulfonic Acid (PFBS)	81		-		50-150	-		30
Perfluorohexanoic Acid (PFHxA)	118		-		50-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	109		-		50-150	-		30
Perfluoroheptanoic Acid (PFHpA)	123		-		50-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	95		-		50-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	131		-		50-150	-		30
Perfluorooctanoic Acid (PFOA)	118		-		50-150	-		30
Perfluorononanoic Acid (PFNA)	113		-		50-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	108		-		50-150	-		30
Perfluorodecanoic Acid (PFDA)	126		-		50-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	94		-		50-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	101		-		50-150	-		30
Perfluoroundecanoic Acid (PFUnA)	105		-		50-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	112		-		50-150	-		30
Perfluorododecanoic Acid (PFDoA)	107		-		50-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	101		-		50-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	109		-		50-150	-		30
Perfluorotetradecanoic Acid (PFTA)	112		-		50-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2086840-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	111				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	104				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539814
Report Date: 07/08/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2086840-3 QC Sample: L2539818-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	1.77	ND	102		-	-		50-150	-		30
Perfluorohexanoic Acid (PFHxA)	ND	2	2.87	144		-	-		50-150	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	2	ND	97		-	-		50-150	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	2	ND	99		-	-		50-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	1.82	ND	87		-	-		50-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	1.88	2.53	134		-	-		50-150	-		30
Perfluorooctanoic Acid (PFOA)	ND	2	2.60	130		-	-		50-150	-		30
Perfluorononanoic Acid (PFNA)	ND	2	2.14	107		-	-		50-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	1.85	ND	98		-	-		50-150	-		30
Perfluorodecanoic Acid (PFDA)	ND	2	2.16	108		-	-		50-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	1.86	ND	84		-	-		50-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	2	ND	82		-	-		50-150	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	2	2.09	105		-	-		50-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2	ND	86		-	-		50-150	-		30
Perfluorododecanoic Acid (PFDoA)	ND	2	2.00	100		-	-		50-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	1.88	ND	81		-	-		50-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	2	ND	99		-	-		50-150	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	2	ND	98		-	-		50-150	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539814
Report Date: 07/08/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2086840-3 QC Sample: L2539818-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	112				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	81				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	104				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	103				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2086840-4 QC Sample: L2539819-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	9.58	11.2	ng/l	16		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2086840-4 QC Sample: L2539819-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	97		110		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	97		101		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	92		98		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		84		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2539814-01A	Plastic 250ml Trizma preserved	NA	NA		2.6	Y	Absent		A2-MA-537.1(14)
L2539814-01B	Plastic 250ml Trizma preserved	NA	NA		2.6	Y	Absent		A2-MA-537.1(14)
L2539814-02A	Plastic 250ml Trizma preserved	NA	NA		2.6	Y	Absent		A2-MA-537.1(14)
L2539814-02B	Plastic 250ml Trizma preserved	NA	NA		2.6	Y	Absent		A2-MA-537.1(14)
L2539814-03A	Plastic 250ml Trizma preserved	NA	NA		2.6	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539814
Report Date: 07/08/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2539814
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2539814
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2539814
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539814
Report Date: 07/08/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/25/25

PACE Job #: L2539814

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

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

Client Information

Client: HRP Associates

Address: 13 Court St Plymouth, MA

Phone: 781-210-9840

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been previously analyzed by Pace

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

PACE Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: GW1 Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

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

* only analyze Field Blank if PFAS is detected.

PACE Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: PFAS 42-537.1	Sample Specific Comments	TOTAL # BOTTLES
39814-01	25 Town Hall Road	6/24/25	1415	DW	ACB	X		2
-02	25 Town Hall Road Dup	↓	1415	↓	↓	X		2
-03	25 Town Hall Road Field Blank	↓	1410	↓	↓	X		2

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

	Container Type											
	Preservative											

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/25/25 @ 745	[signature]	6/25/25 912
[signature]	6/25/25 1155	[signature]	6/25/25 11:55
[signature]	6/25/25 1604	[signature]	6/25/25 1448
		[signature]	6/25/25 (6:04

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

Sample Delivery Group Summary

Pace Job Number : L2539814

Account Name : HRP Associates,Inc
Project Number : TRU2501.P2
Project Name : TRURO DPW

Received : 25-JUN-2025
Reviewer : Bethany Bedard

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	2.6	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ANALYTICAL REPORT

Lab Number:	L2526890
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526890-01	30 CASTLE ROAD	DW	TRURO, MA	04/28/25 09:45	05/01/25
L2526890-02	30 CASTLE ROAD DUP	DW	TRURO, MA	04/28/25 09:45	05/01/25
L2526890-03	30 CASTLE ROAD FB	DW	TRURO, MA	04/28/25 09:50	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526890
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526890
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

L2526890-02R, WG2064300-1R, and WG2064300-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2526890-02R: The sample was received with insufficient preservation. During sample preparation, Trizma was added to meet the acceptable pH range for the method.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/12/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526890
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526890-01
Client ID: 30 CASTLE ROAD
Sample Location: TRURO, MA

Date Collected: 04/28/25 09:45
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:57
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	84		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	85		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	87		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526890
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526890-02 R
Client ID: 30 CASTLE ROAD DUP
Sample Location: TRURO, MA

Date Collected: 04/28/25 09:45
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/10/25 14:14
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	77		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	70		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:05
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2064300-1 R					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								
Perfluorobutanesulfonic Acid (PFBS)	94		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	83		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	85		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	97		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	94		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	87		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	86		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	84		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	89		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	87		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	91		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	121		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	130	113	87		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	146	130	89		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	146	123	84		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	146	140	96		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	134	125	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	130	94		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	146	133	91		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	146	123	84		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	136	122	90		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	146	120	82		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	136	122	90		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	120	82		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	146	106	72		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	127	87		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	146	114	78		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	120	87		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	118	81		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	144	98		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526890
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	81				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	2.32V	2.58	ng/l	11		30
Perfluorohexanoic Acid (PFHxA)	NDV	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	NDV	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	5.79V	6.06	ng/l	5		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NDV	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	6.30V	6.17	ng/l	2		30
Perfluorononanoic Acid (PFNA)	NDV	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	9.87V	10.5	ng/l	6		30
Perfluorodecanoic Acid (PFDA)	NDV	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NDV	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NDV	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	NDV	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NDV	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	NDV	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NDV	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	NDV	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	NDV	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	**62**	Q	71		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	78		80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	**67**	Q	**65**	Q	70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**67**	Q	**67**	Q	70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	*Custody Seal*
A	Absent
B	Absent

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2526890-01A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-MA-537.1(14)
L2526890-02A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-MA-537.1(14)
L2526890-03A	Plastic 250ml Trizma preserved	B	NA		4.3	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526890
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526890
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526890
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526890
Report Date: 05/12/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526890

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d ND

ANALYSIS

PFAS 537.1 (Drinking Water)

1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26890-01	30 Castle Road	4/28/25	0945	DW	ST	☒	☐	1
-02	30 Castle Road DUP	↓	0945	↓	↓	☒	☐	1
-03	30 Castle Road FB	↓	0950	PFAS Free Water	↓	☐	☐	1

Container Type: P
Preservative: T

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	Yve Davis PACE	5/1/25 12:40
Yve Davis PACE	5/1/25 18:16	0510125-1930	
0510125-1930			
Kathleen Mendoza ASL	5/1/25 2050	Dylan Beaulieu ASL	5/1/25 2050

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

ANALYTICAL REPORT

Lab Number:	L2526851
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526851-01	32 CASTLE ROAD	DW	TRURO, MA	04/29/25 09:15	05/01/25
L2526851-02	32 CASTLE ROAD DUP	DW	TRURO, MA	04/29/25 09:15	05/01/25
L2526851-03	32 CASTLE ROAD FB	DW	TRURO, MA	04/29/25 09:20	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526851
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Case Narrative

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

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

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

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

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

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

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

Authorized Signature:  Ashley Leitao

Title: Technical Director/Representative Date: 05/13/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526851
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526851-01
Client ID: 32 CASTLE ROAD
Sample Location: TRURO, MA

Date Collected: 04/29/25 09:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:23
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	99		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	115		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526851
Report Date: 05/13/25

SAMPLE RESULTS

Lab ID: L2526851-02
Client ID: 32 CASTLE ROAD DUP
Sample Location: TRURO, MA

Date Collected: 04/29/25 09:15
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:31
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	106		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	114		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/12/25 16:14
Analyst: RSB

Extraction Method: EPA 537.1
Extraction Date: 05/12/25 07:56

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2065352-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	90		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								
Perfluorobutanesulfonic Acid (PFBS)	103		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	110		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	93		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	102		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	123		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	105		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	114		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	97		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	117		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	121		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	88		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	110		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	94		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	105		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	102		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2065352-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526851
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	7.42	135	135	94		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	9.36	152	167	104		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	152	134	88		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	6.85	152	158	99		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	8.90	139	139	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	144	159	111		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	14.7	152	156	93		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	17.8	152	177	105		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	6.82	141	149	101		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	152	152	100		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	142	160	113		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	152	138	91		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	152	145	95		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	152	136	89		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	152	151	99		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	144	138	96		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	152	141	93		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	152	141	93		-	-		70-130	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526851
Report Date: 05/13/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-3 QC Sample: L2528581-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	87				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	91				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2065352-4 QC Sample: L2528581-03 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	121		122		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119		109		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	113		109		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108		103		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	*Custody Seal*
A	Absent
B	Absent

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2526851-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526851-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526851-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526851
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526851
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526851
Project Number:	TRU2501.P2	**Report Date:**	05/13/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World-Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526851

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26851-01	32 Castle Road	4/29/25	0915	DW	ST	☒	☐	1
-02	32 Castle Road DUP	↓	0915	↓	↓	☒	☐	1
-03	32 Castle Road FB	↓	0920	PFAS free water	↓	☐	☐	1

Container Type	P	-	-	-	-	-	-	-	-	-	-	-		
Preservative	T	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 1224		
Nani PACE	5/1/25 1830	Nani PACE 05101125-1830	5/1/25 1224
Mendoza ASL	5/1/25 2050	Dylan Beaulieu ASL	5/1/25 2050

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

ANALYTICAL REPORT

Lab Number:	L2526876
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526876-01	32 TOWN HALL RD	DW	TRURO, MA	04/28/25 10:45	05/01/25
L2526876-02	32 TOWN HALL RD DUP	DW	TRURO, MA	04/28/25 10:45	05/01/25
L2526876-03	32 TOWN HALL RD FB	DW	TRURO, MA	04/28/25 10:50	05/01/25

Project Name:	TRURO DPW	**Lab Number:**	L2526876
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2526876
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 537.1

WG2064300-1R and WG2064300-2R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 05/12/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526876
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526876-01
Client ID: 32 TOWN HALL RD
Sample Location: TRURO, MA

Date Collected: 04/28/25 10:45
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:31
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	100		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	82		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526876
Report Date: 05/12/25

SAMPLE RESULTS

Lab ID: L2526876-02
Client ID: 32 TOWN HALL RD DUP
Sample Location: TRURO, MA

Date Collected: 04/28/25 10:45
Date Received: 05/01/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:40
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	106		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	102		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	102		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	94		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 05/09/25 18:05
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 05/08/25 19:33

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-02 Batch: WG2064300-1 R					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								
Perfluorobutanesulfonic Acid (PFBS)	94		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	83		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	85		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	90		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	97		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	94		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	87		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	86		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	84		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	89		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	87		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	91		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	121		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 Batch: WG2064300-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526876
Report Date: 05/12/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	130	113	87		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	146	130	89		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	146	123	84		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	146	140	96		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	134	125	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	130	94		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	146	133	91		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	146	123	84		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	136	122	90		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	146	120	82		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	136	122	90		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	120	82		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	146	106	72		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	127	87		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	146	114	78		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	120	87		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	118	81		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	144	98		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: TRURO DPW

Project Number: TRU2501.P2

Lab Number: L2526876

Report Date: 05/12/25

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-3 QC Sample: L2525491-01 Client ID: MS Sample												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	81				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	2.32V	2.58	ng/l	11		30
Perfluorohexanoic Acid (PFHxA)	NDV	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	NDV	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	5.79V	6.06	ng/l	5		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	NDV	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	6.30V	6.17	ng/l	2		30
Perfluorononanoic Acid (PFNA)	NDV	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	9.87V	10.5	ng/l	6		30
Perfluorodecanoic Acid (PFDA)	NDV	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NDV	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NDV	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	NDV	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NDV	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	NDV	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NDV	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	NDV	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	NDV	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2064300-4 QC Sample: L2526014-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	**62**	Q	71		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	78		80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	**67**	Q	**65**	Q	70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**67**	Q	**67**	Q	70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2526876-01A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526876-02A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-MA-537.1(14)
L2526876-03A	Plastic 250ml Trizma preserved	A	NA		2.9	Y	Absent		A2-L-EXT-537(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2526876
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526876
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2526876
Project Number:	TRU2501.P2	**Report Date:**	05/12/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2526876
Report Date: 05/12/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — Nobody Knows Chemistry

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526876

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

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

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d ʊ ᵖ

ANALYSIS

PFAS 537.1 (Drinking Water)

1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26876-01	32 Town Hall Rm2	4/29/25	1045	DW	ST	☒	☐	1
-02	32 Town Hall R2 Dup	↓	1045	↓	↓	☒	☐	1
-03	32 Town Hall R2 FB	↓	1050	PFAS Free Water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-		
Preservative	T	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
VC Nanj PACE	5/1/25 12:40	VC Nanj PACE	5/1/25 12:40
05101125-1816	5/1/25 1990	05101125-1816	5/1/25 1535
Kristi Mendoza ASL	5/1/25 2015	Dylan Beaulieu ASL	5/1/25 20:50

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

ANALYTICAL REPORT

Lab Number:	L2539811
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	07/08/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2539811-01	25 CASTLE ROAD RAW WATER	DW	TRURO, MA	06/24/25 15:55	06/25/25
L2539811-02	25 CASTLE ROAD T1	DW	TRURO, MA	06/24/25 16:00	06/25/25
L2539811-03	25 CASTLE ROAD T1 DUP	DW	TRURO, MA	06/24/25 16:00	06/25/25
L2539811-04	25 CASTLE ROAD T2	DW	TRURO, MA	06/24/25 16:05	06/25/25
L2539811-05	25 CASTLE ROAD T3	DW	TRURO, MA	06/24/25 16:10	06/25/25
L2539811-06	25 CASTLE ROAD FIELD BLANK	DW	TRURO, MA	06/24/25 15:50	06/25/25

Project Name:	TRURO DPW	**Lab Number:**	L2539811
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

Case Narrative

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

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

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

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

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

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

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 07/08/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539811-01
Client ID: 25 CASTLE ROAD RAW WATER
Sample Location: TRURO, MA

Date Collected: 06/24/25 15:55
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 11:09
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	2.15		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	2.15		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	101		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539811-02
Client ID: 25 CASTLE ROAD T1
Sample Location: TRURO, MA

Date Collected: 06/24/25 16:00
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 11:17
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	90		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	93		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	80		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	78		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539811-03
Client ID: 25 CASTLE ROAD T1 DUP
Sample Location: TRURO, MA

Date Collected: 06/24/25 16:00
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 11:26
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	107		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	108		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	82		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539811-04
Client ID: 25 CASTLE ROAD T2
Sample Location: TRURO, MA

Date Collected: 06/24/25 16:05
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 11:35
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	100		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	95		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	93		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539811-05
Client ID: 25 CASTLE ROAD T3
Sample Location: TRURO, MA

Date Collected: 06/24/25 16:10
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 11:43
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	98		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	94		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

SAMPLE RESULTS

Lab ID: L2539811-06
Client ID: 25 CASTLE ROAD FIELD BLANK
Sample Location: TRURO, MA

Date Collected: 06/24/25 15:50
Date Received: 06/25/25
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/05/25 11:52
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1
PFAS, Total (6)	ND		ng/l	2.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	101		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	101		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/05/25 10:17
Analyst: RDB

Extraction Method: EPA 537.1
Extraction Date: 07/03/25 17:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-06 Batch: WG2086840-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	113		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	106		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	107		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 Batch: WG2086840-2								
Perfluorobutanesulfonic Acid (PFBS)	81		-		50-150	-		30
Perfluorohexanoic Acid (PFHxA)	118		-		50-150	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	109		-		50-150	-		30
Perfluoroheptanoic Acid (PFHpA)	123		-		50-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	95		-		50-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	131		-		50-150	-		30
Perfluorooctanoic Acid (PFOA)	118		-		50-150	-		30
Perfluorononanoic Acid (PFNA)	113		-		50-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	108		-		50-150	-		30
Perfluorodecanoic Acid (PFDA)	126		-		50-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	94		-		50-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	101		-		50-150	-		30
Perfluoroundecanoic Acid (PFUnA)	105		-		50-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	112		-		50-150	-		30
Perfluorododecanoic Acid (PFDoA)	107		-		50-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	101		-		50-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	109		-		50-150	-		30
Perfluorotetradecanoic Acid (PFTA)	112		-		50-150	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 Batch: WG2086840-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	111				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	104				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG2086840-3 QC Sample: L2539818-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	1.77	ND	102		-	-		50-150	-		30
Perfluorohexanoic Acid (PFHxA)	ND	2	2.87	144		-	-		50-150	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	2	ND	97		-	-		50-150	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	2	ND	99		-	-		50-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	1.82	ND	87		-	-		50-150	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	1.88	2.53	134		-	-		50-150	-		30
Perfluorooctanoic Acid (PFOA)	ND	2	2.60	130		-	-		50-150	-		30
Perfluorononanoic Acid (PFNA)	ND	2	2.14	107		-	-		50-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	1.85	ND	98		-	-		50-150	-		30
Perfluorodecanoic Acid (PFDA)	ND	2	2.16	108		-	-		50-150	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	1.86	ND	84		-	-		50-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	2	ND	82		-	-		50-150	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	2	2.09	105		-	-		50-150	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2	ND	86		-	-		50-150	-		30
Perfluorododecanoic Acid (PFDoA)	ND	2	2.00	100		-	-		50-150	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	1.88	ND	81		-	-		50-150	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	2	ND	99		-	-		50-150	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	2	ND	98		-	-		50-150	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: TRURO DPW

Project Number: TRU2501.P2

Lab Number: L2539811

Report Date: 07/08/25

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG2086840-3 QC Sample: L2539818-01 Client ID: MS Sample												

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	112				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	81				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	104				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	103				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG2086840-4 QC Sample: L2539819-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	9.58	11.2	ng/l	16		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG2086840-4 QC Sample: L2539819-01 Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	97		110		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	97		101		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	92		98		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		84		70-130

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2539811-01A	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-01B	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-02A	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-02B	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-03A	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-03B	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-04A	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-04B	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-05A	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-05B	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)
L2539811-06A	Plastic 250ml Trizma preserved	NA	NA			Y	Absent		A2-MA-537.1(14)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2539811
Report Date: 07/08/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2539811
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2539811
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2539811
Project Number:	TRU2501.P2	**Report Date:**	07/08/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TRURO DPW
Project Number: TRU2501.P2
Lab Number: L2539811
Report Date: 07/08/25

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-20/006. Version 2.0, March 2020.

MCL References

The following links provide the most up-to-date Maximum Contaminant Levels (MCL) or Maximum Residual Disinfectant Levels (MRDL) from the EPA's National Primary Drinking Water Regulations (NPDWR) and the MassDEP's Drinking Water Standards and Guidelines.

EPA

https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

MassDEP

https://www.mass.gov/guides/drinking-water-standards-and-guidelines

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/25/25

PACE Job #: L2539811

Pace ANALYTICAL SERVICES
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth, MA
Phone: 781-210-9840
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been previously analyzed by Pace

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
PACE Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: GW1 Criteria:

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

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

*Only analyze Field Blank if PFAS is detected.

PACE Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: PFAS A2-537.1	Sample Specific Comments	TOTAL # BOTTLES
539811-01	25 Castle Road Raw Water	6/24/25	1555	DW	ACB	X		2
-02	25 Castle Road T1		1600			X		2
-03	25 Castle Road T1 Dup		1600			X		2
-04	25 Castle Road T2		1605			X		2
-05	25 Castle Road T3		1610			X		2
-06	25 Castle Road Field Blank		1550			X		2

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type															
Preservative															

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/25/25 @ 745	[signature]	6/25/25 912
[signature]	6/25/25 1155	[signature]	6/25/25 11:55
[signature]	6/25/25 1604	[signature]	6/25/25 1448
		[signature]	6/25/25 16:04

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

(Rev. 29-Jan-2025)

Sample Delivery Group Summary

Pace Job Number : L2539811

Account Name : HRP Associates,Inc
Project Number : TRU2501.P2
Project Name : TRURO DPW

Received : 25-JUN-2025
Reviewer : Bethany Bedard

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	2.6	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mark St Hilaire
H2O Care Inc
PO BOX 1172
18 Lonergan Road
Middleton, Massachusetts 01949

Generated 4/22/2025 12:45:37 PM

JOB DESCRIPTION

Town of Truno DPW 25 Castle Rd

JOB NUMBER

455-629-1

Eurofins Northeast Portsmouth
124 Heritage Ave
Unit 16
Portsmouth NH 03801

See page two for job notes and contact information.

my EOL

Eurofins Northeast Portsmouth

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

Authorization



Generated
4/22/2025 12:45:37 PM

Authorized for release by
Cathy DeWees, Project Manager
cathy.dewees@et.eurofinsus.com
(603)436-2001

Definitions/Glossary

Client: H2O Care Inc
Job ID: 455-629-1
Project/Site: Town of Truno DPW 25 Castle Rd

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 455-629-1 — Eurofins Northeast Portsmouth

Job Narrative
455-629-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 4/9/2025 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C.

PFAS
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: H2O Care Inc
Job ID: 455-629-1
Project/Site: Town of Truno DPW 25 Castle Rd

Client Sample ID: Treated Bib Final
Date Collected: 04/03/25 12:45
Date Received: 04/09/25 11:55

Lab Sample ID: 455-629-1
Matrix: Drinking Water

Method: EPA 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorobutanesulfonic acid (PFBS)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorodecanoic acid (PFDA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorododecanoic acid (PFDoA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluoroheptanoic acid (PFHpA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorohexanesulfonic acid (PFHxS)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorohexanoic acid (PFHxA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorononanoic acid (PFNA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorooctanesulfonic acid (PFOS)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorooctanoic acid (PFOA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorotetradecanoic acid (PFTeDA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluorotridecanoic acid (PFTrDA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
Perfluoroundecanoic acid (PFUnA)	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1
PFAS6	<1.79		1.79		ng/L		04/16/25 10:38	04/21/25 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDA	*96*		*70 - 130*	*04/16/25 10:38*	*04/21/25 19:46*	*1*
13C2-PFHxA	*99*		*70 - 130*	*04/16/25 10:38*	*04/21/25 19:46*	*1*
13C3-HFPO-DA	*91*		*70 - 130*	*04/16/25 10:38*	*04/21/25 19:46*	*1*
d5-NEtFOSAA	*100*		*70 - 130*	*04/16/25 10:38*	*04/21/25 19:46*	*1*

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

455-629 COC

_ OF _

Company Name: H2O Care

Company Address: 18 Lonergan Rd Middleton Ma 01949

Report To: ap@h2ocare.com

Phone #: 978-777-8330

Project Name: ~~Town of Truro DPW~~

Project #: 25 Castle Rd Truro Ma 02666

Project Location: NH (MA) ME VT _____

Accreditation Required? N/Y: _____

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

Protocol: RCRA SDWA NPDES MCP NHDES DOD

Notify ARA if your samples require specific methods, certifications or compliance protocol.

Reporting Limits: QAPP GW-1 S-1 EPA DW Other _____

ANALYSIS REQUEST

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	Matrix: SOLID	Matrix: OTHER	Preservation Method: HCl	Preservation Method: HNO_3	Preservation Method: H_2SO_4	Preservation Method: NaOH	Preservation Method: MeOH	Sampling: DATE	Sampling: TIME	Sampling: SAMPLER
	Treated B.b	2	X								4/3/25	12 noon	DL
	Final												

Analysis requested:
- ☐ VOC 8260 NHDES
- ☐ VOC 8260 MADEP
- ☐ VOC 624.1
- ☐ VOC BTEX MBE. only
- ☐ VOC 8021VT
- ☐ VPH MADEP
- ☐ GRO 8015
- ☐ 1,4-Dioxane
- ☐ VOC 524.2
- ☐ VOC 524.2 NH List
- ☐ Gases-List:
- ☐ TPH 8100
- ☐ DRO 8015
- ☐ EPH MADEP
- ☐ TPH Fingerprint
- ☐ 8270PAH
- ☐ 625.1
- ☐ EDB
- ☐ 8082 PCB
- ☐ 8081 Pesticides
- ☐ 608.3 Pest/PCB
- ☐ PFAS 537.1
- ☐ PFAS 533
- ☐ PFAS isotope dilution
- ☐ O&G 1664
- ☐ Mineral O&G 1664
- ☐ pH
- ☐ BOD
- ☐ Conductivity
- ☐ Turbidity
- ☐ Apparent Color
- ☐ TSS
- ☐ TDS
- ☐ TS
- ☐ TVS
- ☐ Alkalinity
- ☐ Acidity
- ☐ RCRA Metals
- ☐ Priority Pollutant Metals
- ☐ TAL Metals
- ☐ Hardness
- ☐ Total Metals-list:
- ☐ Dissolved Metals-list:
- ☐ Ammonia
- ☐ COD
- ☐ TKN
- ☐ TN
- ☐ TON
- ☐ TOC
- ☐ Ferrous Iron
- ☐ T-Phosphorus
- ☐ Bacteria P/A
- ☐ Bacteria MPN
- ☐ Enterococci
- ☐ Cyanide
- ☐ Sulfide
- ☐ Nitrate + Nitrite
- ☐ Ortho P
- ☐ Phenols
- ☐ Nitrate
- ☐ Nitrite
- ☐ Chloride
- ☐ Sulfate
- ☐ Bromide
- ☐ Fluoride
- ☐ Corrosivity
- ☐ Ignitibility/FP
- ☐ TCLP Metals
- ☐ TCLP VOC
- ☐ TCLP SVOC
- ☐ TCLP Pesticide
- Subcontract
- ☐ Grain Size
- ☐ Herbicides
- ☐ Asbestos
- Grab (G) or Composite (C)

TAT REQUESTED
- Priority (24 hr)* ☐
- Expedited (48 hr)* ☐
- Standard ☐ (10 Business Days)
- *Date Needed_____

Invoice To: _____
Email: _____
PO #: _____
Quote #: _____
☐ NH Reimbursement Pricing

SPECIAL INSTRUCTIONS

Reporting Instructions:
☐ EDD:_____ Report To (email): ap@h2ocare.com

RECEIVED ON ICE ☒YES ☐NO
TEMPERATURE 5 °C

CUSTODY RECORD
QSD-01 Revision 07/27/2022

	Date	Time		Date	Time
Relinquished by Sampler:	4/3/25	6 pm	Received by:		
Relinquished by:	4/9/25	11:55	Received by:		
Relinquished by:			Received by Laboratory:	4/9/25	11:55

Login Sample Receipt Checklist

Client: H2O Care Inc

Job Number: 455-629-1

Login Number: 629
List Number: 1
Creator: Davis, Maleena

List Source: Eurofins Northeast Portsmouth

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

Laboratory Report

H2O Care
18 Lonergan Road
Middleton, MA 01949

Date Printed:	**07/07/2025**
Work Order #:	**2507-00356**
Client Job #:	
Date Received:	**07/01/2025**
Sample collected in:	**Massachusetts**

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of the analyzing laboratory's Quality Assurance Plan, Standard Operating Procedures and State Accreditation. This certificate shall not be reproduced, except in full, without the written approval of the analyzing laboratory. The results presented in this report relate to the samples listed on the following pages in the condition in which they were received. Accreditation for each analyte is identified by the * symbol following the analyte name. Location of our analyzing laboratory is identified by the code in the Analyst Column.

A & L Laboratory:
Identified by ME in Analyst Column
155 Center Street, Auburn, Maine 04210
www.allaboratory.com

Granite State Analytical Services LLC:
Identified by NH in Analyst Column
22 Manchester Road, Derry, NH 03038
www.granitestateanalytical.com

Nashoba Analytical:
Identified by MA in the Analyst Column
31A Willow Road, Ayer, MA 01432
www.nashobaanalytical.com

ANALYSIS RELATED NOTES:

- RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.
- DF: "Dilution factor" means the ratio of the volume of the sample to the volume of the final (dilute) solution.
- MDL: "Minimum Detection Limit" means the minimum result which can be reliably discriminated from a blank with a predetermined confidence level.
- ND: Non-detect. Results reported as Non-Detect (ND) have been evaluated down to the concentration listed in the MDL column.
- A & L Laboratory / Granite State Analytical Services LLC / Nashoba Analytical. accreditation lists can be found on our websites listed above.
- Subcontracted samples will be identified by the Accreditation number of the subcontract laboratory in the analyst field for each analyte and the appropriate laboratory will be listed here. None
- Data Qualifiers (DQ) Flags provide additional information in regards to the receipt, analysis or quality control of a sample. These are indicated under the DQ Flags Column on your report and listed here if necessary: Data Qualifier (DQ) Flags: None

SAMPLE STATE SPECIFIC NOTES:

Additional Narrative or Comments: None

We appreciate the opportunity to provide you with laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be happy to assist you.

Erin Shaw
Laboratory Director

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 07/07/2025
CLIENT NAME: H2O Care
CLIENT ADDRESS: 18 Lonergan Road
Middleton, MA 01949
SAMPLE ID #: 2507-00356-001
SAMPLED BY: Jared M.
SAMPLE ADDRESS: Town of Truro DPW
30 Town Hall Rd
Truro MA 02666
MORE LOC INFO: 4 Kitchen Sink

Legend
Passes
Fails EPA Primary
Fails EPA Secondary
Fails State Guideline
Attention

DATE AND TIME COLLECTED: 06/30/2025 02:30PM
DATE AND TIME RECEIVED: 07/01/2025 02:40PM
ANALYSIS PACKAGE: M-H2O Care-PFAS-18-MA
RECEIPT TEMPERATURE: 12.9° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
4,8-dioxa-3H-perfluorononanoic acid (ADONA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Date Extracted	-					No Limit	EPA 537.1	TF-NH	07/02/2025 12:15PM
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorobutanesulfonic Acid (PFBS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorodecanoic Acid (PFDA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorododecanoic Acid (PFDoA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluoroheptanoic Acid (PFHpA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorohexanesulfonic Acid (PFHxS)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM

Erin Shaw
Erin Shaw
Laboratory Director

NASHOBA ANALYTICAL
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC
31A Willow Road Ayer, Massachusetts 01432
Phone: 978-391-4428 | website: www.nashobaanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 07/07/2025
CLIENT NAME: H2O Care
CLIENT ADDRESS: 18 Lonergan Road
Middleton, MA 01949

SAMPLE ID #: 2507-00356-001
SAMPLED BY: Jared M.

SAMPLE ADDRESS: Town of Truro DPW
30 Town Hall Rd
Truro MA 02666

MORE LOC INFO: 4 Kitchen Sink

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 06/30/2025 02:30PM
DATE AND TIME RECEIVED: 07/01/2025 02:40PM
ANALYSIS PACKAGE: M-H2O Care-PFAS-18-MA
RECEIPT TEMPERATURE: 12.9° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Perfluorohexanoic Acid (PFHxA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorononanoic Acid (PFNA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorooctanesulfonic Acid (PFOS)*	<2.00	ng/L	✓		2.00	70 ng/L	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorooctanoic Acid (PFOA)*	<2.00	ng/L	✓		2.00	70 ng/L	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorotetradecanoic Acid (PFTA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluorotridecanoic Acid (PFTrDA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Perfluoroundecanoic Acid (PFUnA)*	<2.00	ng/L			2.00	No Limit	EPA 537.1	DL-NH	07/03/2025 12:36PM
Total 6 (PFOS PFOA PFNA PFHxS PFHpA PFDA)*	<2.00	ng/L	✓		2.00	20 ng/L	EPA 537.1 - Calculation	DL-NH	07/03/2025 12:36PM
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	111	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:36PM
Perfluoro-n-[1,2-13C2]decanoic Acid (13C2-PFDA)	105	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:36PM
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C2-PFHxA)	100	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:36PM
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic Acid (13C3-HFPO-DA)	94	%	✓			70-130%	EPA 537.1 - SS	DL-NH	07/03/2025 12:36PM

Erin Shaw
Erin Shaw
Laboratory Director

2507-00356

Water Testing Form
1-800-539-1100

H2O care
MAKING WATER BETTER
18 Lonergan Road Middleton, MA 01949
(978)777-8330 · Fax (978)777-8385

8174

Date of Appt: 6/30/25	**Completed By:** Jared M	**Truck #:**
Company:		**Phone 1:**
Contact Name: Jared Cabral (Town of Truro DPW)		**Email:**
Address: 30 Town Hall Rd, Truro MA 02666		

Water tests ordered by: ☐ Customer ☐ Service tech ☐ Sales

Results should be forwarded to the following H2O Care representative for review:

Sample ID Key:

Sample Bottle # 0 - This sample bottle will contain only completely untreated or raw water sample. (i.e.; water that has not traveled through any treatment system.

Sample Bottle # 1– This sample bottle would contain only a sample that is pre treated through various types of water treatment components. The exact sampling point should be identified under location. If it is pretreated in any way it should be Sample ID – 1 If multiple pre treatment points you would use Sample ID 1A 30 micron pre filter out – Sample ID 1B Iron Filter outlet – Sample 1C Water softener outlet.

Sample Bottle # 2 – (Arsenic samples Only) This sample bottle will contain only a sample taken from the outlet of a Lead tank in a lead lag Arsenic treatment system. (i.e.; water that has traveled through the pre treatment system process if any and the 1st arsenic reduction or lead tank)

Sample Bottle # 3 - (Arsenic samples Only) This sample bottle will contain only a FINAL treated water sample. This sample must be the lag tank out sample in a lead lag system or a final or finished water test from an end point of use. (i.e.; water that has traveled through the entire treatment system process)

Sample Bottle # 4 This sample bottle will contain only a FINAL treated water sample. This sample must be the finished water test from an end point of use. (i.e.; water that has traveled through the entire treatment system process)

Bottle ID # 4	**Location Detail**	**Bottle ID #**	**Location Detail**
Time Taken: 2:30p		**Time Taken:**	
☐ Arsenic:		☐ Arsenic:	
☐ Arsenic Speciation		☐ Arsenic Speciation	
☐ Radon		☐ Radon	
☐ Bacteria		☐ Bacteria	
☐ Group 1 Stain Package		☐ Group 1 Stain Package	
☐ Group 2 Base well		☐ Group 2 Base well	
☐ Group 3 Base plus VOC		☐ Group 3 Base plus VOC	
☑ PFAS	Kitchen Sink	☐	
☐		☐	

Bottle ID #	**Location Detail**	**Bottle ID #**	**Location Detail**
Time Taken:		**Time Taken:**	
☐ Arsenic:		☐ Arsenic:	
☐ Arsenic Speciation		☐ Arsenic Speciation	
☐ Radon		☐ Radon	
☐ Bacteria		☐ Bacteria	
☐ Group 1 Stain Package		☐ Group 1 Stain Package	
☐ Group 2 Base well		☐ Group 2 Base well	
☐ Group 3 Base plus VOC		☐ Group 3 Base plus VOC	
☐		☐	
☐		☐	

Chain- Of- Custody Samples delivered to: ☐ Shop for Transfer ☐ Nashoba Analytical Laboratory ☐ Radon to Accustar ☐ Nelson ☐ Absolute Resources

Other Lab (specify):	Date Pulled:	Date Delivered to Shop:	Date Transferred to the Lab:	Delivery to Lab Completed By:

Payment Information PLEASE MAKE CHECKS PAYABLE TO H20 Care 18 Lonergan Rd Middleton, MA 01949

Work Performed	Qty.	Test package or parameter	Price
		Total	

Payment was collected: ☐ Yes ☐ No, If no why:

☐ Check # ☐ Cash

☐ Credit Card

Billing Zip:

Note: A $25.00 dollar billing charge will be added if payment is not received the day of service. Water Test results will not be released until payment has been received.

☐ H2O Care is authorized to process my payment as listed above.

12.9% 7/1/25

1440

Authorized Signature: **Date:**

Ref No: G054500601

APPENDIX D
NOTICE OF ENVIRONMENTAL SAMPLING

June 23, 2025

RE: Drinking Water Sample Collection
1 Bridge Lane
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 1 Bridge Lane, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 29, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,

Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: BALDASSARRE CARL & GOLDBERG ANNELISE

2. Street Address: 5 RIDGEDELL AVE HASTINGS-ON-HUDSON

City/Town: HASTINGS-ON-HUDSON Zip Code: 10706

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 1 BRIDGE LANE

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526873
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526873
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526873-01	1 BRIDGE LN	DW	TRURO, MA	04/29/25 12:15	05/01/25
L2526873-02	1 BRIDGE LN DUP	DW	TRURO, MA	04/29/25 12:15	05/01/25
L2526873-03	1 BRIDGE LN FB	DW	TRURO, MA	04/29/25 12:20	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526873

Westborough, MA — TEL: 508-898-9220 — FAX: 508-898-9193

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

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d v

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	Sample Specific Comments	TOTAL # BOTTLES
26873-01	Bridge LN	4/29/25	1215	DW	ST	☒	☐		1
-02	Bridge LN DUP	↓	1215	↓	↓	☒	☐		1
-03	Bridge LN FB	↓	1220	PFAS Free water	↓	☐	☐		1
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VE Nancy PACE	5/1/25 12:40
VE Nancy PACE 05101125-1821	5/1/25 1821	05101125-1821	
Hilario Mendoza	5/1/25 2053	Dylan Beaulieu	5/1/25 20:50

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

MOVE YOUR ENVIRONMENT FORWARD

June 23, 2025

RE: Drinking Water Sample Collection
3 Bridge Lane
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 3 Bridge Lane, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 30, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was detected in those samples. As indicated in the attached laboratory report, the detection is less than the current Massachusetts Maximum Containment Level (MMCL) of 20 nanograms per liter (ng/L), or parts per trillion (ppt) for a group of six Per- and Polyfluoroalkyl Substances (PFAS 6).

Consistent with the requirements of the MCP, and in an abundance of caution, the Town of Truro has supplied you with bottled water for consumption and cooking purposes at no cost until a more permanent solution is implemented. The Truro Board of Health will coordinate the delivery of the water directly with you as an interim measure. Please contact Emily Beebe at 508-349-7004 with any additional questions. In addition, the Town will continue to test the water in your well at regular intervals and it will report the results to you. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-andpolyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: TRAUM FAMILY

2. Street Address: 18 OLD HYDE ROAD

City/Town: WESTON, CT Zip Code: 06883

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 3 BRIDGE LANE

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526880
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/15/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526880
Report Date: 05/15/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526880-01	3 BRIDGE LN	DW	TRURO, MA	04/30/25 10:20	05/01/25
L2526880-02	3 BRIDGE LN DUP	DW	TRURO, MA	04/30/25 10:20	05/01/25
L2526880-03	3 BRIDGE LN FB	DW	TRURO, MA	04/30/25 10:25	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526880

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d ∪ P

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26880-01	3 Bridge LN	4/30/25	1020	DW	ST	X	☐	1
-02	3 Bridge LN DUP	↓	1020	↓	↓	X	☐	1
-03	3 Bridge LN FB	↓	1025	PFAS free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VIC Nancy PACE 05101125-1930	5/1/25 12:40
VIC Nancy PACE 05101125-1930	5/1/25 18:18	Ed Mendoza ASL	5/1/25 1535
Ed Mendoza ASL	5/1/25 2050	Dylan Beaulieu ASL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
3 First Parish Lane
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 3 First Parish Lane, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 28, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: FIRST CONGREGATIONAL PARISH

2. Street Address: PO BOX 149

City/Town: TRURO Zip Code: 02666

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 3 FIRST PARISH LANE

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526861
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526861
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526861-01	3 FIRST PARISH LN	DW	TRURO, MA	04/28/25 10:15	05/01/25
L2526861-02	3 FIRST PARISH LN DUP	DW	TRURO, MA	04/28/25 10:15	05/01/25
L2526861-03	3 FIRST PARISH LN FB	DW	TRURO, MA	04/28/25 10:20	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526861

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26861-01	3 First Parish LW	4/28/25	1015	DW	ST	☒	☐	1
-02	3 First Parish LW Dup	↓	1015	↓	↓	☒	☐	1
-03	3 First Parish LW FB	↓	1020	PFAS free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	Via Navigo PACE 05101125-1816	5/1/25 12:40
Via Navigo PACE 05101125-1930	5/1/25 18:16	Ed Mendoza AAL	5/1/25 1815
Ed Mendoza AAL	5/1/25 2015	Dylan Beaulieu AAL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
4 Bridge Lane
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 4 Bridge Lane, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 29, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,

Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: APPLE VALLEY HOLDINGS, LLC MGR: ZACHARY

2. Street Address: PO BOX 353

City/Town: TRURO Zip Code: 02666

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 4 BRIDGE LANE

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526854
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526854
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526854-01	4 BRIDGE LANE	DW	TRURO, MA	04/29/25 10:15	05/01/25
L2526854-02	4 BRIDGE LANE DUP	DW	TRURO, MA	04/29/25 10:15	05/01/25
L2526854-03	4 BRIDGE LANE FB	DW	TRURO, MA	04/29/25 10:20	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526854

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)												TOTAL # BOTTLES
26854-01	4 Bridge Lane	4/29/25	1015	DW	ST	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-02	4 Bridge Lane Dup	↓	1015	↓	↓	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-03	4 Bridge Lane FB	↓	1020	PFAS Free water	↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	
Preservative	T	-	-	-	-	-	-	-	-	-	-	-	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	Nani PACE	5/1/25 12:40
Nani PACE	5/1/25 18:16		0510112525-181
0510112525-1930		R Mendoza ASL	5/1/25 1930
R Mendoza ASL	5/1/25 2050	Dylan Beaulieu MAL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
4 Castle Hill Lane
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 4 Castle Hill Lane, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 28, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: LUCAS ALAN D & JANE D

2. Street Address: 404 CLINTON RD

City/Town: BROOKLINE Zip Code: 02445

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 4 CASTLE HILL LANE

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526867
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526867
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526867-01	4 CASTLE HILL LN	DW	TRURO, MA	04/28/25 09:15	05/01/25
L2526867-02	4 CASTLE HILL LN DUP	DW	TRURO, MA	04/28/25 09:15	05/01/25
L2526867-03	4 CASTLE HILL LN FB	DW	TRURO, MA	04/28/25 09:20	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526867

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d uP

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1	1,4-Dioxane 524	TOTAL # BOTTLES
26867-01	4 Castle Hill LW	4/28/25	0915	DW	ST	☒	☐	1
-02	4 Castle Hill LW DUP	↓	0915	↓	↓	☒	☐	1
-03	4 Castle Hill LW FB	↓	0920	PFAS Free water	↓	☐	☐	1

Container Type: P
Preservative: T

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
R	5/1/25 12:40	VC Navis PACE	5/1/25 12:40
VC Navis PACE	5/1/25 18:16	0510125-1615	
0510125-1930		Ed Mendoza ASL	5/1/25 1535
Ed Mendoza ASL	5/1/25 2250	Dylan Beaulieu ASL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
6 Bridge Lane
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 6 Bridge Lane, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 28, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,

Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: DENNIS M WAITE 2019 LIV TRST & LESLIE ABEL

2. Street Address: PO BOX 315

City/Town: TRURO Zip Code: 02666

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 6 BRIDGE LANE

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526892
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526892
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526892-01	6 BRIDGE LN	DW	TRURO, MA	04/28/25 11:15	05/01/25
L2526892-02	6 BRIDGE LN DUP	DW	TRURO, MA	04/28/25 11:15	05/01/25
L2526892-03	6 BRIDGE LN FB	DW	TRURO, MA	04/28/25 11:20	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526892

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d VP

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)												
26892-01	6 Bridge LN	4/28/25	1115	PW	ST	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-02	6 Bridge LN DUP	↓	1115	↓		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
-03	6 Bridge LN FB		1120	PFAS Free Water	↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		1
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40		
Dave RACE	5/1/25 18:16		
05101125-1930		05101125-1930	
A. Mendoza AAL	5/1/25 2057	Dylan Beaulieu AAL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
8 Snows Field Road
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 8 Snows Field Road, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 28, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: ZIMMAN MICHAEL A & ROVNER ELLEN B

2. Street Address: 315 HIGHLAND AVE #303

City/Town: SOMERVILLE Zip Code: 02666

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 8 SNOWS FIELD ROAD

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526857
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526857
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526857-01	8 SNOWS FIELD RD	DW	TRURO, MA	04/28/25 08:45	05/01/25
L2526857-02	8 SNOWS FIELD RD DUP	DW	TRURO, MA	04/28/25 08:45	05/01/25
L2526857-03	8 SNOWS FIELD RD FB	DW	TRURO, MA	04/28/25 08:50	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526857

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26857-01	8 Shows Field N2	4/28/25	0845	DW	ST	☒	☐	1
-02	8 Shows Field N2 DUP	↓	0845	↓	↓	☒	☐	1
-03	8 Shows Field N2 FB	↓	0850	PFAS Free water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VC Nanis PACE	5/1/25 12:40
VC Nanis PACE	5/1/25 18:16	05101125-1815	
05101125-1930		RB Mendoza ARL	5/1/25 1730
RB Mendoza ARL	5/1/25 2050	Dylan Beaulieu ARL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
22 Castle Road
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 22 Castle Road, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 28, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: MITCHELL BARTHOLOMEW J & SIEBERT SUSAN

2. Street Address: 54 ELIOT ST

City/Town: JAMAICA PLAIN Zip Code: 02130

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 22 CASTLE ROAD

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526859
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526859
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526859-01	22 CASTLE RD	DW	TRURO, MA	04/28/25 12:00	05/01/25
L2526859-02	22 CASTLE RD DUP	DW	TRURO, MA	04/28/25 12:00	05/01/25
L2526859-03	22 CASTLE RD FB	DW	TRURO, MA	04/28/25 12:05	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526859

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d ν?

ANALYSIS

PFAS 537.1 (Drinking Water)

1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26859-01	22 Custle Rz	4/28/25	1200	DW	ST	☒	☐	1
-02	22 Custle Rz DUP	↓	1200	↓	↓	☒	☐	1
-03	22 Custle Rz FB	↓	1205	PFAS Free Water	↓	☐	☐	1

Container Type: P

Preservative: T

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	PC Nanos PACE	5/1/25 12:40
PC Nanos PACE	5/1/25 18:26	0510172 5-1816	
0510172 5-1930		L Mendoza AAL	5/1/25 1820
L Mendoza AAL	5/1/25 2050	Dylan Beaulieu AAL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
23 Meetinghouse Road
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 23 Meetinghouse Road, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 29, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: DUNCOMBE STEPHEN R & RAILLA JEAN A

2. Street Address: 110 BLEECKER ST #20D

City/Town: NEW YORK Zip Code: 10012

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 23 MEETINGHOUSE ROAD

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526863
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526863
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526863-01	23 MEETINGHOUSE RD	DW	TRURO, MA	04/29/25 11:15	05/01/25
L2526863-02	23 MEETINGHOUSE RD DUP	DW	TRURO, MA	04/29/25 11:15	05/01/25
L2526863-03	23 MEETINGHOUSE RD FB	DW	TRURO, MA	04/29/25 11:20	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526863

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d up

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26863-01	23 Meetinghouse RZ	4/29/25	1115	DW	ST	☒	☐	1
-02	23 Meetinghouse RZ DUP	↓	1115	↓	↓	☒	☐	1
-03	23 Meeting house RZ FB	↓	1120	PFAS Free Water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	
Preservative	T	-	-	-	-	-	-	-	-	-	-	-	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	VE Nancy PACE	5/1/25 12:40
VE Nancy PACE	5/1/25 18:16	05101125-1691	
05101125-1930			
B Mendoza ASL	5/1/25 2050	Dylan Beaulieu ASL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
30 Castle Road
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 30 Castle Road, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 28, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: YATER MARJORIE E

2. Street Address: 102 ANGEL RD

City/Town: POMFRET CENTER Zip Code: 06259

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: xxxxx

City/Town: Truro Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526890
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526890
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526890-01	30 CASTLE ROAD	DW	TRURO, MA	04/28/25 09:45	05/01/25
L2526890-02	30 CASTLE ROAD DUP	DW	TRURO, MA	04/28/25 09:45	05/01/25
L2526890-03	30 CASTLE ROAD FB	DW	TRURO, MA	04/28/25 09:50	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526890

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d ∪ℓ

ANALYSIS

PFAS 537.1 (Drinking Water)

1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26890-01	30 Custie Road	4/28/25	0945	DW	ST	☒	☐	1
-02	30 Custie Road DUP	↓	0945	↓	↓	☒	☐	1
-03	30 Custie Road FB	↓	0950	PFAS Free Water	↓	☐	☐	1

Container Type: P

Preservative: T

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 12:40	Yve Davis PACE	5/1/25 12:40
Yve Davis PACE	5/1/25 18:16		
0510125-1930			
Kathleen Mendoza ASL	5/1/25 2050	Dylan Beaulieu ASL	5/1/25 2050

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

June 23, 2025

RE: Drinking Water Sample Collection
32 Castle Road
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 32 Castle Road, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 29, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,



Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: KATZ JEFFREY & CHERYL C

2. Street Address: 60 K STREET

City/Town: BOSTON Zip Code: 02127

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: xxxxx

City/Town: Truro Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526851
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/13/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526851
Report Date: 05/13/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526851-01	32 CASTLE ROAD	DW	TRURO, MA	04/29/25 09:15	05/01/25
L2526851-02	32 CASTLE ROAD DUP	DW	TRURO, MA	04/29/25 09:15	05/01/25
L2526851-03	32 CASTLE ROAD FB	DW	TRURO, MA	04/29/25 09:20	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World-Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526851

Client Information

Client: HRP Associates, Inc
Address: 13 Court Street
Plymouth, MA 02360
Phone: 781-243-1527
Fax:
Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Truro DPW
Project Location: Truro, MA
Project #: TRU2501.P2
Project Manager: Bryan Massa
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or dup

ANALYSIS

PFAS 537.1 (Drinking Water)
1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26851-01	32 Castle Road	4/29/25	0915	DW	ST	☒	☐	1
-02	32 Castle Road DUP	↓	0915	↓	↓	☒	☐	1
-03	32 Castle Road FB	↓	0920	PFAS free water	↓	☐	☐	1

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	T	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	5/1/25 1224		
	5/1/25 1830		
Mendoza ASL	5/1/25 2015	Dylan Beaulieu ASL	5/1/25 20:50

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

June 23, 2025

RE: Drinking Water Sample Collection
32 Town Hall Road
Truro, Massachusetts
(HRP # TRU2501.P2)

Dear Sir or Madam:

As you are aware, in the Fall of 2024 there was a detection of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater at the Town of Truro Department of Public Works property located at 17 Town Hall Road in Truro, Massachusetts (the "Site"). The amount of PFAS detected at the Site was above the applicable regulatory standards and the Town was required to initiate an Immediate Response Action in accordance with the Massachusetts Contingency Plan ("MCP"). As part of that response action, the Town has been taking samples from the drinking water well serving your property at 32 Town Hall, Truro, Massachusetts, along with wells serving other neighboring properties.

Samples of water taken from your well on April 28, 2025 were tested at the Pace Analytical Laboratory in Mansfield, Massachusetts, and PFAS was not detected in those samples. Pursuant to the MCP, 310 CMR 40.1403 (10)(b), the laboratory results from the testing are attached. Additional public involvement opportunities are available pursuant to the MCP, 310 CMR 40.1404.

The Commonwealth of Massachusetts Department of Environmental Protection ("MassDEP") has been notified of the release and the response actions detailed above, including the collection of environmental samples at your property. The response actions are being conducted under Release Tracking Number 4-50777.

Please be advised that the Town is taking these actions as required by law and in the interests of protecting public health. Although the Town is required to take these actions simply because PFAS was detected at its property, nothing herein should be construed as an admission of any legal liability whatsoever. That being said, the Town is fully dedicated to remediating this contamination as soon as possible.

If you would like to know more about PFAS in drinking water, you can visit the Massachusetts Department of Public Health's PFAS Fact Sheet at: https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-tap-water. Of course, please feel free to contact the Truro Board of Health at any time.

If you have any questions or require additional information, please feel free to contact HRP at 781-210-9840 or the Truro Health and Conservation Agent Emily Beebe at 508-349-7004.

Sincerely,

Bryan Massa, LSP
Principal and Regional Manager

attachment

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 17 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

B. This notice is being provided to the following party:

1. Name: MARY ANN O'LOUGHLIN REV TRUST TRS: MARY

2. Street Address: 106 HOOKER ST

City/Town: ALLSTON Zip Code: 02134

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 32 TOWN HALL ROAD

City/Town: TRURO Zip Code: 02666

2. MCP phase of work during which the sampling will be/has been conducted:

☑ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Drinking water sample collected from your residence as part of an Immediate Response Action.

E. Contact information related to the party providing this notice:

Contact Name: Bryan Massa, LSP

Street Address: 13 Court Street

City/Town: Plymouth Zip Code: 02360

Telephone: (781) 210-9840 Email: Bryan.Massa@hrpassociates.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

4 - 50777

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

REDACTED REPORT
Data Sheets removed
Cover, sample list, and Chain Of Custody retained
Original to Property Owner included complete report
See lab reports included elsewhere

ANALYTICAL REPORT

Lab Number:	L2526876
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501.P2
Report Date:	05/12/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TRURO DPW
Project Number: TRU2501.P2

Lab Number: L2526876
Report Date: 05/12/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2526876-01	32 TOWN HALL RD	DW	TRURO, MA	04/28/25 10:45	05/01/25
L2526876-02	32 TOWN HALL RD DUP	DW	TRURO, MA	04/28/25 10:45	05/01/25
L2526876-03	32 TOWN HALL RD FB	DW	TRURO, MA	04/28/25 10:50	05/01/25

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — Nobody Knows Chemistry

Date Rec'd in Lab: 5/1/25

ALPHA Job #: L2526876

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

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

Project Information

Project Name: Truro DPW

Project Location: Truro, MA

Project #: TRU2501.P2

Project Manager: Bryan Massa

ALPHA Quote #:

Client Information

Client: HRP Associates, Inc

Address: 13 Court Street

Plymouth, MA 02360

Phone: 781-243-1527

Fax:

Email: bryan.massa@hrpassociates.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	GW-1

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

<GW-1, only analyze field blank if PFAS detection in either original sample or d ʊ ᵖ

ANALYSIS

PFAS 537.1 (Drinking Water)

1,4-Dioxane 524 (Drinking Water)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 537.1 (Drinking Water)	1,4-Dioxane 524 (Drinking Water)	TOTAL # BOTTLES
26876-01	32 Town Hall Rm2	4/29/25	1045	DW	ST	☒	☐	1
-02	32 Town Hall R2 Dup	↓	1045	↓	↓	☒	☐	1
-03	32 Town Hall R2 FB	↓	1050	PFAS Free Water	↓	☐	☐	1
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

Container Type	P	-	-	-	-	-	-	-	-	-	-	-		
Preservative	T	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

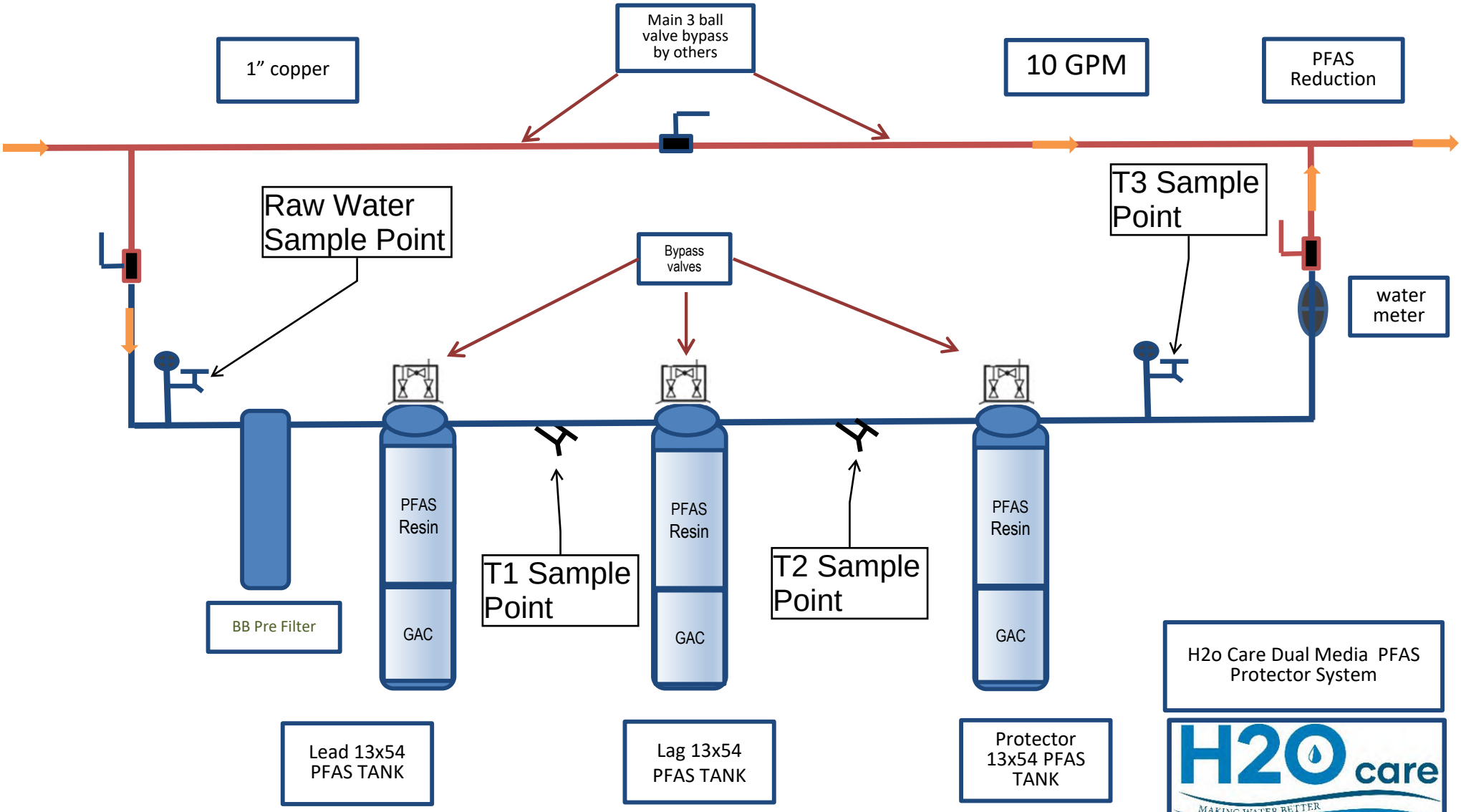
FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
VC Nanj PACE	5/1/25 12:40	VC Nanj PACE	5/1/25 12:40
05101125-1816	5/1/25 1990	05101125-1816	5/1/25 1535
Kristi Mendoza ASL	5/1/25 2015	Dylan Beaulieu ASL	5/1/25 20:50

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

APPENDIX E
POET SYSTEM DETAILS

PFAS Filtration System



H2o Care Dual Media PFAS Protector System

H2O care
MAKING WATER BETTER

Version 0125.1

01-31-2025

PRODUCT SPECIFICATION SHEET

AGC-PFx

COCONUT SHELL CARBON

PFAS SELECTIVE
ACID-WASHED SEMI MOIST
COCONUT SHELL CARBON
STANDARD MESH (12X40)

ResinTech AGC-PFx is a premium grade, semi-moist, acid-washed, coconut shell-based granular activated carbon. It has chemically enhanced pore size to facilitate the removal of Per- and Polyfluoroalkyl compounds (PFCs) such as PFOS, PFOA, and others. AGC-PFx is intended for use as a stand alone media bed or as a top layer with other medias to facilitate PFC removal. AGC-PFx is Gold Seal Certified by the WQA for use in potable water applications.

APPLICATIONS

- PFAS Reduction
- Organics Removal

C US

TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS	
Physical Form	Carbonaceous Granules
Particle Size	12 to 40 US Mesh (400 - 1680 µm)
% < 40 mesh (400µm)	< 5%
Temp Limit	212°F (100°C)
Moisture Retention	20% to 30%
Shipping Weight	37 - 39 lbs/ft³ (593 - 625 g/L)
Color	Black

PACKAGING OPTIONS

- 1 ft³ bags
- 1 ft³ boxes
- 1 ft³ drums
- 7 ft³ drums
- 42 ft³ supersacks

CERTIFICATIONS

WQA Gold Seal*

SUGGESTED OPERATING CONDITIONS

Maximum temperature	212˚F
Minimum Bed Depth	
PFAS removal	
- Standalone	> 36 inches (or 36 inch min.)
- Layered on top of other media	> 12 inches (or 12 inch min.)
Support bed	12 inches suggested
Backwash Expansion	15 to 25%
Backwash Flow rate	4 to 6 gpm/sq.ft.
Service Flow Rate	
PFAS removal	1 gpm/cu.ft. max (7-10 minute EBCT)

* NSF/ANSI/CAN 61: Drinking Water System Components - Health Effects

Revision 1.1
ResinTech, Inc.®

RESINTECH® INC.
INNOVATIONS IN ION EXCHANGE

CORPORATE HEADQUARTERS 1801 Federal Street Camden, NJ 08105 USA PHONE 856.768.9600 EMAIL info@resintech.com WEB resintech.com

PRODUCT SPECIFICATION SHEET

SUPRA

SIR-110-HP

SELECTIVE EXCHANGER

PFAS, NITRATE, & PERCHLORATE SELECTIVE
STRONG BASE ANION
CHLORIDE FORM

ResinTech SIR-110-HP is a chloride form perchlorate, nitrate, and PFAS selective gel strong base anion resin. The HP designation means it is Gold Seal Certified by the WQA for use in potable water applications. Its unique functionality greatly increases the selectivity for nitrate while greatly decreasing the interference from sulfate ions. SIR-110-HP is recommended for the removal of perchlorate, nitrate, and most PFAS compounds.

APPLICATIONS

- Perchlorate Removal
- Nitrate Removal
- Iodide Removal
- Pertechnetate Removal
- PFAS Removal

C US

TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS	
Polymer Matrix	Styrenic Gel
Ionic Form	Chloride
Functional Group	Tributylamine
Physical Form	Spherical Beads
Particle Size	16 to 50 US Mesh (297 - 1190µm)
% < 50 mesh (300µm)	< 1%
Minimum Sphericity	90%
Uniformity Coefficient	1.6
Reversable Swelling	Cl to NO_3 -5% to -10%
Temp Limit	250°F (121°C)
Capacity (meq/mL)	0.8
Moisture Retention	38% to 50%
Shipping Weight	40 - 42 lbs/ft³ (641 - 673 g/L)
Color	Yellow to Orange
Regenerability	Yes*

* Exception: currently non-regenerable for PFAS removal applications.

CERTIFICATIONS

WQA Gold Seal*

PACKAGING OPTIONS

- 500 ml samples
- 1 ft³ bags
- 1 ft³ boxes
- 1 ft³ drums
- 7 ft³ drums
- 42 ft³ supersacks

* NSF/ANSI/CAN 61: Drinking Water System Components - Health Effects

Revision 1.4
ResinTech, Inc.®

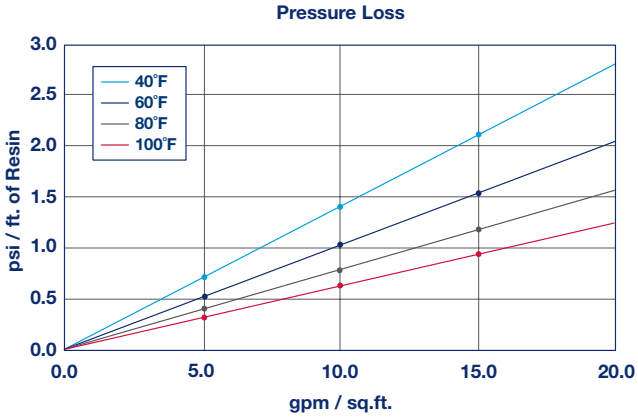
RESINTECH® INC.
INNOVATIONS IN ION EXCHANGE

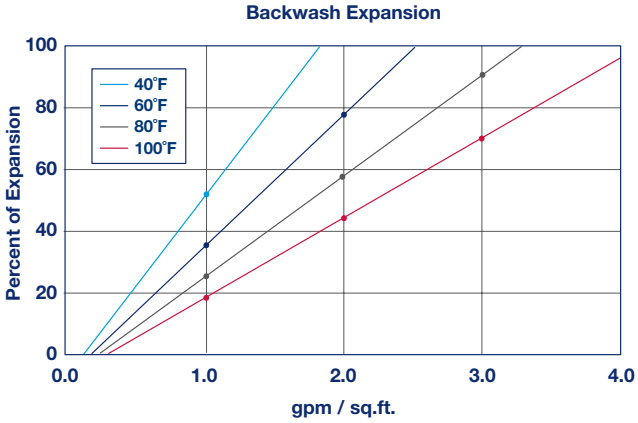
CORPORATE HEADQUARTERS 1801 Federal Street Camden, NJ 08105 USA PHONE 856.768.9600 EMAIL info@resintech.com WEB resintech.com

SIR-110-HP

SELECTIVE EXCHANGER

PFAS, NITRATE, & PERCHLORATE SELECTIVE
STRONG BASE ANION
CHLORIDE FORM





PFAS REMOVAL

ResinTech SIR-110-HP can be used for removal of various PFAS compounds, including PFOA and PFOS, from water. Currently, this is a non-regnerable application. Testing has shown it can remove a wide range of other PFAS species in addition to these compounds. Ion exchange offers the benefit of reduced contact times and longer throughputs vs. conventional activated carbon treatment. An understanding of the influent water chemistry is needed for thorough review. Levels of TOC, VOC and individual PFAS compounds are needed in addition to the basic background water chemistry (chloride, sulfate, alkalinity, etc.). Any other contaminants that may be present are also needed to determine impact on PFAS removal (uranium, perchlorate, chromate, arsenic, etc.).

PERCHLORATE REMOVAL

ResinTech SIR-110-HP is ideal for single use perchlorate removal applications and is a cost effective method to remove trace levels of perchlorate from water. The perchlorate ion is very strongly attracted to the ResinTech SIR-110-HP, so much so that regeneration is impractical or impossible.

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature Chloride form	170˚F
Minimum bed depth	24 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	20 psi
Operating pH range	4 to 10 SU
Regenerant Concentration Salt cycle	5 to 10 percent NaCl
Regenerant level	>10 lbs./cu.ft.
Regenerant flow rate	0.25 to 1.0 gpm/cu.ft.
Regenerant contact time	>30 minutes
Displacement flow rate	Same as dilution flow
Displacement volume	10 to 15 gallons/cu.ft.
Rinse flow rate	Same as service flow
Rinse volume	35 to 60 gallons/cu.ft.
Service flow rate	1 - 4 gpm/cu.ft. (8 - 32 BV/h)

Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.
For operation outside these guidelines, contact ResinTech Technical Support

Revision 1.4
ResinTech, Inc.®

RESINTECH® INC.
INNOVATIONS IN ION EXCHANGE

CORPORATE HEADQUARTERS 1801 Federal Street Camden, NJ 08105 USA PHONE 856.768.9600 EMAIL info@resintech.com WEB resintech.com

APPENDIX F
AQUIFER TESTING RESULTS

MW-1

Low Flow Single Well Pumping Test Analysis (Robbins et. al, 2009)

Flow Rate:

Test Pumped Volume=	65	gal
Pumping Time=	2,193	sec
Pumping Flow Rate=	0.24	cf/min

Initial Calculations:

Lw=	7.68	ft
Le=	7.52	ft
H=	0.16	ft
R=	0.26	ft
Le/R=	28.88	
C=	2.00	

Input Factors:

Pumping Drawdown (H)=	0.16	ft

Total Well Depth=	125	ft
Screen Length=	10	ft
Screen Diameter =	2	in
Borehole Diameter (R) =	6.25	in
Initital Depth to Water=	117.32	ft
Initial Water Column (Lw)=	7.68	ft
Pumping Depth to Water =	117.48	ft
Pumping Water Column (Le)=	7.52	ft

Final Calculations:

Re = 6.05107 ft

K_h = 0.100 ft/min

144.43 ft/day

5.E-04 m/sec

K_h = Horizontal Hydraulic Conductivity

cf = cubic feet

gal = gallons

ft = feet

in = inches

m = meters

min = minutes

sec = seconds

MW-3

Low Flow Single Well Pumping Test Analysis (Robbins et. al, 2009)

Flow Rate:

Test Pumped Volume=	65	gal
Pumping Time=	2,310	sec
Pumping Flow Rate=	0.23	cf/min

Input Factors:

Pumping Drawdown (H)= 0.06 ft

Total Well Depth=	124	ft
Screen Length=	10	ft
Screen Diameter =	2	in
Borehole Diameter (R) =	6.25	in
Initital Depth to Water=	117.5	ft
Initial Water Column (Lw)=	6.5	ft
Pumping Depth to Water =	117.56	ft
Pumping Water Column (Le)=	6.44	ft

Initial Calculations:

Lw=	6.5	ft
Le=	6.44	ft
H=	0.06	ft
R=	0.26	ft
Le/R=	24.73	
C=	2.00	

Final Calculations:

Re = 5.26035 ft

K_h = 0.263 ft/min

378.75 ft/day

1.E-03 m/sec

K_h = Horizontal Hydraulic Conductivity

cf = cubic feet

gal = gallons

ft = feet

in = inches

m = meters

min = minutes

sec = seconds

MW-9

Low Flow Single Well Pumping Test Analysis (Robbins et. al, 2009)

Flow Rate:

Test Pumped Volume=	30	gal
Pumping Time=	873	sec
Pumping Flow Rate=	0.28	cf/min

Input Factors:

Pumping Drawdown (H)=	0.07	ft

Total Well Depth=	127.2	ft
Screen Length=	10	ft
Screen Diameter =	2	in
Borehole Diameter (R) =	6.25	in
Initital Depth to Water=	118.93	ft
Initial Water Column (Lw)=	8.27	ft
Pumping Depth to Water =	119.00	ft
Pumping Water Column (Le)=	8.2	ft

Initial Calculations:

Lw=	8.27	ft
Le=	8.2	ft
H=	0.07	ft
R=	0.26	ft
Le/R=	31.49	
C=	2.00	

Final Calculations:

Re = 6.43516 ft

K_h = 0.237 ft/min

341.7 ft/day

1.E-03 m/sec

K_h = Horizontal Hydraulic Conductivity
cf = cubic feet
gal = gallons
ft = feet
in = inches
m = meters
min = minutes
sec = seconds

MW-11S

Low Flow Single Well Pumping Test Analysis (Robbins et. al, 2009)

Flow Rate:

Test Pumped Volume=	65	gal
Pumping Time=	3,206	sec
Pumping Flow Rate=	0.16	cf/min

Initial Calculations:

Lw=	9.3	ft
Le=	9.23	ft
H=	0.07	ft
R=	0.25	ft
Le/R=	36.92	
C=	2.00	

Input Factors:

Pumping Drawdown (H)= 0.07 ft

Total Well Depth=	45	ft
Screen Length=	10	ft
Screen Diameter =	2	in
Borehole Diameter (R) =	6	in
Initital Depth to Water=	35.7	ft
Initial Water Column (Lw)=	9.3	ft
Pumping Depth to Water =	35.77	ft
Pumping Water Column (Le)=	9.23	ft

Final Calculations:

Re = 7.06696 ft

K_h = 0.139 ft/min

199.87 ft/day

7.E-04 m/sec

K_h = Horizontal Hydraulic Conductivity

cf = cubic feet

gal = gallons

ft = feet

in = inches

m = meters

min = minutes

sec = seconds

MW-11m

Low Flow Single Well Pumping Test Analysis (Robbins et. al, 2009)

Flow Rate:

Test Pumped Volume=	60	gal
Pumping Time=	1,800	sec
Pumping Flow Rate=	0.27	cf/min

Input Factors:

Pumping Drawdown (H)=	0.04	ft

Total Well Depth=	60	ft
Screen Length=	5	ft
Screen Diameter =	2	in
Borehole Diameter (R) =	6	in
Initital Depth to Water=	36.83	ft
Initial Water Column (Lw)=	23.17	ft
Pumping Depth to Water =	36.87	ft
Pumping Water Column (Le)=	23.13	ft

Initial Calculations:

Lw=	23.17	ft
Le=	5	ft
H=	0.04	ft
R=	0.25	ft
Le/R=	20.00	
C=	2.00	

Final Calculations:

Re = 16.96440 ft

K_h = 0.902 ft/min

1299.2 ft/day

5.E-03 m/sec

K_h = Horizontal Hydraulic Conductivity

cf = cubic feet

gal = gallons

ft = feet

in = inches

m = meters

min = minutes

sec = seconds

Well Hydraulics Equations, Geometry, and Shape Factor Curves

$$K = \frac{Q * 2.303 * \log(\mathrm{Re}/R)}{2\Pi LeH}$$

- Steady State Radial Flow Equation

K = hydraulic conductivity

Q = flow rate

Le = Screen intake length (if water level at end of test is lower than the top of the screen, then L equals the distance from the final water level to the bottom of the screen)

H = Steady State drawdown

R = Borehole intake radius (includes sand pack)

Re = *R*adius of influence in aquifer (calculated separately)

ln = natural log

Units must be consistent

$$\mathrm{Re} = R * \exp\left[\left(\frac{1.1}{\ln(Lw/R)}\right) + \left(\frac{C}{Le/R}\right)\right]^{-1}$$

- Bouwer and Rice, 1976

Re = *R*adius of influence in aquifer

R = Borehole intake radius (includes sand pack)

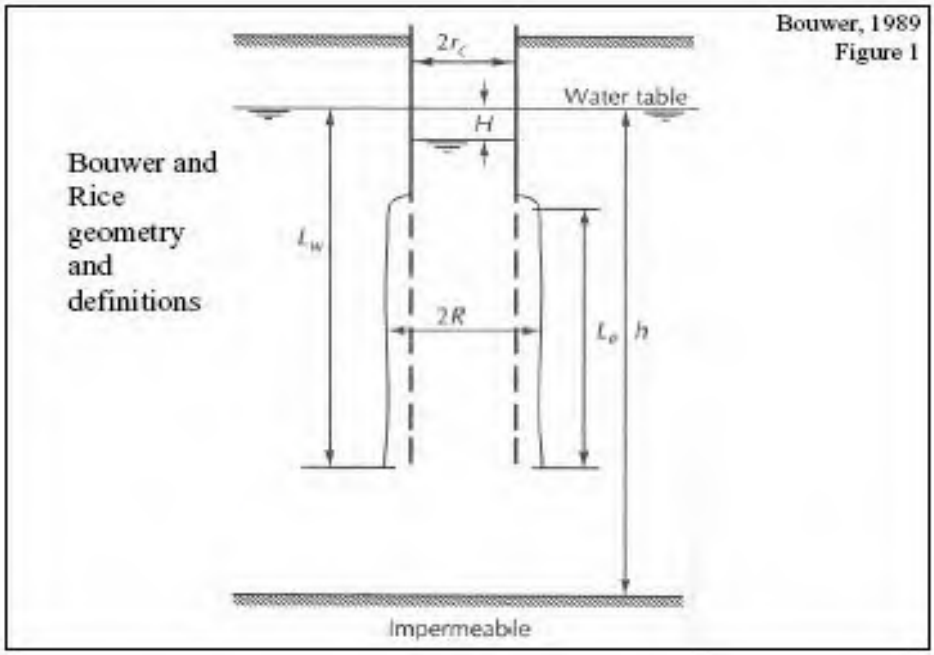
Le = Screen intake length (if water level at end of test is lower than the top of the screen, then L equals the distance from the final water level to the bottom of the screen)

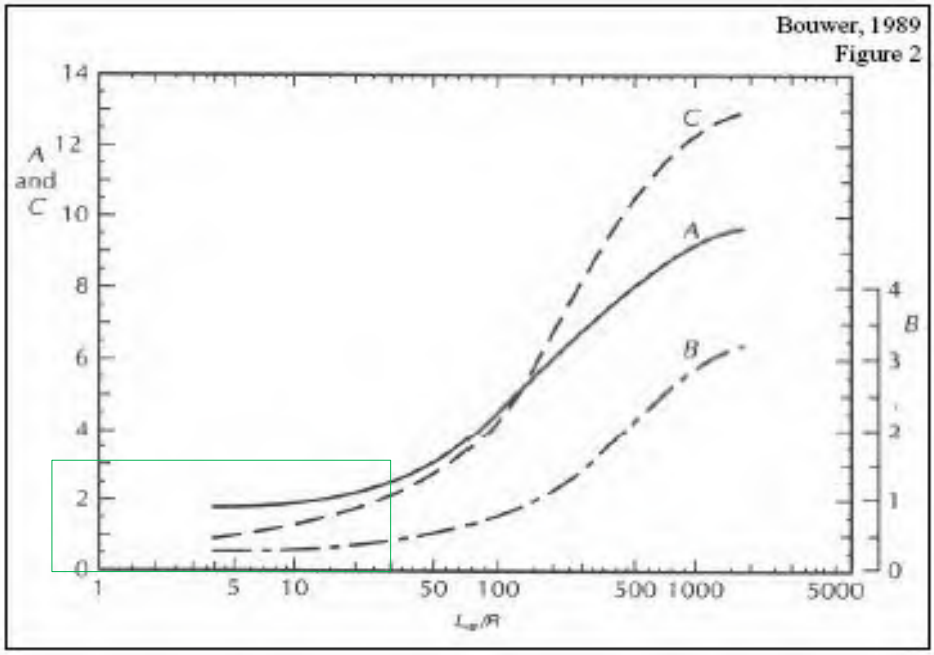
C = Dimensionl ess constant (from graph)

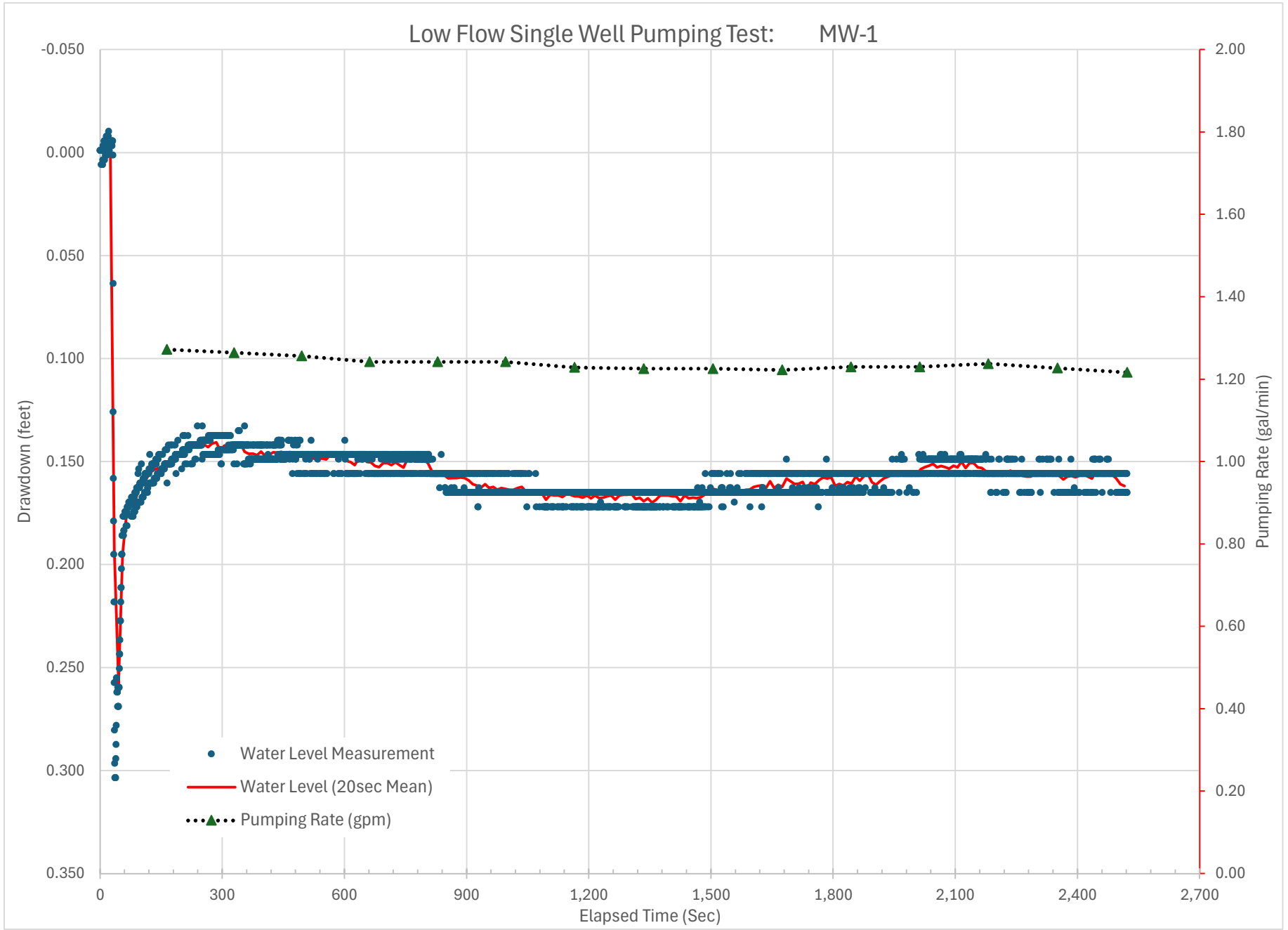
Lw = Distance from static watertable down to bottom of well screen

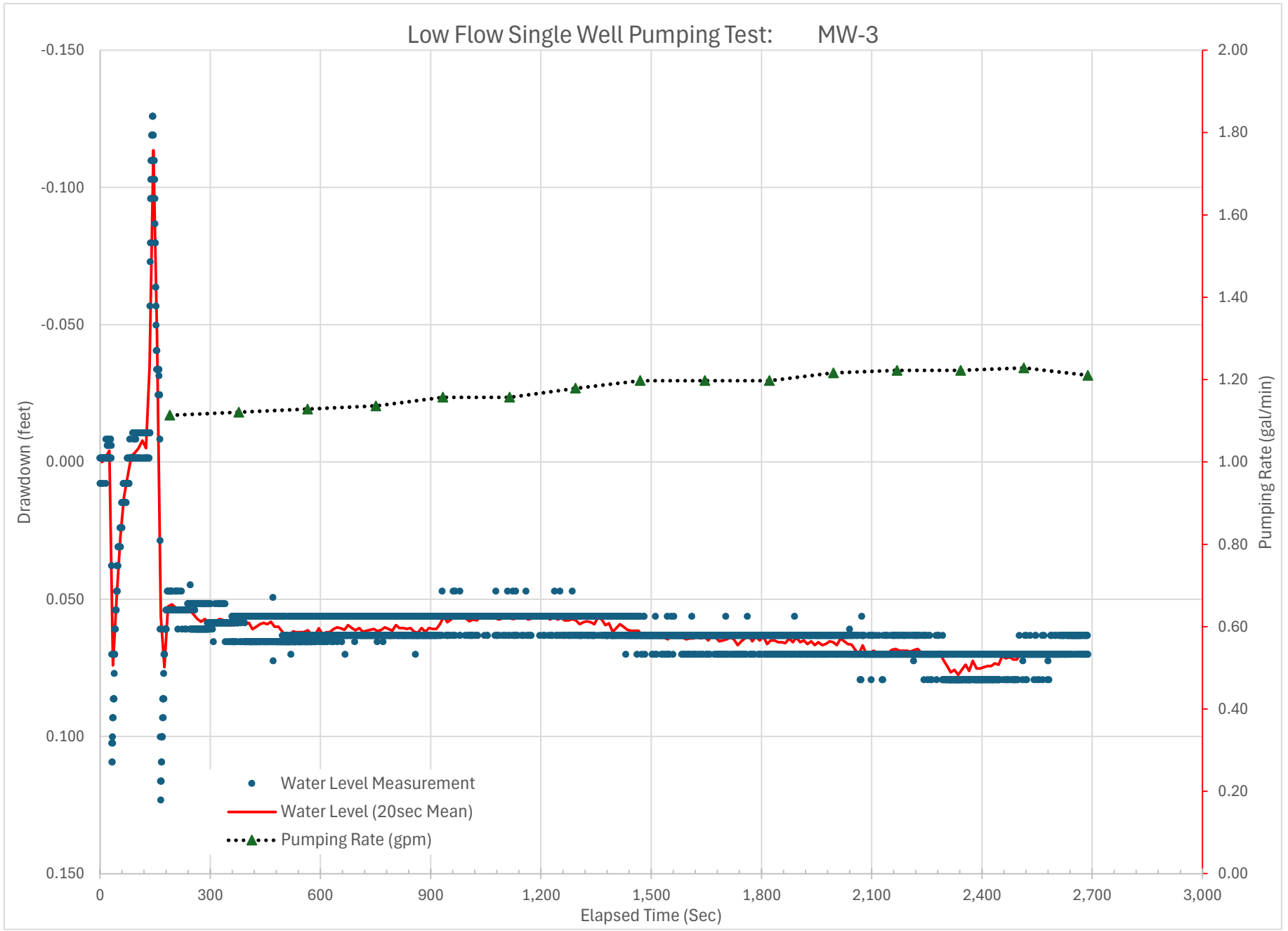
Units must be consistent

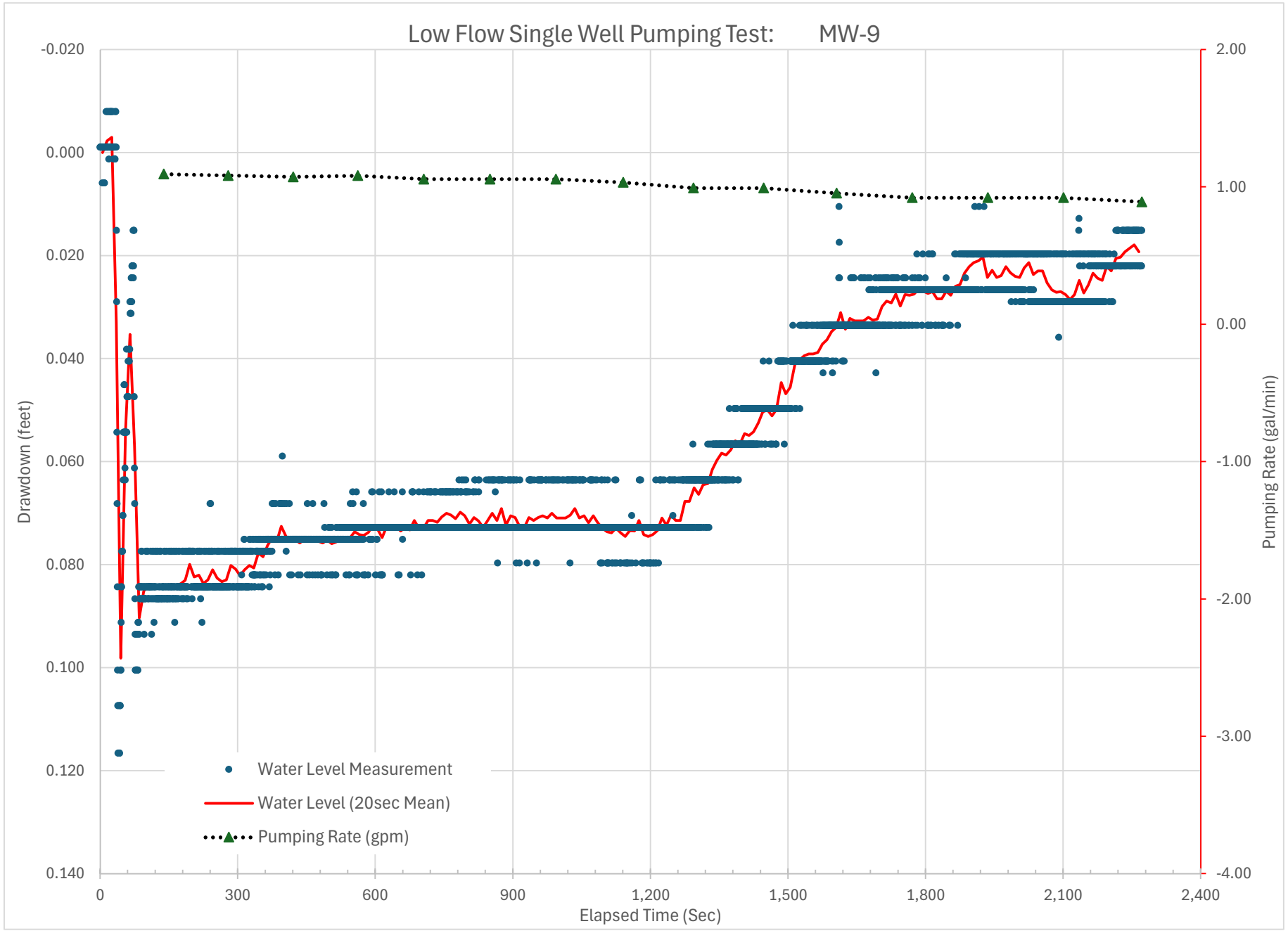
Well Hydraulics Equations, Geometry, and Shape Factor Curves

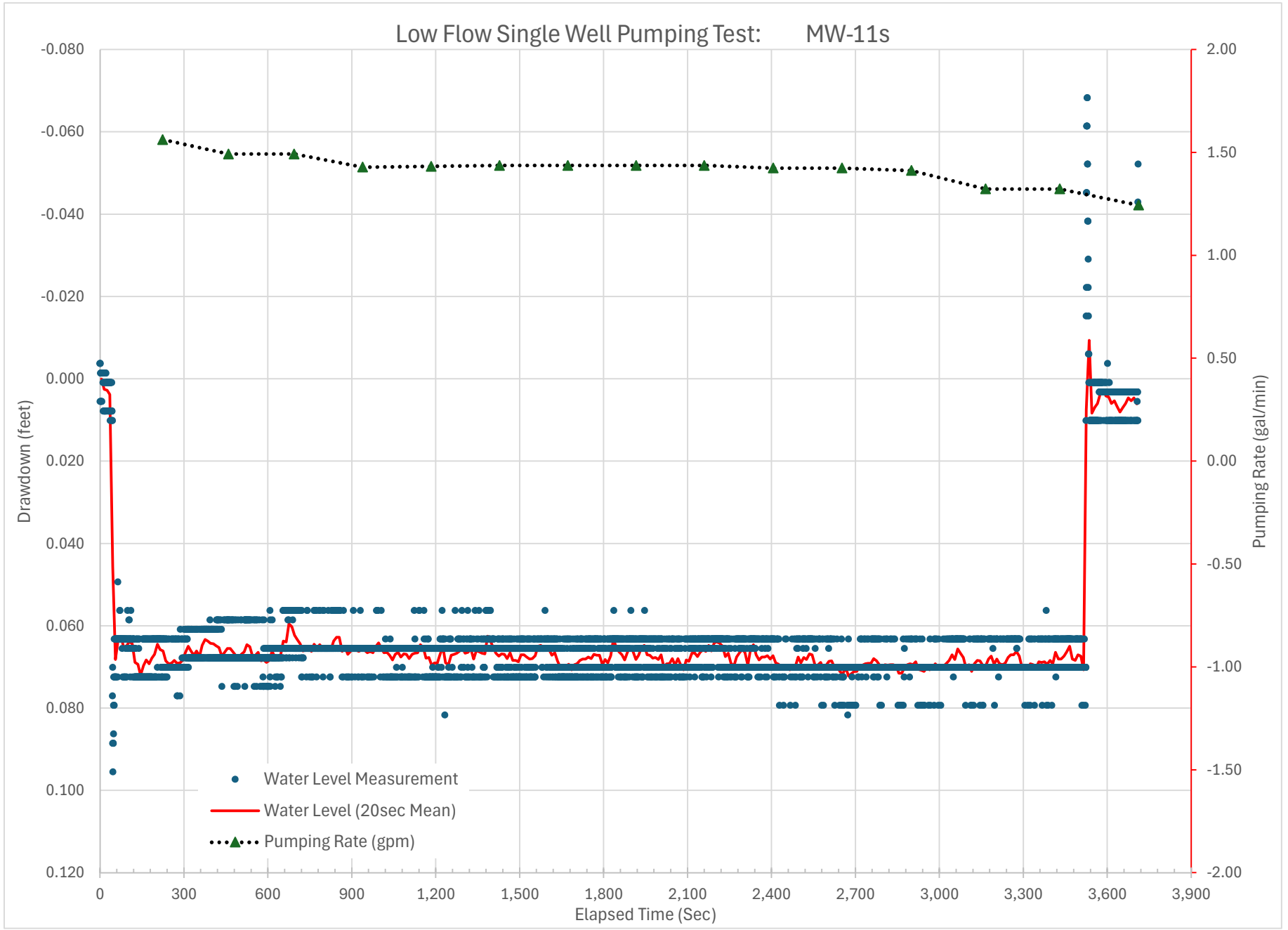


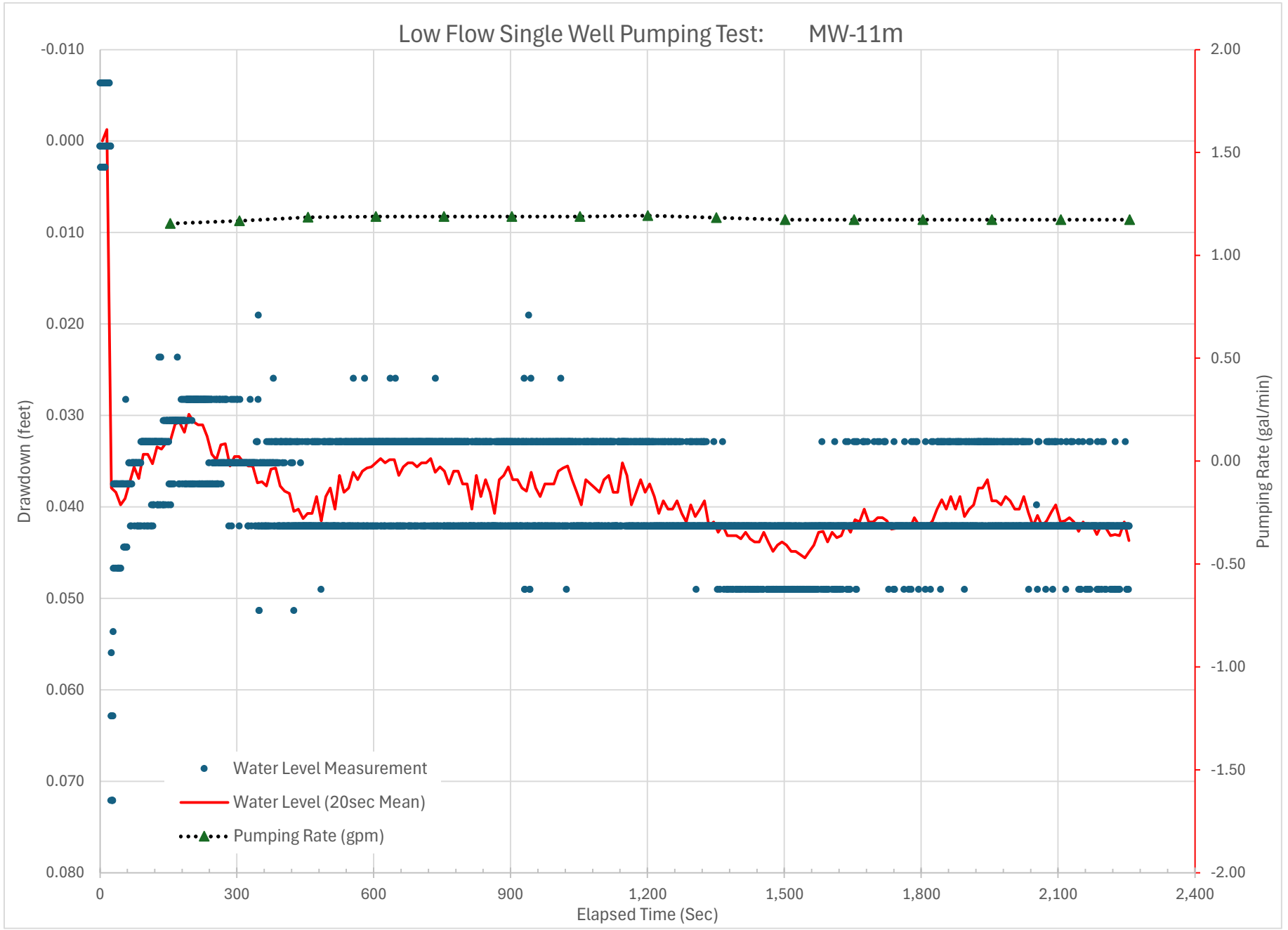



Low Flow Single Well Pumping Test: MW-1
-0.050
0.000
0.050
0.100
0.150
0.200
0.250
0.300
0.350
Drawdown (feet)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
Pumping Rate (gal/min)
0
300
600
900
1,200
1,500
1,800
2,100
2,400
2,700
Elapsed Time (Sec)
Water Level Measurement
Water Level (20sec Mean)
Pumping Rate (gpm)


Low Flow Single Well Pumping Test: MW-3
Drawdown (feet)
Pumping Rate (gal/min)
Elapsed Time (Sec)
-0.150
-0.100
-0.050
0.000
0.050
0.100
0.150
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0
300
600
900
1,200
1,500
1,800
2,100
2,400
2,700
3,000
Water Level Measurement
Water Level (20sec Mean)
Pumping Rate (gpm)


Low Flow Single Well Pumping Test: MW-9
-0.020
0.000
0.020
0.040
0.060
0.080
0.100
0.120
0.140
Drawdown (feet)
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
Pumping Rate (gal/min)
0
300
600
900
1,200
1,500
1,800
2,100
2,400
Elapsed Time (Sec)
Water Level Measurement
Water Level (20sec Mean)
Pumping Rate (gpm)

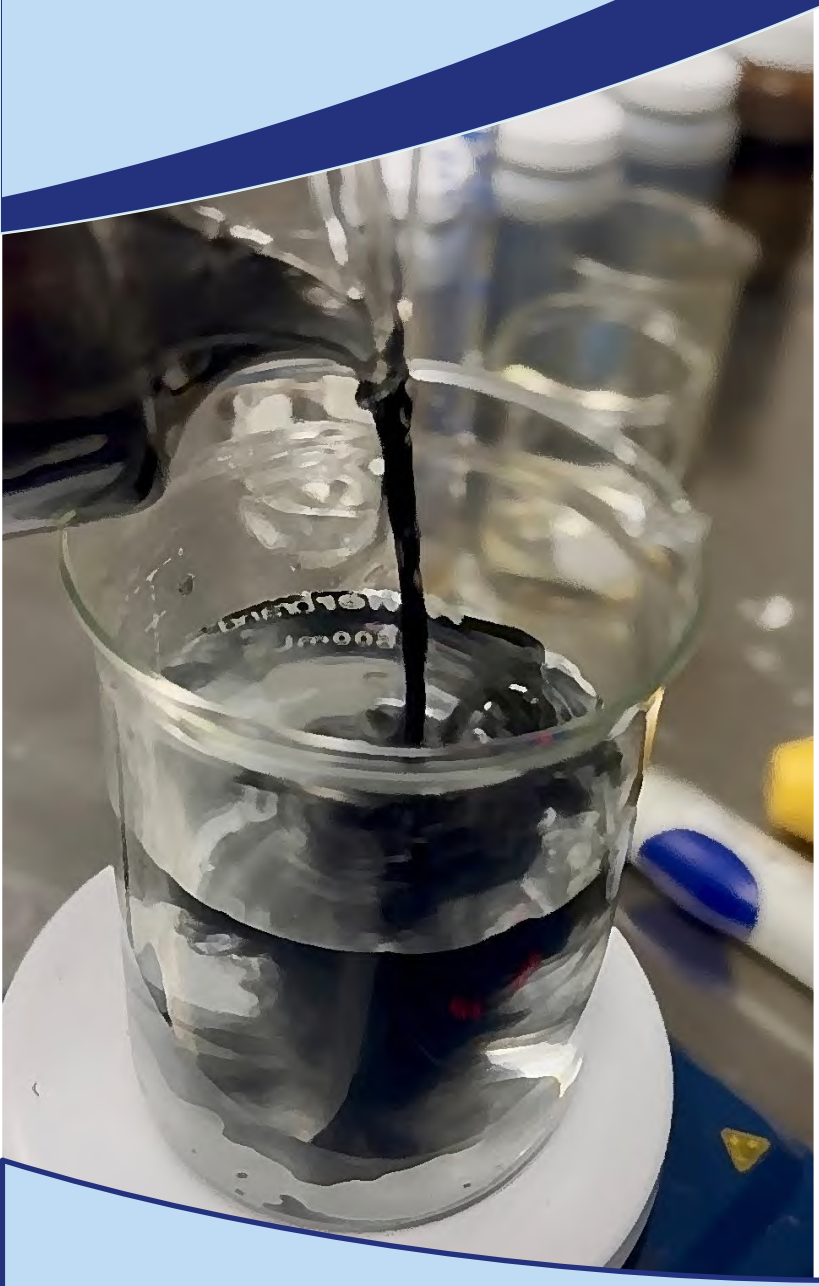

Low Flow Single Well Pumping Test: MW-11s
Drawdown (feet)
-0.080
-0.060
-0.040
-0.020
0.000
0.020
0.040
0.060
0.080
0.100
0.120
Pumping Rate (gal/min)
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
0
300
600
900
1,200
1,500
1,800
2,100
2,400
2,700
3,000
3,300
3,600
3,900
Elapsed Time (Sec)
Water Level Measurement
Water Level (20sec Mean)
Pumping Rate (gpm)


Low Flow Single Well Pumping Test: MW-11m
Drawdown (feet)
-0.010
0.000
0.010
0.020
0.030
0.040
0.050
0.060
0.070
0.080
Pumping Rate (gal/min)
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
0
300
600
900
1,200
1,500
1,800
2,100
2,400
Elapsed Time (Sec)
Water Level Measurement
Water Level (20sec Mean)
Pumping Rate (gpm)

APPENDIX G
PERMEABLE REACTIVE BARRIER LAB DEMONSTRATION RESULTS

DualSorb™

Powerful PFAS Binding



New Technology for 2025

Redox Tech is excited to introduce a new technology to address PFAS with a "dual action" technology for sorption of long and short chain PFAS compounds from water.

DualSorb™ Features:

- ✓ Combination sorptive carbon and Ion Exchange Resin
- ✓ Binds both Long & Short Chain PFAS Compounds
- ✓ Large Particle Size for improved flow and amendment retention
- ✓ Applied *in situ* for Source Area mitigation
- ✓ Injected for Plume Control to Reduce Off-site Migration

REDOX TECH

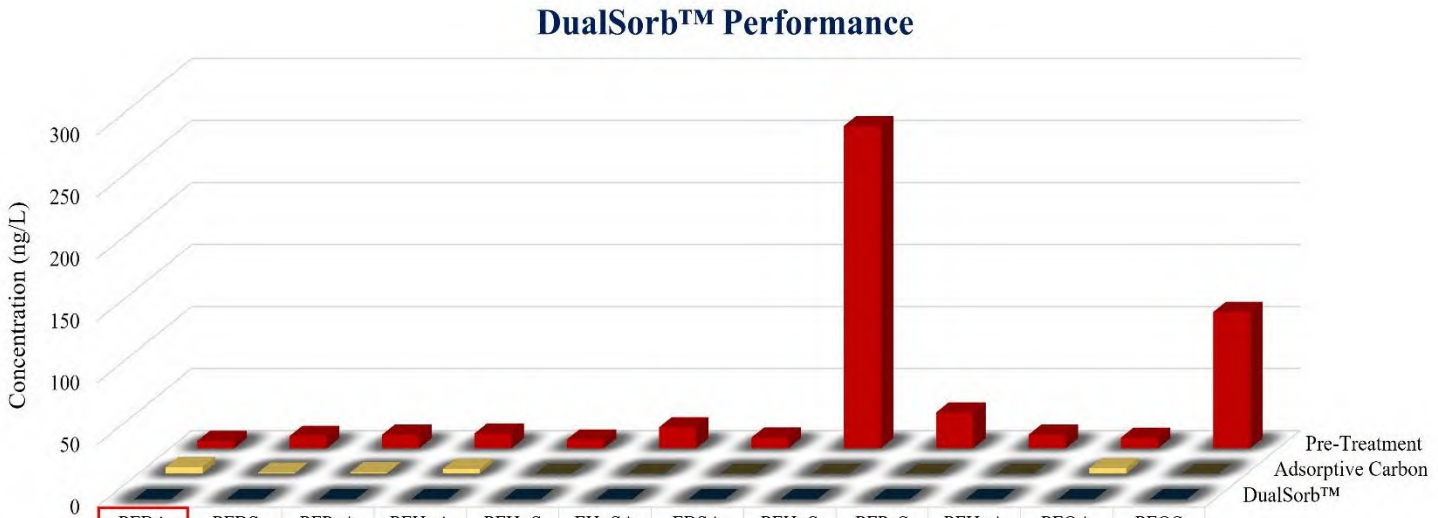
919-678-0140

www.redox-tech.com

REDOX TECH

DualSorb™ Treatability Data

Redox Tech completed a batch treatability study using DualSorb™ on PFAS impacted water. The results below show the effectiveness of DualSorb™ over conventional adsorptive carbon. Carbon is known to be less effective on some PFAS compounds (e.g. PFBA), but in this test DualSorb™ completely removes all compounds. This data will be used to support a pilot scale test in May 2025 and full-scale test in Fall 2025.



	PFBA	PFBS	PFPeA	PFHxA	PFHpS	FHxSA	FBSA	PFHxS	PFPeS	PFHpA	PFOA	PFOS
DualSorb™	0	0	0	0	0	0	0	0	0	0	0	0
Adsorptive Carbon	5.4	0.96	1.2	3.9	0	0	0	0	0	0	4.6	0
Pre-Treatment	6	10	11	12	7.1	17	8.7	260	29	11	8.6	110

"0" – Below Detection

919-678-0140
www.redox-tech.com

APPENDIX H

DUALSORB PERMEABLE REACTIVE BARRIER MEDIA INFORMATION AND CAP DETAILS

June 11, 2025

John Haselow
Redox Tech
200 Quade Dr
Cary, NC 27513

Subject: Source Materials of BAM Ultra

Dear John,

This letter is intended to provide information on the source materials that comprise Bioavailable Absorbent Material (BAM). The three source materials are coconut shells, pecan shells, and softwood.

Sincerely,



Scott Craig
Principal
ORIN Technologies, LLC.

Disclaimer
Unauthorized duplication of any section or design concept contained within this document without the express written or verbal consent of ORIN is strictly prohibited.



BAM-Bioavailable Absorbent Media

- Immediate clean up of groundwater through absorption
- Effective on wide range of hydrocarbons, chlorinated solvents, and some heavy metals
- Absorbed contaminants are treated biologically, and can be additionally treated through oxidation or chemical reduction
- Long lasting treatment with no additional costs after initial emplacement

Bioavailable Absorbent Media (BAM) Treatment Description

BAM is a solid rich in stable carbon (>80% fixed C) and made from clean biomass waste. BAM has diverse pore sizes with a minimum total surface area of 135 square meters per gram. It has a high cation exchange capacity and a half-life of 500 years. BAM has numerous synergistic qualities and is relatively affordable in large quantities for remediation purposes. It has the ability to provide ample usable surface area for maximizing microbial colonization and thereby an active microbial community. Due to its diverse pores, BAM also has the unique ability to provide refugia for the different strains of microbes required in multi-contaminated environments. Most importantly, BAM's affinity for organic and inorganic compounds supports maximum contact (i.e., bioavailability through high sorbency) with microbes allowing for complete degradation.

A variety of chemical treatments can be employed simultaneously to enhance the rate of contaminant destruction. Chemical oxidation or chemical reduction work more effectively than traditional methods due to the increased contact between the treatment chemistry and the adsorbed contaminant. In addition to contaminant degradation on the adsorption site, chemical treatment addresses residual contaminant that is bound to the soil. This approach treats not just the groundwater but the soil as well.

In a lab study ORIN treated petroleum impacted soil and groundwater with BAM alone, and BAM combined with other chemical reagents. BAM alone cleaned up the water portion of the sample from a baseline of 35 ppm total petroleum constituents to non-detect. Results in the soil phase were less impressive with BAM alone. However, the combination of BAM and other chemical reagents achieved non-detect results in the groundwater, and approximately 80% reduction in the soil fraction.

For more information on BAM contact:

Larry Kinsman
(608) 445-7707

SDS	Safety Data Sheet

Section I Chemical Product and Company Identification

Product Name	BAM Ultra
Synonyms	BAM Ultra-MILLED
CAS Number	7440-44-0
Active Ingredients	Pyrolyzed Cellulosic Material
Recommended Use	Soil Stabilization, Remedial Activities
Restrictions on Use	None
Formulated by	ORIN Technologies, LLC
Address	405 Investment Court, Verona, WI 53593 USA
Emergency Phone Number	**8 AM-5PM CST**: 608-838-6699 **5 PM -8 AM CST, Weekends, Holidays**: 262-821-7024

Section II Hazard(s) Identification



Signal Word	Warning
Hazard Statements	May cause Respiratory Irritation May form combustible dust concentrations in air
Precautionary Statements - Prevention	Do not breathe dust, fume, gas Wash thoroughly after handling Use only outdoors or in a well-ventilated area Wear gloves, eye, respiratory protection, face protection, and protective clothing
Precautionary Statement – Response	IF ON SKIN – Wash with plenty of soap and water IF INHALED – Remove victim to fresh air and keep at rest position comfortable for breathing. IF IN EYES –Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing Call a POISON CENTER or doctor if you feel unwell If skin irritation occurs: Get medical advice or attention. If eye irritation persists: Get medical advice or attention. If respiratory irritation persists: Get medical advice or attention. Take off contaminated clothing and wash before reuse.
Storage	Store in a well ventilated place. Keep container tightly closed. Store in a secure manner.

Exposure Limits	**Synergistic Products**	**Sensitization/Irritancy:**	**Carcinogenicity/Teratogenicity/ Mutagenicity/Reproductive Effects:**
ND	ND	ND	None Known

Section III Composition and Information on Ingredients

Chemical Name	CAS#	wt/wt %
Carbon (Wood Derived)	7440-44-00	85-95 (dry basis)
Minerals (Wood Derived)	N/A	5-15 (dry basis)
Water	7780-20-0	20-40%

Hazardous Ingredients: NONE

Section IV First Aid Measures

Skin	Prolonged contact with skin may result in slight irritation/redness in sensitive individuals. Seek medical attention if persists. Wash with soap and water. Not expected to be harmful under normal conditions of use.
Eyes	May irritate the eyes and cause watering and redness in sensitive individuals. Rinse thoroughly with plenty of water to remove foreign bodies. Seek medical attention if persists.
Inhalation	Inhalation of dust may irritate nose, throat, and lungs. May aggravate pre-existing conditions. Remove affected person to fresh air. Seek medical attention if persists.
Ingestion	If suffering gastrointestinal discomfort, treat symptomatically. Do not ingest.

Section V Fire-Fighting Measures

Flammability	This product should not come into contact with naked flames.
Means of Extinguishing	Foam, Water Spray, CO_2 , Dry Chemical,
Advice for Fire Fighters	Wear self-contained breathing apparatus for firefighting if necessary

Flashpoint	NA	**Auto-Ignition Temperature**	ND
UEL	NA	**TDG Flammability Class**	ND
LEL	NA	**Hazardous Combustion Products**	NA

Section VI Accidental Release Measures

Personal Precautions, Protective Equipment, Emergency Procedures	Avoid dust formation. Avoid breathing vapors, mist, or gas. For personal protection, see Section 8
Environmental Precautions	No specific environmental precautions required.
Methods and materials for Containment and Cleanup	Sweep up and shovel. Keep in suitable, closed containers for disposal.
Reference for other sections	For disposal, see section 13.

Section VII Handling and Storage

Engineering Controls	Ventilate
Leak or Spill Procedure	Sweep up into suitable container. Prevent entry into waterways.
Handling Procedures and Equipment	Avoid direct and prolonged contact with skin
Storage Requirements	Store in a cool, well ventilated, dry place

Section VIII Exposure Controls/Personal Protection

Personal Protective Equipment	Respiratory:	Proper dust masks should be worn if prolonged use of this product is expected. Use type N95 dust masks for nuisance levels. Use respirators and components tested and approved under appropriate government standards (NIOSH).
	Eyes:	Use of safety glasses recommended to avoid contact with eyes (NIOSH).
	Gloves:	Use of gloves recommended to avoid direct skin contact.

Section IX Physical and Chemical Properties

Physical State	Solid
Odor and Appearance	Slightly earthy odor. Brown or black solid particles

Odor Threshold	NDA	Specific Gravity	1.5-2.1 for solid matrix, bulk density varies.	Evaporation Rate	NDA
Vapor Pressure	NDA	Vapor Density	NDA	Density	Varies
Boiling Point	NA	Freezing Point	NDA	pH	7-9.5
Flammability (solid, gas)	May form combustible dust concentrations in air	Explosive Properties Bar m/s	$K_{st=}$ 32 +/- 30%	Dust Explosion Class	St 1
Water Solubility	Not soluble	Auto Ignition Temp.	NDA	Relative Density	NDA
Partition Coefficient	NDA	Decomposition Temp.	NDA	Viscosity	NDA

Section X Stability and Reactivity

Chemical Stability:	Stable	Incompatibility:	Strong acids, alkalis, and oxidizing agents.
Conditions of Reactivity:	NA	Hazardous Decomposition Products:	Strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc. may result in rapid combustion. Avoid contact with strong acids.

Section XI Toxicological Information

No Data Available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section XII Ecological Information

No Data Available

Section XIII Disposal Considerations

Disposal	Sweep, vacuum or shovel material into labeled container. If at all possible, reuse product. Keep out of any bodies of water.

Section XIV Transport Information

Shipping Information	Not regulated (DOT)

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. The information and recommendations are supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ORIN Technologies, LLC. or any of its agents be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information and recommendations. No representations or warranties, either expressed or implied, of merchantability, fitness, or a particular purpose or of any other nature are made here under with respect to information or the product to which information refers.

Preparation Date:	July, 2018 MAB
Reason for Revision:	Updated Field Values

PRODUCT DATA SHEET

Purolite™ Purofine™ PFA694E

Polystyrenic Gel, Potable Water Grade

PRINCIPAL APPLICATIONS

- Removal of perfluoroalkyl substances
- Removal of polyfluoroalkyl substances

ADVANTAGES

- Very high operating capacity
- Excellent kinetics
- Reduces PFAS to non-detect levels ranging from 1 – 5 parts per trillion

SYSTEMS

- Point of Use Systems (POU)
- Point of Entry Systems (POE)
- Municipal

REGULATORY APPROVALS

- Certified by the WQA to NSF/ANSI-61 Standard

TYPICAL PACKAGING

- 1 ft³ Sack
- 25 L Sack
- 5 ft³ Drum (Fiber)
- 1 m³ Supersack
- 42 ft³ Supersack

** Reduces PFAS to non-detect levels ranging from 1 – 5 parts per trillion*

TYPICAL PHYSICAL & CHEMICAL CHARACTERISTICS:

Polymer Structure	Polystyrene crosslinked with divinylbenzene
Appearance	Spherical Beads
Functional Group	Complex Amino
Mean Diameter	675 ± 75 µm
Uniformity Coefficient (max.)	1.3
Specific Gravity	1.05
Shipping Weight (approx.)	650 - 700 g/L (40.6 - 43.8 lb/ft³)
Temperature Limit	100 °C (212.0 °F) (Cl^- form)
Temperature Limit	60 °C (140.0 °F) (OH^- form)

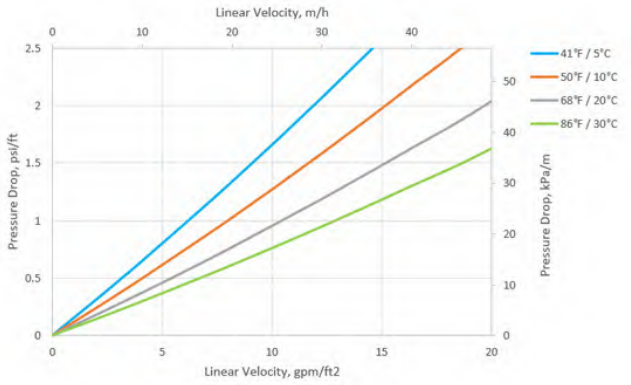
2025 Purolite
All rights reserved.

Hydraulic Characteristics

PRESSURE DROP

The pressure drop across a bed of ion exchange resin depends on the particle size distribution, bed depth, and voids volume of the exchange material, as well as on the flow rate and viscosity of the influent solution. Factors affecting any of these parameters—such as the presence of particulate matter filtered out by the bed, abnormal compressibility of the resin, or the incomplete classification of the bed—will have an adverse effect, and result in an increased head loss. Depending on the quality of the influent water, the application and the design of the plant, service flow rates may vary from 10 to 40 BV/h.

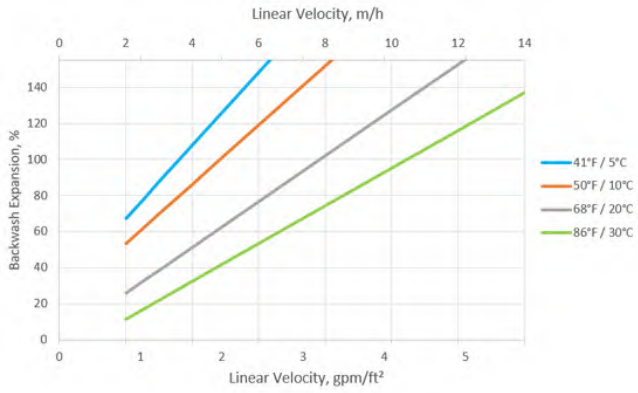
PRESSURE DROP ACROSS RESIN BED



BACKWASH

A 20 BV downflow rinse is required before the vessel is put into service. This rinse can be done onsite or offsite pre-installation. Once the resin is put into service, backwashing is not permitted as this will lead to shortened bed life.This is a uniform grade resin with beads of similar size and will not require backwashing for classification / stratification before use. If it is determined, before startup, that air bubbles or particulate matter are trapped within the bed, then backwashing can be done. In that case, the resin bed should be expanded by 50-70% for 10-15 minutes. Please note that bed expansion increases with higher flow rate and lower water temperature. Avoid loss of resin through the top of the vessel by over expansion of the bed.

BACKWASH EXPANSION OF RESIN BED



Ecolab is a global developer, manufacturer, and supplier of Purolite™ Resins including ion exchange, catalyst adsorbent and advanced polymers that make the world cleaner and healthier.

www.puroliteresins.com



We're ready to solve your process challenges.

For further information on products and services, visit www.puroliteresins.com or complete a Contact Us form via PuroliteResins.com/contact-us or use the QR code.

Contact Us Form:

The statements, technical information and recommendations contained herein are believed to be accurate as of the date hereof. Since the conditions and methods of use of the product and of the information referred to herein are beyond our control, Purolite expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information; NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE GOODS DESCRIBED OR THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement.

2025 Purolite
All rights reserved.

SAFETY DATA SHEET

1. Identification

Product identifier	**Purofine® PFA694E**
Other means of identification	None.
Recommended use	Ion Exchange, Absorbent and/or Catalyst
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier	Purolite 2201 Renaissance Boulevard Suite 400 King of Prussia, PA 19406
Telephone	+1 800.343.1500 +1 610.668.9090
Fax	+1 800.260.1065
Manufacturer	Purolite S.R.L. Str. Aleea Uzinei nr.11, 505700 Victoria Judetul Brasov Romania
Telephone	+40 268 206 300
Fax	+40 268 243 002
Manufacturer	Purolite 2201 Renaissance Boulevard Suite 400 King of Prussia, PA 19406
Telephone	+1 800.343.1500 +1 610.668.9090
Fax	+1 800.260.1065
Manufacturer	Purolite (China) Co. Limited, Qianlong Economic Development Zone, Qianyuan Town, Deqing County, Huzhou City, Zhejiang, China 313216
Telephone	+86 572 842 2908
Fax	+86 572 842 5345
Contact person	SDS Coordinator
E-mail	msds@purolite.com
1.4. Emergency telephone number	+1 866 387 7344 +1 760 602 8703

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.

Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Trade Secret, Proprietary	Trade Secret	20 - 60
Water	7732-18-5	40 - 80

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	The product is not flammable. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Dike the spilled material, where this is possible. Sweep up or vacuum up spillage and collect in suitable container for disposal. Following product recovery, flush area with water. Small Spills: Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	Protective gloves should be worn to prevent skin contact. SPECIFIC RECOMMENDATIONS. Breakthrough time: >10 minutes. Suitable gloves can be recommended by the glove supplier.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Beads.
Color	White. Yellow. Light amber. Cream.
Odor	Odorless.
Odor threshold	Not available.
pH	Neutral.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not applicable.
Vapor density	Not available.
Relative density	1.04 - 1.12
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not available.

Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Heat, sparks, flames, elevated temperatures.
Incompatible materials	Strong oxidizing agents. Nitric acid.
Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	This product is not expected to cause skin sensitization.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Further information	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential No data available.

Mobility in soil The product is insoluble in water.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

16. Other information, including date of preparation or last revision

Issue date	06-November-2020
Revision date	-
Version #	01
Further information	This mixture is exempted from Registration according to the provisions of Title II and VI and Article 2(9) of REACH.
HMIS® ratings	Health: 0 Flammability: 1 Physical hazard: 0
NFPA ratings	
List of abbreviations	vPvB: very Persistent, very Bioaccumulative.
References	ECHA CHEM
Disclaimer	The information provided in this safety data sheet is based on current knowledge about the product and current legal requirements and standards. It relates specifically to health, safety and environmental requirements and standards, may not identify all hazards associated with the product or its uses or misuses, does not signify any warranty with regard to the properties of the product, and only applies when the product is used for the purposes indicated in section 1. This product is not sold as suitable for other purposes and such other usage may cause risks not mentioned in this safety data sheet.

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 5G10016
Client Project: Truro DPW

Report Date: 11-July-2025

Prepared for:

Bryan Massa
HRP Associates
13 Court Street
Plymouth, MA 02360

Mike McCallum, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
mike.mccallum@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 07/10/25. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 5G10016. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
5G10016-01	Dual Sorb	Water	07/10/2025	07/10/2025

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Dual Sorb (Lab Number: 5G10016-01)

Analysis	Method
Dissolved Ferrous Iron	SM3500-Fe-B (11)
Dissolved Iron	EPA 6010C
Dissolved Manganese	EPA 6010C
Ferric Iron	Calculation

Method References

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Qualifier Definitions

J: Indicates an estimated value that is below the MRL but above the MDL. It is a presumptive indication that the associated analyte is present (see MDL in Additional Notes below).
U: Indicates that the analyte was not detected.
D: Indicates that the result is from an analysis that required a dilution and that, as a consequence, the MDL and MRL are elevated.
R Indicates a reanalysis (Typically when a dilution is performed or to verify an original result).
The absence of a qualifier indicates that the analyte was present at a concentration at or above the MRL.

Additional Notes

1. A result of *ND* indicates that the analyte was not detected.
2. The *MRL* is the Minimum Reporting Limit and corresponds to the minimum threshold at which the laboratory is confident that a reported result is within the constraints of the approved method a valid quantitative result. It takes into consideration practical quantitation limits as well as sample-specific characteristics.
3. The *MDL* is the Minimum Detection Limit. It is a statistic defined by regulatory statute that represents the minimum level at which the laboratory can be confident that a reported result, in an *ideal matrix like dionized water or clean sand*, is not an artifact of procedural or signal noise. Values flagged with a J qualifier should be interpreted cautiously when associated with real-world samples.
4. Certain states stipulate that Reporting Limits (MRLs) rather than Detection Limits (MDLs) be used when completing official forms. This convention is used where required.

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions: None

Results: General Chemistry

Sample: Dual Sorb

Lab Number: 5G10016-01 (Water)

Analyte	Result	Qual	Detection Limit	Reporting Limit	Units	Dilution	Date Prepared	Date Analyzed
Ferric Iron (Fe III)	ND	U	0.05	0.05	mg/L	1	07/11/25	07/11/25

Results: Dissolved General Chemistry

Sample: Dual Sorb

Lab Number: 5G10016-01 (Water)

Analyte	Result	Qual	Detection Limit	Reporting Limit	Units	Dilution	Date Prepared	Date Analyzed
Ferrous Iron (Fe II)	**0.09**		0.02	0.02	mg/L	1	07/11/25 11:00	07/11/25 11:00

Results: Dissolved Metals

Sample: Dual Sorb

Lab Number: 5G10016-01 (Water)

Analyte	Result	Qual	Detection Limit	Reporting Limit	Units	Dilution	Date Prepared	Date Analyzed
Iron	ND	U	0.050	0.050	mg/L	1	07/11/25	07/11/25
Manganese	ND	U	0.005	0.005	mg/L	1	07/11/25	07/11/25

Quality Control

Dissolved General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B5G0484 - General Chemistry										
Blank (B5G0484-BLK1)					Prepared & Analyzed: 07/11/25					
Ferrous Iron (Fe II)	ND		0.02	mg/L						
LCS (B5G0484-BS1)					Prepared & Analyzed: 07/11/25					
Ferrous Iron (Fe II)	0.99		0.02	mg/L	1.00		98.7	80-120		
Matrix Spike (B5G0484-MS1)		Source: 5G10016-01			Prepared & Analyzed: 07/11/25					
Ferrous Iron (Fe II)	1.02		0.02	mg/L	1.00	0.09	93.5	80-120		

Quality Control
(Continued)

Dissolved Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B5G0483 - Dissolved Metals										
Blank (B5G0483-BLK1)					Prepared & Analyzed: 07/11/25					
Manganese	ND		0.005	mg/L						
Iron	ND		0.050	mg/L						
LCS (B5G0483-BS1)					Prepared & Analyzed: 07/11/25					
Manganese	0.949		0.005	mg/L	1.00		94.9	85-115		
Iron	11.0		0.050	mg/L	10.0		110	85-115		
LCS Dup (B5G0483-BSD1)					Prepared & Analyzed: 07/11/25					
Manganese	0.972		0.005	mg/L	1.00		97.2	85-115	2.32	200
Iron	11.4		0.050	mg/L	10.0		114	85-115	2.91	15

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.
D	Diluted
U	Not Detected
J	Detected below reporting limit
R	Verified reanalysis

Preparative Methods

LabNumber	Analysis	Preparation	Batch
5G10016-01	Metals-RCRA-ICP-Fe-Di	Lab	B5G0483
5G10016-01	Metals-RCRA-ICP-Mn-Di	Lab	B5G0483
5G10016-01	WC-Ferric Iron	Method Defined	B5G0497
5G10016-01	WC-Ferrous-Iron-Dissolv	Method Defined	B5G0484

NEW ENGLAND TESTING LABORATORY, INC.
1254 Douglas Ave.
North Providence, RI 02904
1-888-863-8522

CHAIN OF CUSTODY RECORD

5 G 1 00169

PROJ. NO.	PROJECT NAME/LOCATION
	Truro DPW

CLIENT: HRP Associates, Inc.
REPORT TO: Bryan.Massa@hrpassociates.com
INVOICE TO: same

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TESTS: Dissolved Iron	Dissolved Ferric Iron	Dissolved Ferrous Iron	Dissolved Manganese			REMARKS
7/10/25	0800		X	DualSorb ● ● ●	X			3	N/A	X	X	X	X			DualSorb/DI water (1:4)

Sampled by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	7/10/25 1130		7/10/25 1130
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	7/10/25 1655		
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
			7/10/25 1655

Laboratory Remarks:
Temp. received: 4
Cooled ✓

Special Instructions:
List Specific Detection Limit Requirements:
Lab to filter
Limit = GW-1 / SMCL
CAM methods

Turnaround (Business Days): 1

ANALYTICAL REPORT

Lab Number:	L2538611
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501
Report Date:	07/09/25

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2538611-01	DUALSORB	WATER	TRURO	06/19/25 10:20	06/19/25

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

MADEP MCP Response Action Analytical Report Certification

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

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

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

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Case Narrative (continued)

MCP Related Narratives

Total Metals

In reference to question I:

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

Non MCP Related Narratives

Heterotrophic Plate Count

L2538611-01: The result is estimated due to the elevated concentration in the sample. Due to the expiration of the method required holding time, re-analysis could not be performed.

Iron, Ferrous

L2538611-01: The sample has an elevated detection limit due to the dilution required by the sample matrix.

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

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 07/09/25

QC OUTLIER SUMMARY REPORT

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

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

There are no QC Outliers associated with this report.

METALS

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538611
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538611-01
Client ID: DUALSORB
Sample Location: TRURO
Sample Depth:
Matrix: Water
Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Iron, Total	5.97		mg/l	0.0500	--	1	06/23/25 21:55	07/09/25 11:17	EPA 3005A	97,6010D	MFR
Manganese, Total	9.03		mg/l	0.0100	--	1	06/23/25 21:55	07/09/25 11:17	EPA 3005A	97,6010D	MFR
General Chemistry - Westborough Lab											
Iron, Ferric	6.0		mg/l	2.5	--	1		07/09/25 11:17	NA	107,-	

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538611
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG2082459-1										
Iron, Total	ND		mg/l	0.0500	--	1	06/23/25 21:55	06/24/25 16:17	97,6010D	EFM
Manganese, Total	ND		mg/l	0.0100	--	1	06/23/25 21:55	06/24/25 16:17	97,6010D	EFM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG2082459-2 WG2082459-3								
Iron, Total	120		120		80-120	0		20
Manganese, Total	117		116		80-120	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

SAMPLE RESULTS

Lab ID: L2538611-01
Client ID: DUALSORB
Sample Location: TRURO

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Heterotrophic Plate Count	12000		CFU/ml	1.0	NA	1	-	06/19/25 16:30	121,9215B	MAW
General Chemistry - Westborough Lab										
Iron, Ferrous	ND		mg/l	2.5	--	5	-	06/20/25 07:41	121,3500FE-B	CAR

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538611
Report Date: 07/09/25

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG2081136-1										
Heterotrophic Plate Count	ND		CFU/ml	1.0	NA	1	-	06/19/25 16:30	121,9215B	MAW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG2081350-1										
Iron, Ferrous	ND		mg/l	0.50	--	1	-	06/20/25 07:40	121,3500FE-B	CAR

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG2081350-2								
Iron, Ferrous	101		-		90-110	-		

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538611
Report Date: 07/09/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2538611-01A	Bacteria Cup Na2S2O3 preserved	A	NA		5.0	Y	Absent		PLATECT(.33)
L2538611-01B	Bacteria Cup Na2S2O3 preserved	A	NA		5.0	Y	Absent		PLATECT(.33)
L2538611-01C	Plastic 250ml HNO3 preserved	A	<2	<2	5.0	Y	Absent		MCP-FE-6010T-10(180),MCP-MN-6010T-10(180)
L2538611-01D	Plastic 120ml unpreserved	A	7	7	5.0	Y	Absent		FERROUS(1)

*Values in parentheses indicate holding time in days

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538611
Project Number:	TRU2501	**Report Date:**	07/09/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TRURO DPW **Lab Number:** L2538611

Project Number: TRU2501 **Report Date:** 07/09/25

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSCCAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010; WSC-CAM-IIIA and IIID, January 2024; WSC-CAM-IIIB and VA, February 2024; WSC-CAM-VB and VC, April 2024; and WSC-CAM-VIA, VIB, IXA, and IXB, October 2024.

107 Calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/19/25

ALPHA Job #: L2538611

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Truro DPW
Project Location: Truro
Project #: TRU2501
Project Manager: Bryan Massa
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

Client: HRP Associates
Address: 13 Court St
Plymouth MA 02360
Phone: 781-293-1527
Email: bryan.massa@hrpassociates.com

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

ANALYSIS

- VOC: ☐ 8260 ☐ 624 ☐ 524.2
- SVOC: ☐ ABN ☐ PAH
- METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
- METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
- EPH: ☐ Ranges & Targets ☐ Ranges Only
- VPH: ☐ Ranges & Targets ☐ Ranges Only
- ☐ PCB ☐ PEST
- TPH: ☐ Quant Only ☐ Fingerprint
- Ferric & Ferrous Iron
- Manganese
- Heterotrophic Plate Count

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do
Sample Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	Ferric & Ferrous Iron	Manganese	Heterotrophic Plate Count	Sample Comments	TOTAL # BOTTLES
38611-01	Dualsand	6/19/25	10:20	PFAS free water	BSM									X	X	X		

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_3$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	6/19/25 1143	JAVO	6-19-25 11:45
	6-19-25 15:15		

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Sample Delivery Group Summary

Pace Job Number : L2538611

Account Name : HRP Associates,Inc
Project Number : TRU2501
Project Name : TRURO DPW

Received : 19-JUN-2025
Reviewer : Chris Tebeau

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	5.0	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ANALYTICAL REPORT

Lab Number:	L2538612
Client:	HRP Associates,Inc 13 Court Street Plymouth, MA 02360
ATTN:	Bryan Massa
Phone:	(781) 210-9840
Project Name:	TRURO DPW
Project Number:	TRU2501
Report Date:	07/02/25

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

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2538612-01	DUALSORB	WATER	TRURO	06/19/25 10:20	06/19/25
L2538612-02	FIELD BLANK	WATER	TRURO	06/19/25 10:30	06/19/25

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Case Narrative

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

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

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

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

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

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

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by 1633

L2538612-01: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2538612-01RE: The sample was re-extracted at lesser volume due to EIS failure in the original extraction. The results of the re-extraction are reported for the associated target compounds.

L2538612-01: The Extracted Internal Standard recoveries were below the acceptance criteria for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (39%); however, the associated target analytes are not reported from this analysis.

The WG2085390-2 LCS recovery associated with L2538612-01RE is above the acceptance criteria for 3-perfluoropropyl propanoic acid (3:3ftca) (133%); however this compound is not reported in the associated sample.

The WG2085390-3 LCS recovery associated with L2538612-01RE is above the acceptance criteria for 3-perfluoropropyl propanoic acid (3:3ftca) (132%); however, this compound is not reported in the associated sample.

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

Authorized Signature: Ashley Leitao Ashley Leitao

Title: Technical Director/Representative Date: 07/02/25

ORGANICS

SEMIVOLATILES

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01
Client ID: DUALSORB
Sample Location: TRURO

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 06/27/25 21:01
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	64.0	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	32.0	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	16.0	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	64.0	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	16.0	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	16.0	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	16.0	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	16.0	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	16.0	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	64.0	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	16.0	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	16.0	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	16.0	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	16.0	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	64.0	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	16.0	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	16.0	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	16.0	--	1
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	16.0	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	16.0	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	16.0	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	16.0	--	1
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	16.0	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	64.0	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	64.0	--	1
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	16.0	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	64.0	--	1

Project Name: TRURO DPW **Lab Number:** L2538612

Project Number: TRU2501 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 Date Collected: 06/19/25 10:20

Client ID: DUALSORB Date Received: 06/19/25

Sample Location: TRURO Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	64.0	--	1
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	16.0	--	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	16.0	--	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	160	--	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	160	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	32.0	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	32.0	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	32.0	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	32.0	--	1
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	80.0	--	1
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	400	--	1
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	400	--	1

Project Name: TRURO DPW **Lab Number:** L2538612

Project Number: TRU2501 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 Date Collected: 06/19/25 10:20

Client ID: DUALSORB Date Received: 06/19/25

Sample Location: TRURO Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	78		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	79		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	62		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	57		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	79		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	75		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	63		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	80		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	55		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	78		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	62		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	73		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	51		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	**39**	Q	40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	75		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	71		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	39		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	66		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	42		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	60		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	63		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	71		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70		10-130

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 RE
Client ID: DUALSORB
Sample Location: TRURO

Sample Depth:
Matrix: Water
Analytical Method: 145,1633
Analytical Date: 07/02/25 08:13
Analyst: AC

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab						
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	160	--	1

Project Name: TRURO DPW **Lab Number:** L2538612

Project Number: TRU2501 **Report Date:** 07/02/25

SAMPLE RESULTS

Lab ID: L2538612-01 RE
Client ID: DUALSORB
Sample Location: TRURO

Date Collected: 06/19/25 10:20
Date Received: 06/19/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	91		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	86		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	85		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	76		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	93		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	76		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	82		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	71		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	84		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	81		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	59		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	61		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	84		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	62		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	58		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	76		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	57		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	66		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	72		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	77		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	79		10-130

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2084242-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2084242-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 06/27/25 19:40
Analyst: SL

Extraction Method: EPA 1633
Extraction Date: 06/27/25 10:42

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2084242-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	102		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	105		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	97		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	86		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	103		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	95		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	102		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	92		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	103		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	100		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	97		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	93		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	79		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	106		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	72		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	81		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	80		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	50		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	54		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	70		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	68		10-130

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 07:10
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2085390-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	6.40	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	3.20	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	6.40	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.60	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.60	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.60	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.60	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	6.40	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.60	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.60	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.60	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.60	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	6.40	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.60	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.60	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.60	--
Perfluorooctanesulfonamide (PFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.60	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.60	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.60	--
Perfluorotetradecanoic Acid (PFTeDA)	ND		ng/l	1.60	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	6.40	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	6.40	--
Perfluorododecanesulfonic Acid (PFDoS)	ND		ng/l	1.60	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 07:10
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2085390-1					
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	6.40	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	6.40	--
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	1.60	--
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	1.60	--
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	16.0	--
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	16.0	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	3.20	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	3.20	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	3.20	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	3.20	--
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	ND		ng/l	8.00	--
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	ND		ng/l	40.0	--
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	ND		ng/l	40.0	--

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 145,1633
Analytical Date: 07/02/25 07:10
Analyst: AC

Extraction Method: EPA 1633
Extraction Date: 06/30/25 02:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab for sample(s): 01 Batch: WG2085390-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	99		5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	96		40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	107		40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	78		40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	111		40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	93		40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	98		40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	79		40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	101		40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	89		40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94		40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	72		40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	73		40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	93		30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	68		40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	71		25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	83		10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	61		10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100		40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	56		10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59		10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	88		10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	96		10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	108		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	100		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	111		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	99		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	105		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	104		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	107		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	103		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	117		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	101		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	106		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	78		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	113		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	112		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	73		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	110		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	113		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	106		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	104		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	105		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	112		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	72		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	107		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	82		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	103		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	99		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	97		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	104		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	104		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	96		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	130		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	105		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	95		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	103				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	109				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	107				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	89				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	113				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	114				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	102				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	94				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	106				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	105				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	75				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	92				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	73				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	69				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	77				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	58				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	107				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	55				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	59				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-3								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	107		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	110		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	103		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	112		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	100		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	112		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	108		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	112		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	115		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	101		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	105		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	90		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	109		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	111		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	84		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	102		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	105		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-3								
Perfluorododecanoic Acid (PFDoA)	122		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	114		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	108		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	101		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	128		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	86		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	120		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	99		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	102		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	102		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	113		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	118		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	99		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	107		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	103		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	100		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	118		-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	109		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	92		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2084242-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	87				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	90				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	80				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	68				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	92				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	90				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	78				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	89				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	72				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	91				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	83				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	94				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	69				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	71				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	91				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	68				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	60				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	76				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	57				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	51				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	54				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	69				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	70				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-2 LOW LEVEL								
Perfluorobutanoic Acid (PFBA)	113		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	111		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	96		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	96		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	97		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	103		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	105		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	103		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	102		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	111		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	119		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	105		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	114		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	102		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	106		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	88		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	117		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	98		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	83		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	112		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	88		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-2 LOW LEVEL								
Perfluorododecanoic Acid (PFDoA)	107		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	101		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	109		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	109		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	140		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	74		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	122		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	93		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	65		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	74		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	108		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	114		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	98		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	111		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	108		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	107		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	**133**	Q	-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	106		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	91		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	Low Level LCS %Recovery	Qual	Low Level LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-2 LOW LEVEL								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	120				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	118				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	134				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	108				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	123				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	108				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	117				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	126				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	99				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	126				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	101				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	104				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	77				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	71				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	100				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	85				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	70				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	82				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	62				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	122				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	75				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	77				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	98				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	98				10-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-3								
Perfluorobutanoic Acid (PFBA)	106		-		70-140	-		30
Perfluoropentanoic Acid (PFPeA)	103		-		65-135	-		30
Perfluorobutanesulfonic Acid (PFBS)	109		-		60-145	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	104		-		70-145	-		30
Perfluorohexanoic Acid (PFHxA)	99		-		70-145	-		30
Perfluoropentanesulfonic Acid (PFPeS)	109		-		65-140	-		30
Perfluoroheptanoic Acid (PFHpA)	106		-		70-150	-		30
Perfluorohexanesulfonic Acid (PFHxS)	105		-		65-145	-		30
Perfluorooctanoic Acid (PFOA)	105		-		70-150	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	104		-		65-155	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	98		-		70-150	-		30
Perfluorononanoic Acid (PFNA)	109		-		70-150	-		30
Perfluorooctanesulfonic Acid (PFOS)	104		-		55-150	-		30
Perfluorodecanoic Acid (PFDA)	99		-		70-140	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		-		60-150	-		30
Perfluorononanesulfonic Acid (PFNS)	88		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	96		-		50-140	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		70-145	-		30
Perfluorodecanesulfonic Acid (PFDS)	93		-		60-145	-		30
Perfluorooctanesulfonamide (PFOSA)	102		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	97		-		70-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-3								
Perfluorododecanoic Acid (PFDoA)	97		-		70-140	-		30
Perfluorotridecanoic Acid (PFTrDA)	106		-		65-140	-		30
Perfluorotetradecanoic Acid (PFTeDA)	107		-		60-140	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	106		-		70-140	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	127		-		65-145	-		30
Perfluorododecanesulfonic Acid (PFDoS)	82		-		50-145	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	119		-		70-155	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	105		-		55-160	-		30
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	67		-		60-150	-		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	71		-		65-145	-		30
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	106		-		70-145	-		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	110		-		70-135	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	96		-		55-140	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	106		-		60-150	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	108		-		70-140	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	91		-		50-150	-		30
3-Perfluoropropyl Propanoic Acid (3:3FTCA)	**132**	Q	-		65-130	-		30
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)	107		-		70-135	-		30
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)	102		-		50-145	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 1633 - Mansfield Lab Associated sample(s): 01 Batch: WG2085390-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[13C4]Butanoic Acid (13C4-PFBA)	104				5-130
Perfluoro-n-[13C5]Pentanoic Acid (13C5-PFPeA)	100				40-130
Perfluoro-1-[2,3,4-13C3]Butanesulfonic Acid (13C3-PFBS)	105				40-135
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Hexanesulfonic Acid (13C2-4:2FTS)	83				40-200
Perfluoro-n-[1,2,3,4,6-13C5]Hexanoic Acid (13C5-PFHxA)	106				40-130
Perfluoro-n-[1,2,3,4-13C4]Heptanoic Acid (13C4-PFHpA)	99				40-130
Perfluoro-1-[1,2,3-13C3]Hexanesulfonic Acid (13C3-PFHxS)	99				40-130
Perfluoro-n-[13C8]Octanoic Acid (13C8-PFOA)	93				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Octanesulfonic Acid (13C2-6:2FTS)	81				40-200
Perfluoro-n-[13C9]Nonanoic Acid (13C9-PFNA)	98				40-130
Perfluoro-1-[13C8]Octanesulfonic Acid (13C8-PFOS)	95				40-130
Perfluoro-n-[1,2,3,4,5,6-13C6]Decanoic Acid (13C6-PFDA)	99				40-130
1H,1H,2H,2H-Perfluoro-1-[1,2-13C2]Decanesulfonic Acid (13C2-8:2FTS)	84				40-300
N-Methyl-d3-perfluoro-1-octanesulfonamidoacetic Acid (D3-NMeFOSAA)	76				40-170
Perfluoro-n-[1,2,3,4,5,6,7-13C7]Undecanoic Acid (13C7-PFUnA)	101				30-130
Perfluoro-1-[13C8]Octanesulfonamide (13C8-PFOSA)	75				40-130
N-Ethyl-d5-perfluoro-1-octanesulfonamidoacetic Acid (D5-NEtFOSAA)	69				25-135
Perfluoro-n-[1,2-13C2]Dodecanoic Acid (13C2-PFDoA)	92				10-130
Perfluoro-n-[1,2-13C2]Tetradecanoic Acid (13C2-PFTeDA)	69				10-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	101				40-130
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (D3-NMeFOSA)	61				10-130
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (D5-NEtFOSA)	64				10-130
N-Methyl-d7-Perfluorooctanesulfonamidoethanol (D7-NMeFOSE)	90				10-130
N-Ethyl-d9-Perfluorooctanesulfonamidoethanol (D9-NEtFOSE)	91				10-130

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2538612-01A	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		A2-1633(28)
L2538612-01B	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		A2-1633(28)
L2538612-02A	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		HOLD-1633(28)
L2538612-02B	Plastic 500ml unpreserved	A	NA		5.0	Y	Absent		HOLD-1633(28)

*Values in parentheses indicate holding time in days

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TRURO DPW
Project Number: TRU2501

Lab Number: L2538612
Report Date: 07/02/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

GLOSSARY

Acronyms

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

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TRURO DPW	**Lab Number:**	L2538612
Project Number:	TRU2501	**Report Date:**	07/02/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TRURO DPW
Project Number: TRU2501
Lab Number: L2538612
Report Date: 07/02/25

REFERENCES

145 Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. EPA Method 1633, EPA 821-R-24-001, January 2024.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

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

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY JY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 3090, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/19/25

ALPHA Job #: L2538612

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: ItraP Associates

Address: 13 Court Street

Plymouth MA 02360

Phone: bryan.massa@itrpassociates.com

Email: Tel 213-1527

Project Information

Project Name: Truro DPW

Project Location: Truro

Project #: TRU2501

Project Manager: Bryan Massa

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods

☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

☒ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)

☐ Yes ☐ No NPDES RGP

☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

* Analyze Field Blank if PFAS detected in Duelsorb Sample

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	ANALYSIS: PFAS 1633	SAMPLE INFO: Sample Comments	TOTAL # BOTTLES
38612-01	DUELSORB	6/19/25	10:20	PFAS free water	RDM	X		
-02	Field Blank *	6/19/25	10:30	↓	↓		*	

Container Type							P														
Preservative																					

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	6/19/25 1143	DAVIS	6-19-25 11:43
	6-19-25 13:15		6/19/25 13:15
	6/19/25		6/19/25 1507
	6/19/25 1652		6/19/25 1652

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Sample Delivery Group Summary

Pace Job Number : L2538612

Account Name : HRP Associates,Inc
Project Number : TRU2501
Project Name : TRURO DPW

Received : 19-JUN-2025
Reviewer : Dylan LeBlanc

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	5.0	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

BAM Injection – Per- and polyfluoroalkyl substances (PFAS)

Former Tannery – Northeast Michigan

Project Profile: Former Tannery – Northeast Michigan

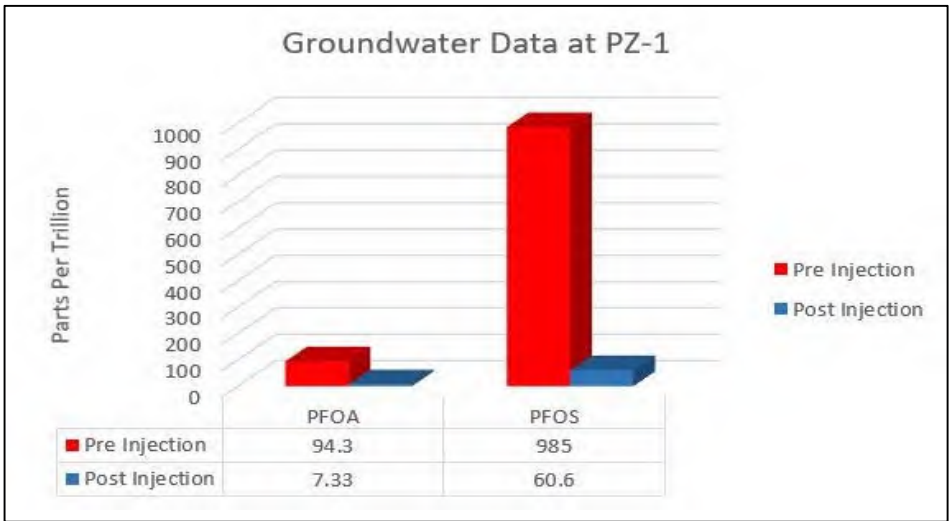
Contaminants: Perfluorooctanoic Acid (PFOA): 94.3 ng/L
Perfluorooctyl Sulfonate (PFOS): 985 ng/L

Treatment Chemistry: BAM (Bioavailable Absorbent Media)

Impacted Matrix: Silty Sands with Organics



Project Summary: ORIN conducted a pilot test to treat groundwater contaminated with PFAS using BAM, a pyrolized cellulosic material. BAM was mixed with water and injected through 46 DPT points encompassing PZ-1 and MW-5. A total of 4,445 gallons of BAM solution was injected through the 46 points. During injection activities, BAM was observed in PZ-1. BAM treatment chemistry was administered via DPT.



Project Results: Baseline samples were taken prior to treatment to characterize the contaminant level and compare treatment reductions. Current EPA standards for PFOA and PFOS are 70 ng/L. One week following injection a round of sampling was completed. At PZ-1, initial concentrations of PFOA and PFOS were 94.3 and 985 ng/L respectively. One week post injection PFOA and PFOS concentrations are 7.33 and 60.6 ng/L respectively. This results in a 92.2% reduction in PFOA and a 93.8% reduction in PFOS.

Phone: 608-838-6699
Fax: 608-838-6695
ORIN Technologies, LLC.
405 Investment Ct, Verona, WI 53593
Email: lkinsman@orinrt.com
Web: www.orinrt.com

BAM Injection – Per- and polyfluoroalkyl substances (PFAS)

Former Tannery – Northeast Michigan

Project Profile: Former Tannery – Northeast Michigan

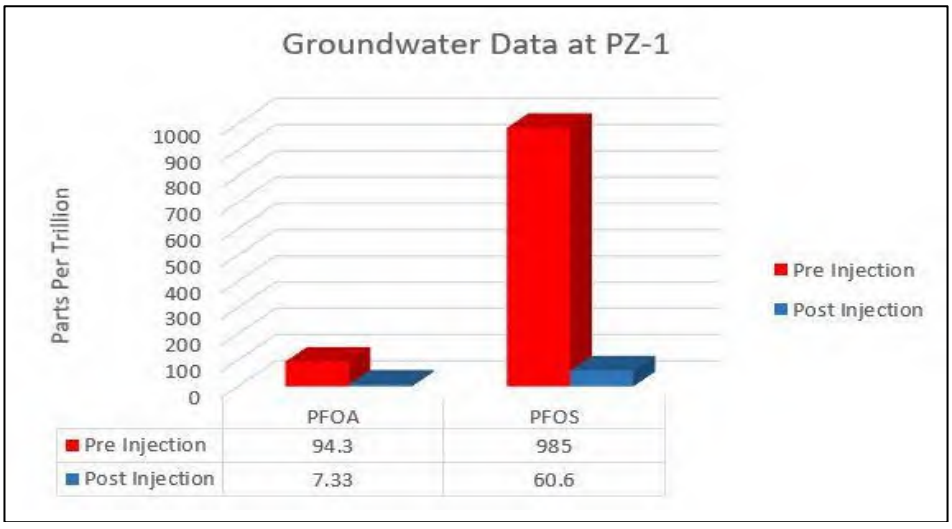
Contaminants: Perfluorooctanoic Acid (PFOA): 94.3 ng/L
Perfluorooctyl Sulfonate (PFOS): 985 ng/L

Treatment Chemistry: BAM

Impacted Matrix: Silty Sands with Organics



Project Summary: ORIN conducted a pilot test to treat groundwater contaminated with PFAS using BAM, a pyrolized cellulosic material. BAM was mixed with water and injected through 46 DPT points encompassing PZ-1 and MW-5. A total of 4,445 gallons of BAM solution was injected through the 46 points. During injection activities, BAM was observed in PZ-1. BAM treatment chemistry was administered via DPT.



Project Results: Baseline samples were taken prior to treatment to characterize the contaminant level and compare treatment reductions. Current EPA standards for PFOA and PFOS are 70 ng/L. One week following injection a round of sampling was completed. At PZ-1, initial concentrations of PFOA and PFOS were 94.3 and 985 ng/L respectively. One week post injection PFOA and PFOS concentrations are 7.33 and 60.6 ng/L respectively. This results in a 92.2% reduction in PFOA and a 93.8% reduction in PFOS.

Phone: 608-838-6699
Fax: 608-838-6695
ORIN Technologies, LLC.
405 Investment Ct, Verona, WI 53593
Email: lkinsman@orinrt.com
Web: www.orinrt.com

In-situ Treatment of PFAS

Airport—Midwest

BAM with Enhanced Bioremediation

Exceeds 96% Reduction

Project Summary: The airport tested the AFFF nozzle system every 6 months into grassy areas along the air strip. Across from the injection site, there are 9 potential release locations where PFAS may have been utilized including hangars, fire stations, storage areas, and firefighting equipment testing areas.

ORIN identified an approximate 1,600 sq-ft area to perform an injection event to remediate PFAS in groundwater. Four wells were installed prior to injection in order to characterize the groundwater concentrations and parameters. One well (PW-1) is in the center of the treatment area while the other three are around the perimeter. ORIN utilized a combination of BAM Ultra, Calcium peroxide, and PFAS Degrading Bacteria for 17 injection locations. ORIN utilized vacuum extraction as part of the injection process to assist in treatment chemical distribution. By coordinating the injection locations and rates with extraction, hydraulic movement of the groundwater can be controlled during the treatment amendment application.

Site Conditions:

Groundwater Contaminants—
Average PFAS: 31,014 ng/L

Impacted Matrix—
Sand and Sandy Silts
Surface to 25 ft-bgs

Treatment Chemistry—
BAM Ultra,
Calcium peroxide, and
PFAS Degrading Bacteria



*BAM in soil cuttings while drilling to install electrodes



Following the injection event, ORIN installed six electrodes in a grid like pattern and at a depth matching the injection interval. The electrodes utilize electrokinetic and electrochemical reactions to generate oxygen within the subsurface. The generation of oxygen is necessary for the aerobic PFAS Degrading Bacteria. ORIN has since been collecting groundwater parameter data and groundwater samples for PFAS analysis.

Email: info@orinrt.com
Phone: 608-838-6699
Fax: 608-838-6695

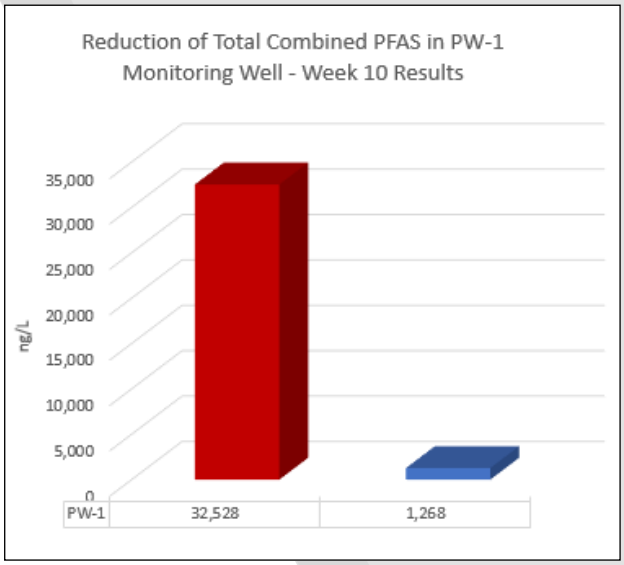
ORINRT.COM
405 Investment Court
Verona, WI 53593

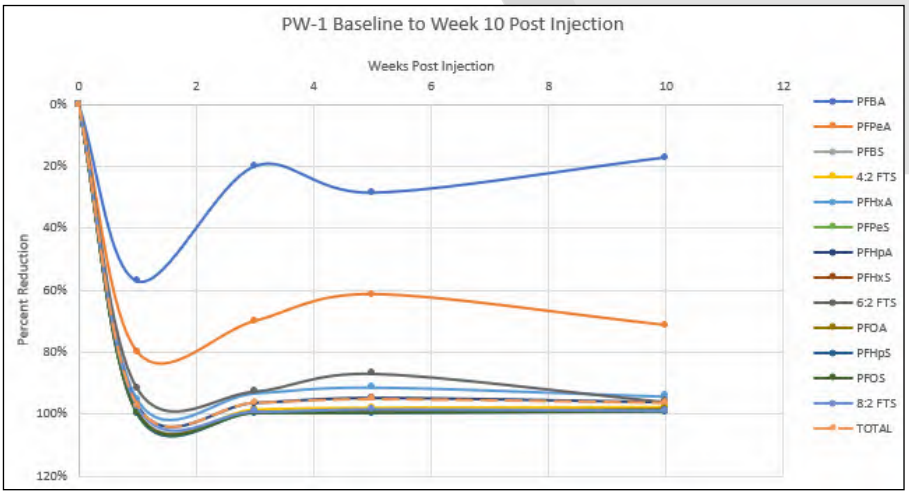
In-situ Treatment of PFAS

Airport—Midwest

Groundwater Parameters: ORIN has collected groundwater parameters of the site for depth to water, pH, ORP, dissolved oxygen (DO), conductivity, total dissolved solids, and temperature. The DO levels were lower prior to the injection event. Only PW-2 had a DO concentration above 1 mg/L. With Calcium peroxide added to the treatment chemistry, DO immediately spiked post injection with high concentrations around 27 mg/L. These elevated DO levels have since tapered off (PW-1 and PW-2 to 2.44 mg/L and 1.83 mg/L respectively). The DO in PW-1 remains most elevated due to its inclusion within the area of effect for the electrode oxygen generation system. ORIN believes the rapid drop in DO is due to oxygen consumption by the PFAS Degrading Bacteria.

Project Results: The baseline total PFAS levels were 32,528 ng/L before injection. The PFAS levels 10 weeks after treatment were 1,268 ng/L. The decrease in total PFAS is greater than 96%. The line graph below shows the trends of each detectable PFAS compound since the injection event. The perimeter wells outside but adjacent of the injection area have also seen a combined reduction of 72% by 10 weeks. The oxygen generation system continues to supply oxygen consumed by the microbial activity.







Email: info@orinrt.com
Phone: 608-838-6699
Fax: 608-838-6695

ORINRT.COM
405 Investment Court
Verona, WI 53593

EPA Public Access
Author manuscript
ACS ES T Water. Author manuscript; available in PMC 2024 January 19.
About author manuscripts | Submit a manuscript

Published in final edited form as:
ACS ES T Water. 2023 January 19; 3(2): 576–587. doi:10.1021/acsestwater.2c00572.

Anion Exchange Resin and Inorganic Anion Parameter Determination for Model Validation and Evaluation of Unintended Consequences during PFAS Treatment

Samantha J. Smith,
Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States; Department of Chemical and Environmental Engineering, University of Cincinnati, Cincinnati, Ohio 45221, United States

David G. Wahman,
Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States

Eric J. Kleiner,
Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States

Gulizhaer Abulikemu,
Pegasus Technical Services, Inc., Cincinnati, Ohio 45268, United States

Eva K. Stebel,
Pegasus Technical Services, Inc., Cincinnati, Ohio 45268, United States

Brooke N. Gray,
Oak Ridge Institute for Science and Education, Cincinnati, Ohio 45268, United States

Boris Datsov,
Oak Ridge Associated Universities, Cincinnati, Ohio 45268, United States

Brian C. Crone,
Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States

Rose D. Taylor,
Oak Ridge Institute for Science and Education, Cincinnati, Ohio 45268, United States; Present Address: University of Maryland, Baltimore County, Baltimore, Maryland 21250, United States

Corresponding Author Levi M. Haupert – Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States; Phone: (513) 569-7921; Haupert.Levi@epa.gov.

Author Contributions

The manuscript was written through contributions of all authors. All authors have given approval to the final version of the manuscript.

The authors declare no competing financial interest.

Supporting Information

The Supporting Information is available free of charge at https://pubs.acs.org/doi/10.1021/acsestwater.2c00572.
Experimental methods for resin conditioning and characterization, materials, batch experiments, column experiments, selectivity determination, and the homogenous surface diffusion model (Section S1); results and discussion for batch binary kinetic experiments, batch binary isotherm experiments, column experiments, corrosion-related parameters, and column model validation (Section S2); 19 tables; 15 figures; and associated references (PDF)

EPA Author Manuscript
EPA Author Manuscript
EPA Author Manuscript

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

Erika Womack,
Oak Ridge Institute for Science and Education, Cincinnati, Ohio 45268, United States; Present Address: Procter & Gamble Company, Cincinnati, Ohio 45202, United States

Cameron X. Gastaldo,
Oak Ridge Institute for Science and Education, Cincinnati, Ohio 45268, United States

George Sorial,
Department of Chemical and Environmental Engineering, University of Cincinnati, Cincinnati, Ohio 45221, United States

Darren Lytle,
Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States

Jonathan G. Pressman,
Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States

Levi M. Haupert
Center for Environmental Solutions and Emergency Response, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, United States

Abstract

When implementing anion exchange (AEX) for per- and polyfluoroalkyl substances treatment, temporal drinking water quality changes from concurrent inorganic anion (IA) removal can create unintended consequences (e.g., corrosion control impacts). To understand potential effects, four drinking water-relevant IAs (bicarbonate, chloride, sulfate, and nitrate) and three gel-type, strong-base AEX resins were evaluated. Batch binary isotherm experiments provided estimates of IA selectivity with respect to chloride ($K_{x/C}$) for IA/resin combinations where bicarbonate < sulfate ≤ nitrate at studied conditions. A multi-IA batch experiment demonstrated that binary isotherm-determined $K_{x/C}$ values predicted competitive behavior. Subsequent column experiments with and without natural organic matter (NOM) allowed for the validation of a new ion exchange column model (IEX-CM; https://github.com/USEPA/Water_Treatment_Models). IA breakthrough was well-simulated using binary isotherm-determined $K_{x/C}$ values and was minimally impacted by NOM. Initial AEX effluent water quality changes with corrosion implications included increased chloride and decreased sulfate and bicarbonate concentrations, resulting in elevated chloride-to-sulfate mass ratios (CSMRs) and Larson ratios (LRs) and depressed pH until the complete breakthrough of the relevant IA(s). IEX-CM utility was further illustrated by simulating the treatment of low-IA source water and a change in the source water to understand the resulting duration of changes in IAs and water quality parameters.

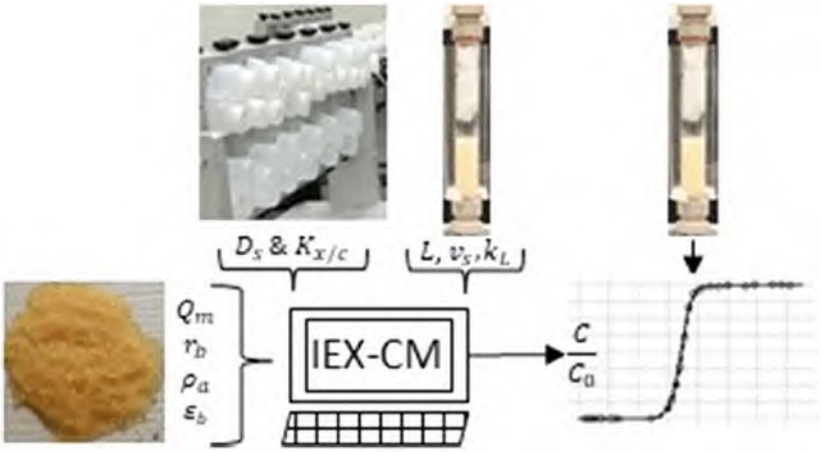
Graphical Abstract

Graphical Abstract

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript



Keywords

anion exchange; nitrate; sulfate; bicarbonate; PFAS; homogeneous surface diffusion model; selectivity; corrosion control

INTRODUCTION

Per- and polyfluoroalkyl substances (PFAS) are a class of fluorinated, synthetic chemicals used in consumer and industrial applications due to their desirable chemical characteristics (e.g., chemical and thermal stability, surface activity, and hydro- and lipophobicity).[1-3] However, PFAS are associated with negative health effects (e.g., developmental and immune disorders, infertility, thyroid disease, organ toxicity, and cancer).[4,5] Because ingestion represents a primary PFAS exposure pathway, PFAS-impacted drinking waters are a concern.[4] Therefore, in 2021, the United States Environmental Protection Agency announced its intention to regulate perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) in drinking water,[6] and in 2022, issued updated, interim lifetime drinking water health advisories (HAs) for PFOA (0.004 ng/L) and PFOS (0.02 ng/L) and final HAs for perfluorobutane sulfonic acid (PFBS, 2000 ng/L) and hexafluoropropylene oxide dimer acid (HFPO-DA) and its ammonium salt ("GenX chemicals," 10 ng/L).[7]

Drinking water PFAS removal by anion exchange (AEX) has been demonstrated and often employs single-use, chloride-form, gel-type, strong-base AEX (SB-AEX) resins functionalized with quaternary ammonium.[8-12] For new resins, and depending on the PFAS and treatment goals, PFAS removal occurs over months to years prior to resin changeout.[13,14] SB-AEX resins can also exchange inorganic anions (IAs; e.g., chloride, bicarbonate, sulfate, and nitrate) and natural organic matter (NOM),[12,15-19] but this coremoval is shorter-term (e.g., hours to days)[16] and is expected to be PFAS-independent because resins are PFAS-selective[8] and PFAS concentrations are orders of magnitude lower (i.e., nequiv/L vs. mequiv/L).[20,21] During AEX treatment, IA removal is expected to cause temporal effluent water quality changes including decreased pH and alkalinity (i.e., bicarbonate removal), decreased sulfate, and increased chloride.[22] Changes in source water quality brought about gradually (e.g., seasonal changes) or rapidly (e.g., alternating

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

source inputs) could likewise lead to temporal effluent water quality changes. Water quality shifts may impact the distribution system where (i) stable alkalinity and pH are typically desired[23-25] and (ii) chloride, sulfate, and bicarbonate concentrations affect corrosion potential as indicated by the Larson ratio (LR)[26] for iron-based pipes (e.g., LR >0.8 is shown to increase iron release)[26-31] and the chloride-to-sulfate mass ratio (CSMR) for galvanic corrosion (e.g., CSMR >0.5 is shown to increase lead release).[22,32-36] Therefore, it is important to understand transient water quality to minimize potential unintended consequences when implementing SB-AEX for PFAS removal, and the development of an ion exchange column model (IEX-CM) to simulate effluent IA and PFAS concentrations would be beneficial.

Haupert et al.[37] discussed IEX-CM theory for SB-AEX resin removing IA and PFAS, noting (i) required IEX-CM parameters (i.e., selectivity and mass transfer parameters) were scarce, (ii) common drinking water IAs were often omitted, not characterized or controlled in PFAS studies, and (iii) no publicly available IEX-CM existed to simulate IA and PFAS removal. Given the large and growing number of PFAS and varied source water conditions, an IEX-CM would allow SB-AEX simulation and optimization for diverse treatment scenarios and observation of transient water quality to anticipate unintended consequences. Also, an IEX-CM would provide potential insights when traditional AEX theory fails to simulate experimental results as reported for longer chain PFAS (e.g., PFOS), nonstoichiometric AEX, and deviations from theoretical AEX capacity.[11,20,38,39] Finally, an IEX-CM would be applicable for species other than PFAS (e.g., perchlorate or nitrate removal applications).

The current work represents a first step toward IEX-CM development and validation for IA and PFAS, focusing on IAs. Therefore, the study objectives included using drinking water-relevant IAs (i.e., chloride, bicarbonate, sulfate, and nitrate) known to follow AEX theory to (i) determine IA/chloride selectivity from binary batch kinetic and isotherm experiments; (ii) validate a competitive batch AEX model with results from an IA competitive experiment; (iii) validate an IEX-CM with results from IA AEX column experiments conducted with and without NOM; and (iv) simulate practical scenarios with the validated IEX-CM, illustrating transient AEX effluent water quality.

EXPERIMENTAL METHODS

Materials.

Three single-use, gel-type, polystyrene, chloride-form, strong-base AEX resins were used (Table 1): (i) Purofine PFA694E (Purolite), (ii) DOWEX PSR2 Plus Cl (Dupont; product renamed to Amberlite PSR2 Plus in September 2021), and (iii) CalRes 2304 (Calgon Carbon). Resin conditioning and characterization are described in Supporting Section 1.1 and Tables S1 and S2. Chemical and NOM information is provided in Supporting Section 1.2.

Analytics.

Chloride (Cl^-), nitrate (NO_3^-), and sulfate (SO_4^{2-}) concentrations were determined by ion chromatography (IC) per EPA Method 300.1.[40] Temperature and pH were determined

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

per Standard Methods 2550 and 4500-H+ B, respectively.[41] Total inorganic carbon (TIC) was determined using a Shimadzu TOC-VCPH Total Organic Carbon Analyzer per manufacturer's instructions,[42] using the Inorganic Carbon (IC) method in the TOC-Control V software.[42] Bicarbonate (HCO_3^-) concentrations were calculated using pH, TIC concentration, and carbonate system pK_a values (at 25 °C: pK_{a_1} = 6.352; pK_{a_2} = 10.329).[43] Total organic carbon concentration (TOC; mg C/L), UV_{254} absorbance (UVA_{254}; cm^{-1}), and specific UV-absorbance (SUVA; L/mg·M) of NOM-containing samples were determined per EPA Method 415.3.[44] Duplicates were analyzed for 10% of aliquoted samples.

Batch Experiments.

Two types of batch experiments (BEs) were conducted (Table 2): screening kinetic experiments (KEs) and detailed isotherm experiments (IEs). Experiments for nitrate, sulfate, and bicarbonate are denoted by "N," "S," and "B," respectively. Binary KEs (i.e., anion and chloride; KE-N, KE-S, and KE-B) established a minimum time-to-equilibrium per anion and provided initial anion selectivity estimates for the IE design. Binary IEs (IE-N, IE-S-1, IE-S-2, IE-S-3, and IE-B) were then conducted to obtain anion selectivity estimates for each resin. In addition, a competitive, multisolute IE (IE-ALL; Table S3) was conducted to observe competitive interactions among the anions and evaluate the ability of the binary IE-determined selectivity to simulate the competitive IE results. Detailed information for the BEs is provided in Supporting Section 1.3.

Column Experiments.

Lead-lag column trains (two columns in series) with overall nominal empty bed contact times (EBCTs) of 2 and 4 min (2-min EBCT per column) were operated for column experiments (CEs). Four trains were constructed, with duplicate trains ("replicate 1" and "replicate 2") dedicated for use with and without NOM. Figure S1 provides a schematic of a CE train, while Table S4 provides detailed CE operational information. The CE sampling scheme allowed for three sets of column performance data to be obtained per train: "column 1" (column 1 influent and effluent), "column 2" (column 1 effluent/column 2 influent and column 2 effluent), and "columns 1 + 2" (column 1 influent and column 2 effluent). Four different CE influent conditions were investigated (Table S5): low (CE-Low), medium (CE-Med), and high (CE-High) anion concentrations and medium anion concentration with NOM addition (CE-Med+NOM). A single resin, Purofine PFA694E, was selected for CEs based on its narrow range of particle size and representative behavior in the BEs. Additional details for the CEs are provided in Supporting Section 1.4.

Selectivity Determination.

For the exchange of two ionic species, A and B, with charges ζ_A and ζ_B, respectively, equilibrium between the resin (denoted by overbar) and liquid phases can be described by the law of mass action (eq 1).[45]

$$\zeta_B\overline{A} + \zeta_A B \rightleftharpoons \zeta_B A + \zeta_A\overline{B} \quad (1)$$

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

Applying eq 1 and assuming chemical activities are equivalent to concentrations (a common assumption for low ionic strength matrices)[39] results in the definition for selectivity of ion B with respect to ion A ($K_{B/A}$; eq 2). In eq 2, q is the ionic equivalent concentration per resin-phase volume (mequiv ion/L of swollen (hydrated) resin) and C is the ionic equivalent concentration per liquid phase volume (mequiv ion/L of water).[46]

$$K_{B/A} = \left(\frac{C_A}{q_A}\right)^{\zeta_B} \left(\frac{q_B}{C_B}\right)^{\zeta_A} \quad (2)$$

Using eq 2 and mass balances on the resin phase, liquid phase, and replacing anion, three batch ion exchange equilibrium equations were derived: (i) a monovalent ion (nitrate) replacing a monovalent ion (chloride), (ii) a monovalent ion with acid–base properties (bicarbonate) replacing a monovalent ion (chloride), and (iii) a divalent ion (sulfate) replacing a monovalent ion (chloride). Details of the derived equations for BEs are provided in Supporting Section 1.5 and Tables S6-S8. In the current work, $K_{B/A} = K_{x/C}$ where x represents the replacing anion (N for nitrate, S for sulfate, or B for bicarbonate) and C represents chloride.

The only unknown in each batch ion exchange equilibrium equation was $K_{x/C}$; therefore, BE data allowed $K_{x/C}$ estimation for each anion. $K_{x/C}$ estimation was accomplished in R, a free statistical computing and graphics software environment.[47] In R, the function *optimize()* was used to estimate $K_{x/C}$ by minimizing the weighted residual sum of squares (WRSS) between measured and simulated anion liquid concentrations, weighting by the inverse square of the measured anion liquid concentrations, resulting in a dimensionless WRSS.[48] This procedure was used to prevent greater anion liquid concentrations from biasing parameter estimates.[49] To estimate $K_{x/C}$ uncertainty, bootstrapping with sample replacement (n = 10 000) was used.

Homogeneous Surface Diffusion Model.

The homogeneous surface diffusion model (HSDM) includes both film and surface diffusion mass transfer limitations, and an HSDM batch implementation in R and the IEX-CM (https://github.com/USEPA/Water_Treatment_Models) were used to interpret KEs and CEs, respectively.[37,47] Supporting Section 1.6 details HSDM derivation and implementation.

RESULTS AND DISCUSSION

Resin Characterization.

Required resin properties were determined (Table 1) to design and analyze KEs, IEs, and CEs. Measured properties agreed with manufacturer-reported properties, except where an 11% greater bed porosity (ε_b) was measured for PFA694E (0.42 vs. 0.33–0.38 manufacturer-reported). For a given resin, nitrate- and sulfate-based elution anion exchange capacities (AECs) on a mass basis (Q_m) were similar (4.7–7.6% relative percent difference (RPD)); therefore, the average of the nitrate and sulfate elution AECs was used. The Q_m (mequiv/g dry resin) trend was PSR2 Plus Cl (1.59) < CalRes 2304 (1.85) < PFA694E (2.13).

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript

CEs and associated IEX-CM modeling required additional parameters. The specific volume (V_{sp}) was measured and used to obtain average AECs on a packed bed basis (Q_b, mequiv/mL packed bed) that slightly changed the trend seen with Q_m such that Q_b for PSR2 Plus Cl (0.73) ≈ CalRes 2304 (0.74) < PFA694E (0.84), and all Q_b exceeded manufacturer-reported minimums (Table 1). The observed trend in water retention capacity (WRC) was PSR2 Plus Cl (28.6) < PFA694E (38.8) < CalRes 2304 (40.1), and there was more variability in WRC than other measured properties (3.3–33% RPD). Apparent resin density (ρ_a) and ε_b were also determined, and both exhibited trends of CalRes 2304 < PSR2 Plus Cl < PFA694E (Table 1).

Batch Binary Kinetic Experiments.

From the KEs, liquid concentration profiles were used to assess when equilibrium was reached (Figure S2). Equilibrium was obtained by the first sample point (1 day) for sulfate and bicarbonate and the second sample point (2 days) for nitrate, as evidenced by the constant liquid concentrations for the remainder of the KE (i.e., 7 days). IE runtimes were set to meet or exceed the determined time-to-equilibrium (i.e., 2 days, Table 2). Initial $K_{x/C}$ estimates and their uncertainty (Table 3 and Figure S3) were obtained from KEs to design IEs. Further discussion of $K_{x/C}$ estimates is provided along with those determined from IEs in the following section.

Batch Binary Isotherm Experiments.

IEs were conducted for nitrate, sulfate, and bicarbonate with chloride as the background anion (Table 2). A single $K_{x/C}$ (and associated uncertainty) was determined for each anion and resin combination ($K_{x/C}$, Table 3 and Figure S4). Figure 1A shows measured vs. simulated anion liquid concentrations against a 1:1 line, demonstrating that a single $K_{x/C}$ represented data for a given resin and anion pair. The agreement (Figure 1A) supports that the law of mass action was able to describe AEX behavior and a single $K_{x/C}$ is appropriate and applicable throughout the anion concentration range investigated and equilibrium was achieved. Figure 1B summarizes IE results as anion liquid phase vs. resin-phase equivalent fractions for each resin and anion combination. Based on the convex upward shape of the equivalent fraction curves, which represents greater resin loading with regard to liquid concentration, nitrate and sulfate are favorable isotherms; the concave downward shape of the bicarbonate equivalent fraction curve is, conversely, an unfavorable isotherm.[50]

KE- and IE-determined $K_{x/C}$ estimates were similar (absolute percent differences (APD) <12%, Tables 3 and S9), but t-tests revealed significant differences ($p < 0.05$) between KE- and IE-determined $K_{x/C}$ for many of the anion/resin combinations (Table S9). Overall, initial $K_{x/C}$ estimates obtained from KEs were useful in designing IEs, but detailed IEs were still necessary to cover a broader range of IA concentrations. Tukey's multiple comparison test[51] was used to compare $K_{x/C}$ among resins for the IAs, and $K_{x/C}$ were significantly different among all but two resin pairs (i.e., $K_{N/C}$ PFA694E:CalRes 2304 and $K_{B/C}$ PSR2 Plus Cl:PFA694E; α-value = 0.05; Table S10).

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

When comparing individual anions, $K_{x/C}$ are not directly comparable between monovalent (nitrate and bicarbonate) and divalent (sulfate) anions because anion charges lead to a difference in $K_{x/C}$ units (dimensionless and L swollen resin/L liquid, respectively). For a direct comparison of sulfate to nitrate and bicarbonate, a separation factor for sulfate ($\beta_{S/C}$) can be calculated (eq 3) from $K_{S/C}$, chloride resin loading (q_C), and chloride liquid concentration (C_C).

$$\beta_{S/C} = K_{S/C}\frac{q_C}{C_C} \tag{3}$$

Because $\beta_{S/C}$ depends on C_C and q_C, $\beta_{S/C}$ is not constant and can only be determined for specific conditions. Using the studied conditions, a $\beta_{S/C}$ range of 2.6–13 was calculated for all experiments and resins. For monovalent anions, $\beta_{x/C} = K_{x/C}$. Reasonable agreement—within 1 order of magnitude for all IAs—was observed with separation factors previously reported for a gel-based, chloride-form, SB-AEX polystyrene resin ($\beta_{N/C} = 2$, $\beta_{S/C} = 10$, $\beta_{S/C} = 0.5$).[21] To summarize, $K_{N/C} > \beta_{S/C} > K_{B/C}$ for q_C / C_C less than 394 (CalRes 2304), 520 (PFA694E), or 889 (PSR2 Plus Cl). The greater determined selectivity of nitrate compared to sulfate is consistent with previous studies[52-54] on nitrate-selective resins where increasing functional group chain length (i.e., triethylamine > trimethylamine), and therefore greater distance between exchange sites, resulted in a preference for monovalent vs. divalent ions. The tributylamine resins used in this study could be expected to continue this trend, with an even stronger preference for monovalent ions (including many PFAS).

Batch Competitive Isotherm Experiment.

A competitive IE (IE-ALL) was conducted under a variety of initial conditions (Tables 2 and S3) to validate that using binary IE estimated $K_{x/C}$ (Table 3) in a competitive isotherm model (Table S8) could simulate equilibrium anion concentrations. Figure 2A summarizes each anion's initial concentration, equilibrium measured concentration, and competitive isotherm model-simulated concentration. Boxplots of RPDs between measured and model-simulated equilibrium anion concentrations show that the interquartile range is within ±20% for the anions on all three resins and within ±15% for CalRes 2304 and PFA694E (Figure 2B). Overall, the competitive isotherm solution (Table S8) reasonably simulated anion behavior on each resin in a multisolute system, supporting the use of $K_{x/C}$ determined from binary IEs in multisolute systems.

Column Experiments.

CEs were conducted to evaluate IA breakthrough behavior from packed bed columns, quantify associated water quality changes, investigate potential NOM impacts on IA breakthrough, and provide data for IEX-CM validation. As previously described, the CE setup (Figure S1) allowed for three data sets from a single-column train: column 1, column 2, and columns 1 + 2. Effluent concentrations were normalized by the mean influent concentration (Table S5), generating influent-normalized effluent concentrations (C / C_0). The breakthrough behavior of bicarbonate, sulfate, and nitrate is summarized as bed

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

volumes (BVs) treated at 0.1, 0.5, and 0.9 C / C_0 (Tables 4, S11, and S12). The observed order of breakthrough was bicarbonate, sulfate, and nitrate, in agreement with the relative IE-determined $K_{x/C}$ (or $\beta_{x/C}$).

For the CEs, breakthrough curves were generated for C / C_0 vs. BVs treated to visualize the IA breakthrough (Figures 3 and S5-S7). Using column 1 from CE-Med as an example (Figure 3), the following trends in chromatographic effects—i.e., changes in effluent concentration with respect to influent concentration—were observed and were consistent among CEs: (i) bicarbonate removal released chloride (BVs ~10–39); (ii) sulfate removal released chloride and produced a bicarbonate chromatographic roll-off effect ($C / C_0 > 1.0$; BVs ~120 to 160); (iii) nitrate breakthrough showed a longer initial lag phase and more gradual breakthrough curve than sulfate or bicarbonate, and full breakthrough coincided with sulfate plateauing at its influent concentration after a prolonged roll-off period (BVs ~590 to 880); and (iv) chloride effluent concentrations were initially elevated (2.0–2.6-fold) and then descended toward its influent concentration with the breakthrough of each subsequent IA (BVs ~0 to 250).

A breakthrough occurred earlier with greater influent anion concentrations, and the longest time to initial breakthrough (defined as $C / C_0 \geq 1.0$) was observed from CE-Low nitrate (~1400 BVs, Table S11). By comparison, PFAS are present at concentration orders of magnitude lower than IAs and are much more selective (e.g., $K_{PFOA/C} = 10^{4.36}$),[39] so it is expected that PFAS of interest (such as PFOA) will break through much later than IAs. In fact, studies have reported a breakthrough in the 10^6 BVs range for PFOA in groundwater on PFA694E.[55]

NOM AEX behavior was observed from CE-Med+NOM results and was characterized by UVA_{254}, TOC, and SUVA breakthrough data (Figure S8). UVA_{254} breakthrough reached 0.83–0.84 C / C_0 for column 1 and 0.76–0.86 C / C_0 for columns 1 + 2 by the experiment end (1383 and 993 BVs, respectively). TOC breakthrough reached 0.75–0.82 C / C_0 for column 1 and 0.63–0.69 C / C_0 for columns 1 + 2 by the end of the experiment. The majority of UVA_{254} and TOC breakthroughs occurred within the first ~250 BVs, after which the rate slowed (Figure S8). SUVA breakthrough peaked at ~250 BVs (Figure S8) and then stabilized at 1.2–1.3 C / C_0 for column 1 and 1.3–1.4 C / C_0 for columns 1 + 2. The differences in the removal of UVA_{254} vs. TOC as well as in rates of removal over the course of treatment could be attributed to the heterogeneous nature of NOM, with different fractions exhibiting distinct properties (e.g., hydrophobicity, charge density, and molecular weight) affecting removal by AEX resin.[15,56-59] The UVA_{254}-absorbing NOM fraction is attributed to acidic, aromatic substances and is associated with disinfection byproduct (DBP) formation.[58,60] The relatively greater UVA_{254} breakthrough observed indicates that this fraction was poorly removed compared to overall TOC, corresponding with increased SUVA.

Comparison of CE-Med and CE-Med+NOM results (Table 4 and Figures 3 and S7) allowed evaluation of NOM effects on IA breakthrough. IA breakthrough RPD between CE-Med and CE-Med+NOM was within 10% for all IAs (Table 4), indicating that NOM minimally

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

impacted IA breakthrough and may not need to be considered in related modeling efforts involving IA concentrations and NOM compositions similar to those used in this study. PFAS, however, may be affected by NOM quite differently due to their greater molecular size and much longer anticipated breakthrough times as compared to IAs.

The CEs allowed assessment of transient CSMR and LR, commonly interpreted as corrosion indicators, and pH, which affects corrosion, DBP formation, and chloramine chemistry (Table S13 and Figures S9 and S10).[60,61] CSMR and LR calculations are described in Supporting Section 2.4. CSMR was elevated at AEX column startup prior to returning to influent values (Figure S9), corroborating previous research.[22,34] With increasing influent IA concentrations, CSMR stabilization time decreased (e.g., column 1: 20 h CE-Low and 3.4 h CE-High). NOM was not observed to impact CSMR stabilization time (e.g., column 1: 6.5 h for CE-Med and CE-Med-NOM). LR changes post-AEX startup appear as three distinct regions in Figure S9: (i) LR elevated above influent values resulting from decreased alkalinity during bicarbonate removal (e.g., CE-Low column 1: <110 BVs, <3.7 h); (ii) LR less than influent values due to decreasing chloride concentrations, sulfate removal, and bicarbonate post-breakthrough (e.g., CE-Low column 1: 110–570 BVs, 3.7–20 h); (iii) LR at influent values as sulfate and chloride concentrations (and therefore CSMR) stabilized (e.g., CE-Low column 1: >570 BVs, >20 h). LR stabilization times were not determined because effluent TIC sampling concluded upon full bicarbonate breakthrough. Effluent pH was initially depressed below influent pH (Table S13 and Figure S10), and the pH impact was inversely related to influent bicarbonate concentrations for both observed pH percent decrease (e.g., 33.1% CE-Low and 7.1–16.3% CE-High) and pH decrease duration (e.g., column 1: 8 h CE-Low and 0.55 h CE-High). As expected, pH trends directly corresponded with bicarbonate (i.e., TIC) removal (Figure S10). The importance of understanding the magnitude and duration of changes in water quality constituents (IAs) is discussed further under Practical Implications.

Column Model Validation.

IEX-CM validation used experimental IA concentrations. Supporting Section 2.5, Tables S14-S17, and Figures S11 and S12 detail IEX-CM inputs used to generate simulated IA concentrations. Nitrate resin-phase diffusion (D_s; 2.0×10^{-7} cm^2/s) and film transfer (k_L; 4.52×10^{-3}–4.62×10^{-3} cm/s) coefficient estimates were used for simulations (Supporting Sections 2.5.1 and 2.5.2, respectively). Simulated effluent IA concentrations were normalized by the CE mean influent IA concentration (Table S5) to obtain C / C_0, and simulated results are overlaid with experimental data in Figures 3 and S5-S7. Breakthrough curve visual evaluation revealed a high level of agreement between experimental data and IEX-CM simulations; therefore, no parameter optimization was performed. For each CE, Tables 4, S11, and S12 compare the RPD for BVs-to-breakthrough between experimental data and IEX-CM simulations. BVs at specific C / C_0 (0.1, 0.5, and 0.9) were calculated via linear interpolation between adjacent points.

IEX-CM simulations tended to deviate more from experimental data for lower C / C_0 (e.g., CE-Med column 1: sulfate RPD 14% at 0.1 C / C_0 and 7.9% at 0.9 C / C_0). Compared to the CE data, the IEX-CM tended to simulate a later breakthrough for bicarbonate and sulfate

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

and an earlier breakthrough for nitrate. Across CEs, model agreement ranged from 1.0–30% RPD for sulfate and −35 to 10% RPD for nitrate. Bicarbonate had the greatest deviation from the CE data, with RPDs up to 46% (CE-Low columns 1 + 2). A current IEX-CM limitation is that it does not currently account for pH changes and bicarbonate is an acid/base species; however, the IEX-CM is still useful for simulating bicarbonate breakthrough as the absolute differences between measured and simulated BVs (≤31 BVs) translated to relatively short durations for the studied conditions (≤1.0–2.2 h). With few exceptions, a better agreement between data and IEX-CM simulations was obtained by simulating each column independently (i.e., column 1 or column 2) rather than as a combined column (i.e., columns 1 + 2; e.g., CE-Low nitrate: independently −11 to −1.1% RPD vs. combined −27 to −9.5% RPD across C / C_0 range, see Tables 4 and S12). IEX-CM simulations improved for some conditions with increasing influent concentrations (e.g., columns 1 + 2 nitrate RPDs at 0.1 C / C_0: − 11 % (CE-Low), −6.2% (CE-Med), and −1.0% (CE-High)), although no clear pattern was observed. Similar RPDs were observed for CE-Med and CE-Med+NOM data vs. IEX-CM simulations (CE-Med −21 to 38% RPD and CE-Med +NOM −21 to 35% RPD; Table 4).

IEX-CM simulation sensitivity was assessed by varying important input parameters from their baseline values (Figure S13): $K_{N/C}(\pm 3)$, $D_s(\pm 10\times)$, and $k_L(\pm 5\times)$. A $K_{N/C}$ decrease shifted the simulated nitrate breakthrough earlier, with a $K_{N/C}$ increase producing the opposite effect. For both D_s and k_L, an increase created a steeper breakthrough curve slope, whereas a decrease created a more gradual slope. The IEX-CM was sensitive to decreases in either k_L or D_s but was not sensitive to increases, suggesting a mixed diffusion regime for nitrate that was supported by calculated CE Biot numbers (the ratio of the liquid film phase to intraparticle mass transfer rates)[62] between 0.8 and 3.8 (see Supporting Section 2.5.3and Table S18).[46] Overall, the IEX-CM performed as intended for simulating IA concentrations in a multisolute system without including considerations for NOM.

Practical Implications.

To demonstrate IEX-CM utility, two practical scenarios were simulated to investigate source water IA concentration impacts on AEX-treated effluent water quality: (i) initial AEX startup for a low-IA source water and extent of impacts to corrosion parameters (i.e., CSMR, LR, and pH) and (ii) a sudden shift in influent sulfate concentrations post-IA breakthrough from an abrupt change in the water source and its potential influence on nitrate maximum contaminant level (MCL, 10 mg N/L) exceedance. An EBCT of 4 min was used for both scenarios.

For scenario one, the U.S. Geological Survey (USGS) source water IA concentration data (1/9/2017–3/1/2022)[63] was obtained and averaged for the Susquehanna River at Conowingo, MD, to provide IEX-CM influent concentrations (Table S19). The Susquehanna River was chosen for its relatively low source water IA concentrations (0.57 ± 0.18 mequiv/L chloride, 0.97 ± 0.23 mequiv/L bicarbonate, 0.48 ± 0.14 mequiv/L sulfate, and 0.08 ± 0.02 mequiv/L nitrate from USGS parameter codes 00940, 00453, 00945, and 00618, respectively). Additional required IEX-CM input parameters were $K_{x/C}$ (Table 3) and system

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript

specifications (CE-Med columns 1 + 2 values, Tables S4 and S16). Concentrations and breakthrough times are summarized in Table S19 and visualized in Figure S14. Effluent concentrations were simulated to reach 0.9 C / C_0 at 18, 82, and 166 h (i.e., 280, 1200, and 2500 BVs) for bicarbonate, sulfate, and nitrate, respectively, which may serve as approximate timeframes for the effects of decreased pH (280 BVs) and increased CSMR (>1200 BVs) and LR (~0 to 300 and ~1200 to 2500 BVs) from changes in relevant IA concentrations (Figure 4).

For scenario two, the IEX-CM simulated a sudden change in source water quality (Figure S15). Baseline influent conditions were 7.05 mequiv/L chloride, 6.24 mequiv/L bicarbonate, 0.71 mequiv/L nitrate (i.e., MCL),[64] and 1.04 mequiv/L sulfate. Additional IEX-CM input parameters were $K_{x/C}$ (Table 3) and system specifications (CE-Med columns 1 + 2 values, Tables S4 and S16). All IAs were allowed to stabilize (full breakthrough, ~1000 BVs), at which point influent sulfate concentration was doubled to 2.08 mequiv/L, resulting in increased effluent nitrate concentrations (i.e., >MCL, maximum 0.81 mequiv/L) for ~400 BVs.

Given that the ultimate application of the studied AEX resins could be for PFAS removal and that PFAS-dictated resin changeout will likely be on the order of months to years understanding the magnitude and duration of transient water quality changes associated with IA removal may inform the timeframe for necessary mitigation strategies, such as wasting treated effluent, blending of treated and untreated effluents, or strategies for staged changeout of parallel or series AEX treatment trains. Buffered resins (for example, resins initially loaded with bicarbonate) are another newly available approach for targeting stable effluent pH and CSMR.[52,65] The two scenarios illustrated how the validated IEX-CM, along with $K_{x/C}$ determined in the current research, provide a useful tool to evaluate the extent of potential unintended consequences to water quality during AEX treatment.

CONCLUSIONS

The current research developed required input parameters for and validated the open-source IEX-CM to simulate drinking water IA removal, allowing future extension to PFAS removal. Initially, three AEX resins (CalRes 2304, Purofine PFA694E, and PSR2 Plus Cl) were characterized and required resin properties were determined. Next, binary batch IEs determined $K_{x/C}$ for bicarbonate, sulfate, and nitrate. For a given anion, $K_{x/C}$ were similar between resins and trended $K_{B/C} < K_{S/C}(\beta_{S/C}$ at studied conditions) $< K_{N/C}$. Subsequently, a competitive batch IE demonstrated that binary IE-determined $K_{x/C}$ was applicable for competitive system simulation by the law of mass action.

CEs were then conducted with PFA694E that (i) corroborated IE-determined $K_{x/C}$ as the anion breakthrough order was bicarbonate, sulfate, and then nitrate and (ii) illustrated minimal NOM impact on IA breakthrough for the specific NOM source and IA concentration ranges studied. Observed transient water quality (pH decreased until complete bicarbonate breakthrough and CSMR and LR were elevated until the breakthrough of relevant IAs) has potential corrosion control-related unintended consequences but will likely be short-lived (i.e., hours to days) compared to operation times anticipated for PFAS

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript

removal (i.e., months to years). Using IE-determined $K_{x/C}$ the IEX-CM effectively simulated experimental CEs with and without NOM; therefore, it was not possible to develop or test corrections for NOM in the current IEX-CM. However, NOM impacts on the PFAS breakthrough and associated IEX-CM modifications remain a future research area, along with providing D_s estimates and revising the IEX-CM to simulate pH. Finally, IEX-CM utility was further illustrated by simulating the treatment of low-IA source water and a change in the source water to understand the resulting duration of changes in IAs and associated water quality parameters.

In summary, determined resin properties and $K_{x/C}$ are applicable to future research with PFAS and provide fundamental information to the drinking water treatment industry for engineering AEX treatment for IA removal. For general IA removal (e.g., nitrate), the developed IEX-CM could be applied in a pilot testing design, adapting resin installation or replacement procedures for minimizing water quality disruptions and simulating the performance of a particular resin.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

ACKNOWLEDGMENTS

The authors thank Maily Pham, David Griffith, Deborah Roose, Page Jordan, Katelyn Gilkey, Ingrid Weber, Christy Muhlen, Daniel Williams, and Jacob Miller for laboratory support; Jonathan Burkhardt and Toby Sanan for technical review; and Francis Boodoo (Purolite, an Ecolab company), Adam Redding (Calgon Carbon, a Kuraray company), and Thomas K. Mallmann (Evoqua Water Technologies LLC) for providing materials and technical support during research. This work has been subjected to the Agency's peer and administrative review and has been approved for external publication. Any opinions expressed in this paper are those of the author(s) and do not necessarily reflect the views of the agency; therefore, no official endorsement should be inferred. Any mention of trade names or commercial products does not constitute endorsement or recommendation for use.

Funding

The U.S. Environmental Protection Agency, through its Office of Research and Development, funded and collaborated in the research described herein.

REFERENCES

(1). Kissa E Fluorinated Surfactants: Synthesis, Properties, Applications, Surfactant Science Series; M. Dekker: New York, 1994.

(2). Kissa E Fluorinated Surfactants and Repellents, 2nd ed.; Marcel Dekker: New York, 2001.

(3). Buck RC; Franklin J; Berger U; Conder JM; Cousins IT; de Voogt P; Jensen AA; Kannan K; Mabury SA; van Leeuwen SP Perfluoroalkyl and Polyfluoroalkyl Substances in the Environment: Terminology, Classification, and Origins. Integr. Environ. Assess. Manage 2011, 7, 513–541.

(4). U.S. Environmental Protection Agency. Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate. Fed. Register 2016, 81, 33250–33251.

(5). Rahman MF Removal of Perfluorinated Compounds from Ultrapure and Surface Waters by Adsorption and Ion Exchange, Thesis; UWSpace, 2014.

(6). U.S. Environmental Protection Agency. Announcement of Final Regulatory Determinations for Contaminants on the Fourth Drinking Water Contaminant Candidate List. Fed. Register 2021, 86, 12272–12291.

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

(7). U.S. Environmental Protection Agency. Lifetime Drinking Water Health Advisories for Four Perfluoroalkyl Substances. Fed. Register 2022, 86, 36848–36849.

(8). McCleaf P; Englund S; Östlund A; Lindegren K; Wiberg K; Ahrens L Removal Efficiency of Multiple Poly- and Perfluoroalkyl Substances (PFASs) in Drinking Water Using Granular Activated Carbon (GAC) and Anion Exchange (AE) Column Tests. Water Res. 2017, 120, 77–87. [PubMed: 28478297]

(9). Dudley L-A Removal of Perfluorinated Compounds by Powdered Activated Carbon, Superfine Powder Activated Carbon, and Anion Exchange Resin North Carolina State University; 2012.

(10). Senevirathna STMLD; Tanaka S; Fujii S; Kunacheva C; Harada H; Shivakoti BR; Okamoto R A Comparative Study of Adsorption of Perfluorooctane Sulfonate (PFOS) onto Granular Activated Carbon, Ion-Exchange Polymers and Non-Ion-Exchange Polymers. Chemosphere 2010, 80, 647–651. [PubMed: 20546842]

(11). Zaggia A; Conte L; Falletti L; Fant M; Chiorboli A Use of Strong Anion Exchange Resins for the Removal of Perfluoroalkylated Substances from Contaminated Drinking Water in Batch and Continuous Pilot Plants. Water Res. 2016, 91, 137–146. [PubMed: 26774262]

(12). Kothawala DN; Köhler SJ; Östlund A; Wiberg K; Ahrens L Influence of Dissolved Organic Matter Concentration and Composition on the Removal Efficiency of Perfluoroalkyl Substances (PFASs) during Drinking Water Treatment. Water Res. 2017, 121, 320–328. [PubMed: 28570871]

(13). Appleman TD; Higgins CP; Quiñones O; Vanderford BJ; Kolstad C; Zeigler-Holady JC; Dickenson ERV Treatment of Poly- and Perfluoroalkyl Substances in U.S. Full-Scale Water Treatment Systems. Water Res. 2014, 51, 246–255. [PubMed: 24275109]

(14). Rahman MF; Peldszus S; Anderson WB Behaviour and Fate of Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs) in Drinking Water Treatment: A Review. Water Res. 2014, 50, 318–340. [PubMed: 24216232]

(15). Dixit F; Barbeau B; Mohseni M Impact of Natural Organic Matter Characteristics and Inorganic Anions on the Performance of Ion Exchange Resins in Natural Waters. Water Supply 2020, 20, 3107–3119.

(16). Phetrak A; Lohwacharin J; Watanabe N; Murakami M; Sakai H; Oguma K; Takizawa S Competitive Removal of Dissolved Organic Matter (DOM) and Inorganic Anions by Anion Exchange Resins (AERs). Water Supply 2012, 12, 630–636.

(17). Boyer TH Physical–Chemical Processes for Nitrogen Removal. In Comprehensive Water Quality and Purification; Elsevier, 2014; pp 163–195.

(18). Tan Y; Kilduff JE Factors Affecting Selectivity during Dissolved Organic Matter Removal by Anion-Exchange Resins. Water Res. 2007, 41, 4211–4221. [PubMed: 17614118]

(19). del Moral LL; Choi YJ; Boyer TH Comparative Removal of Suwannee River Natural Organic Matter and Perfluoroalkyl Acids by Anion Exchange: Impact of Polymer Composition and Mobile Counterion. Water Res. 2020, 178, No. 115846. [PubMed: 32375112]

(20). Maimaiti A; Deng S; Meng P; Wang W; Wang B; Huang J; Wang Y; Yu G Competitive Adsorption of Perfluoroalkyl Substances on Anion Exchange Resins in Simulated AFFF-Impacted Groundwater. Chem. Eng. J 2018, 348, 494–502.

(21). Tripp AR; Clifford D; Roberts DJ; Cang Y; Aldridge L; Giliogly T; Boulos L Treatment of Perchlorate in Groundwater by Ion Exchange Technology AWWA Research Foundation and American Water Works Association; 2003.

(22). Willison H; Boyer TH Secondary Effects of Anion Exchange on Chloride, Sulfate, and Lead Release: Systems Approach to Corrosion Control. Water Res. 2012, 46, 2385–2394. [PubMed: 22374301]

(23). Schock MR Understanding Corrosion Control Strategies for Lead. J. Am. Water Works Assoc 1989, 81, 88–100.

(24). Internal Corrosion of Water Distribution Systems, 2nd ed.; American Water Works Association Research Foundation: Denver, CO, 1996.

(25). Lytle DA; Schock MR Stagnation Time, Composition, PH, and Orthophosphate Effects on Metal Leaching from Brass, EPA/600/R-96-103, USEPA: Cincinnati, OH; 1996.

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

(26). Larson TE; Skold RV Laboratory Studies Relating Mineral Quality of Water To Corrosion of Steel and Cast Iron. Corrosion 1958, 14, 43–46.

(27). Lytle DA; Tang M; Francis AT; O'Donnell AJ; Newton JL The Effect of Chloride, Sulfate and Dissolved Inorganic Carbon on Iron Release from Cast Iron. Water Res. 2020, 183, No. 116037. [PubMed: 32629179]

(28). Larson TE; Skold RV Corrosion and Tuberculation of Cast Iron. J. Am. Water Works Assoc. 1957, 49, 1294–1302.

(29). Benson AS; Dietrich AM; Gallagher DL Evaluation of Iron Release Models for Water Distribution Systems. Crit. Rev. Environ. Sci. Technol 2012, 42, 44–97.

(30). McNeill LS; Edwards M Iron Pipe Corrosion in Distribution Systems. J. Am. Water Works Assoc 2001, 93, 88–100.

(31). Sarin P; Snoeyink VL; Lytle DA; Kriven WM Iron Corrosion Scales: Model for Scale Growth, Iron Release, and Colored Water Formation. J. Environ. Eng 2004, 130, 364–373.

(32). Oliphant RJ Summary Report on the Contamination of Potable Water by Lead from Soldered Joints; External Report (Water Research Centre), WRC Engineering: Swindon, England; 1983.

(33). Gregory R Galvanic Corrosion of Lead Solder in Copper Pipework. Water Environ. J 1990, 4, 112–118.

(34). Ishii SKL; Boyer TH Evaluating the Secondary Effects of Magnetic Ion Exchange: Focus on Corrosion Potential in the Distribution System. Desalination 2011, 274, 31–38.

(35). Edwards M; Triantafyllidou S Chloride-to-Sulfate Mass Ratio and Lead Leaching to Water. J. Am. Water Works Assoc. J 2007, 99, 96–109.

(36). Snoeyink VL; Tang M; Lytle DA Lead Pipe and Lead–Tin Solder Scale Formation and Structure: A Conceptual Model. AWWA Water Sci. 2021, 3, No. e1246.

(37). Haupert LM; Pressman JG; Speth TF; Wahman DG Avoiding Pitfalls When Modeling Removal of Per- and Polyfluoroalkyl Substances by Anion Exchange. AWWA Water Sci. 2021, 3, No. e1222.

(38). Du Z; Deng S; Bei Y; Huang Q; Wang B; Huang J; Yu G Adsorption Behavior and Mechanism of Perfluorinated Compounds on Various Adsorbents—A Review. J. Hazard. Mater 2014, 274, 443–454. [PubMed: 24813664]

(39). Fang Y; Ellis A; Choi YJ; Boyer TH; Higgins CP; Schaefer CE; Strathmann TJ Removal of Per- and Polyfluoroalkyl Substances (PFASs) in Aqueous Film-Forming Foam (AFFF) Using Ion-Exchange and Nonionic Resins. Environ. Sci. Technol 2021, 55, 5001–5011. [PubMed: 33749259]

(40). U.S. Environmental Protection Agency. Determination of Inorganic Anions in Drinking Water by Ion Chromatography; EPA Method 300.1 Office of Research and Development, National Exposure Research Laboratory: Cincinnati, OH; 1997.

(41). Standard Methods for the Examination of Water and Wastewater American Public Health Association, American Water Works Association, Water Environment Federation; 2005.

(42). Shimadzu Corporation. TOC-VCPH/CPN & TOC-Control V Software User Manual Analytical & Measuring Instruments Division: Kyoto, Japan; 2003.

(43). Alberty RA; Silbey RJ Physical Chemistry, 1st ed.; Wiley: New York,, 1992.

(44). U.S. Environmental Protection Agency. Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water, Revision 1.2.; EPA Method 415.3 Office of Research and Development, National Exposure Research Laboratory: Cincinnati, OH; 2009.

(45). Zagorodni AA Ion Exchange Materials: Properties and Applications, 1st ed.; Elsevier: Amsterdam, 2007.

(46). SenGupta AK Ion Exchange in Environmental Processes: Fundamentals, Applications and Sustainable Technology, 1st ed.; Wiley: Hoboken, NJ, 2017.

(47). R Core Team. R: A Language and Environment for Statistical Computing; R Foundation for Statistical Computing: Vienna, Austria, 2022.

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

(48). Robinson JA Determining Microbial Kinetic Parameters Using Nonlinear Regression Analysis: Advantages and Limitations in Microbial Ecology. In Advances in Microbial Ecology; Marshall KC, Ed.; Springer: Boston, MA, 1985; Vol. 8, pp 61–114.

(49). Draper NR; Smith H Applied Regression Analysis, 3rd ed.; Wiley Series in Probability and Statistics; Wiley: New York, 1998.

(50). Gabelman A. Adsorption Basics: Part 1; AIChE, 2017; pp 48–53.

(51). Berthouex PM; Brown LC Statistics for Environmental Engineers, 2nd ed.; Lewis Publishers: Boca Raton, 2002.

(52). Hu Y; Foster J; Boyer TH Selectivity of Bicarbonate-Form Anion Exchange for Drinking Water Contaminants: Influence of Resin Properties. Sep. Purif. Technol 2016, 163, 128–139.

(53). Subramonian S; Clifford D Monovalent/Divalent Selectivity and the Charge Separation Concept. React. Polym. Ion Exch. Sorbents 1988, 9, 195–209.

(54). Clifford D; Weber WJ The Determinants of Divalent/Monovalent Selectivity in Anion Exchangers. React. Polym. Ion Exch. Sorbents 1983, 1, 77–89.

(55). Zeng C; Atkinson A; Sharma N; Ashani H; Hjelmstad A; Venkatesh K; Westerhoff P Removing Per- and Polyfluoroalkyl Substances from Groundwaters Using Activated Carbon and Ion Exchange Resin Packed Columns. AWWA Water Sci. 2020, 2, No. e1172.

(56). Bhatnagar A; Sillanpää M Removal of Natural Organic Matter (NOM) and Its Constituents from Water by Adsorption – A Review. Chemosphere 2017, 166, 497–510. [PubMed: 27710885]

(57). Finkbeiner P; Moore G; Pereira R; Jefferson B; Jarvis P The Combined Influence of Hydrophobicity, Charge and Molecular Weight on Natural Organic Matter Removal by Ion Exchange and Coagulation. Chemosphere 2020, 238, No. 124633. [PubMed: 31454747]

(58). Boyer TH; Singer PC; Aiken GR Removal of Dissolved Organic Matter by Anion Exchange: Effect of Dissolved Organic Matter Properties. Environ. Sci. Technol 2008, 42, 7431–7437. [PubMed: 18939582]

(59). Bolto B; Dixon D; Eldridge R Ion Exchange for the Removal of Natural Organic Matter. React. Funct. Polym 2004, 60, 171–182.

(60). Hua G; Reckhow DA; Abusallout I Correlation between SUVA and DBP Formation during Chlorination and Chloramination of NOM Fractions from Different Sources. Chemosphere 2015, 130, 82–89. [PubMed: 25862949]

(61). Snoeyink VL; Jenkins D Water Chemistry; Wiley: New York,, 1980.

(62). Water Treatment Principles and Design, 2nd ed.; Crittenden JC, Ed.; John Wiley: Hoboken, N.J, 2005.

(63). U.S. Geological Survey. National Water Information System data available on the World Wide Web. USGS Water Data for the Nation. https://nwis.waterdata.usgs.gov/usa/nwis/qwdata/?site_no=01578310 (accessed March 25, 2022).

(64). U.S. Environmental Protection Agency. National Primary Drinking Water Regulations: Public Notification Rule. Fed. Register 2000, 65, 25982–26049.

(65). Purolite. Purofine PFA694EBF Product Data Sheet. https://www.purolite.com/product-pdf/PFA694EBF.pdf (accessed August 18, 2022).

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript

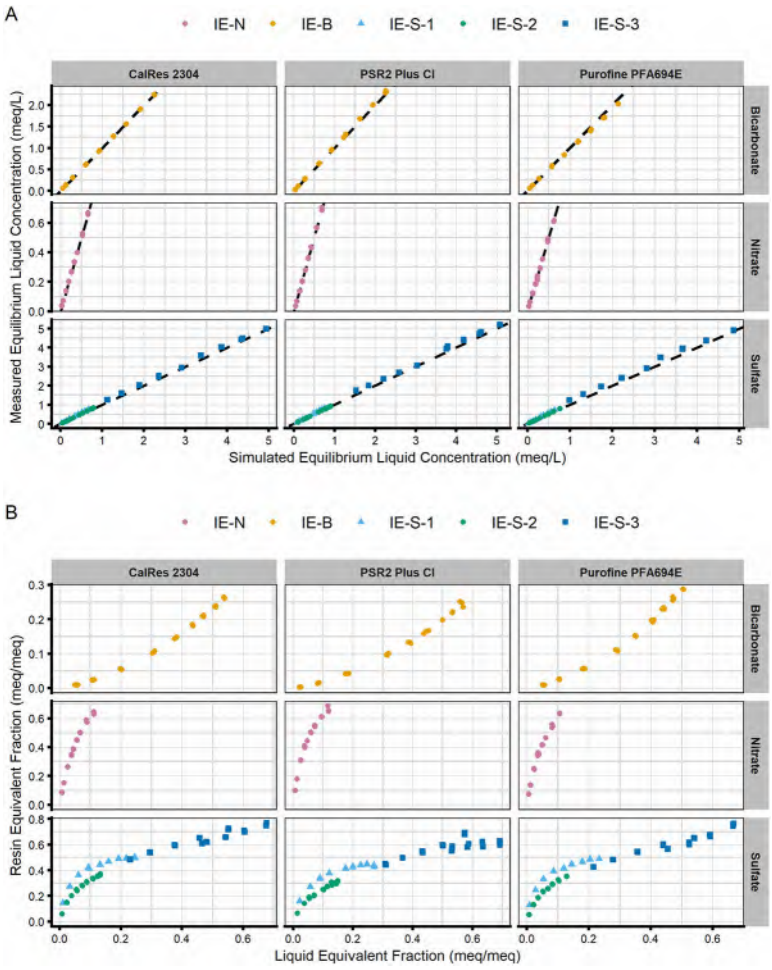


Figure 1.

Batch binary isotherm experiment comparison of (A) measured vs. simulated equilibrium liquid concentrations with the 1:1 dashed correlation line and (B) equivalent fraction plots.

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript

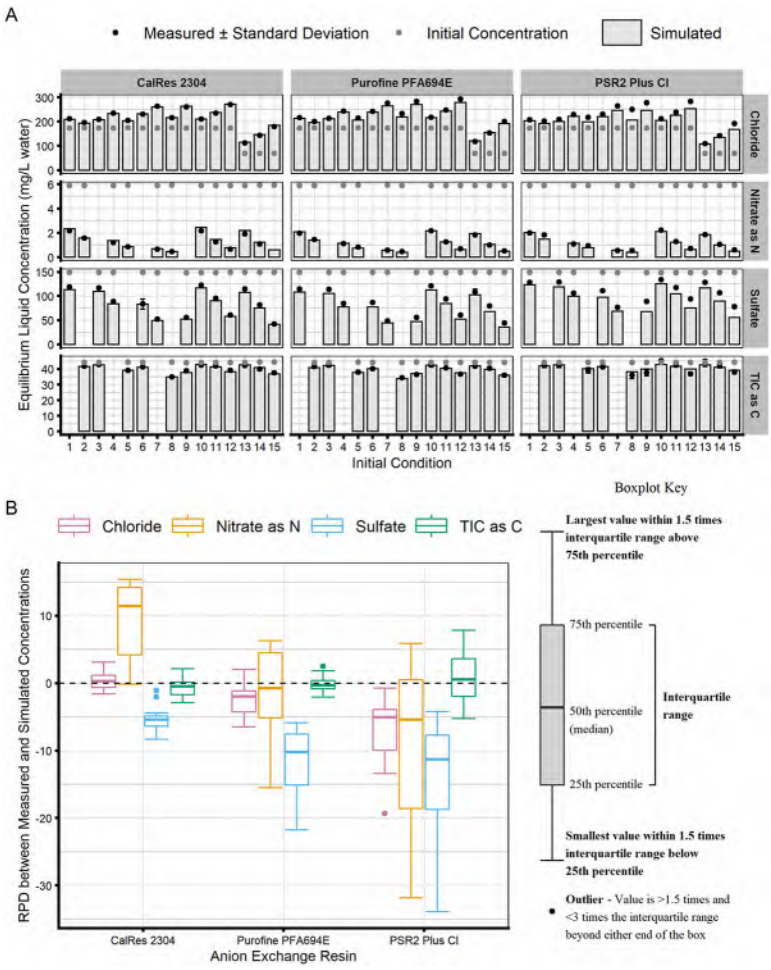


Figure 2.

Batch competitive isotherm simulated vs. measured equilibrium anion liquid concentrations for each of the 15 initial conditions (A) and boxplot summary of the relative percent difference (RPD) between measured and simulated anion liquid concentrations (B). “TIC” = total inorganic carbon.

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript

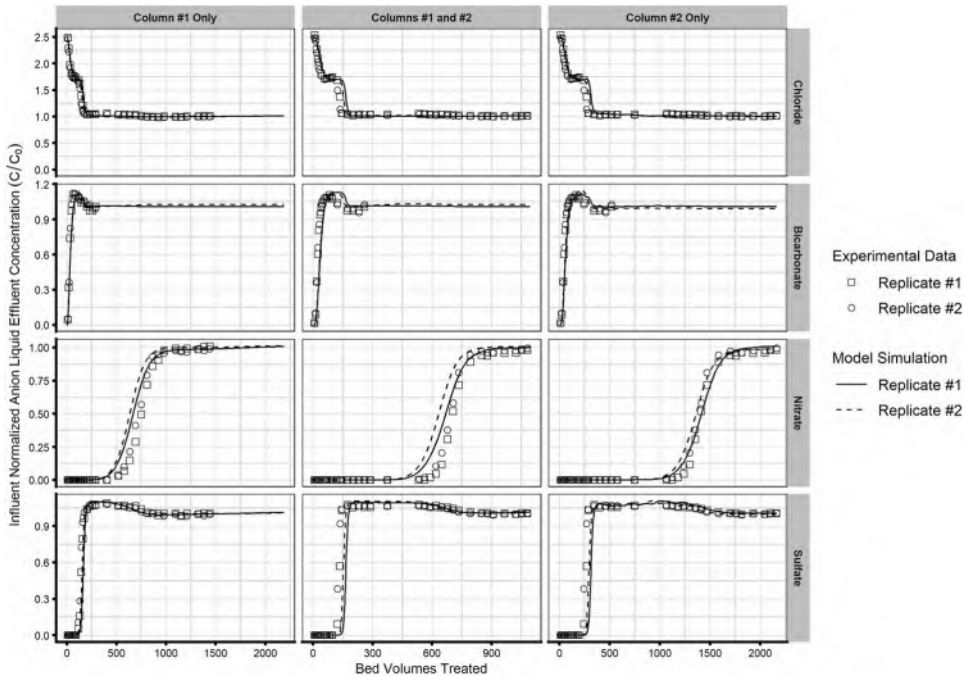


Figure 3.
Medium condition column experiment (CE-Med) anion breakthrough curves.

EPA Author Manuscript

EPA Author Manuscript

EPA Author Manuscript

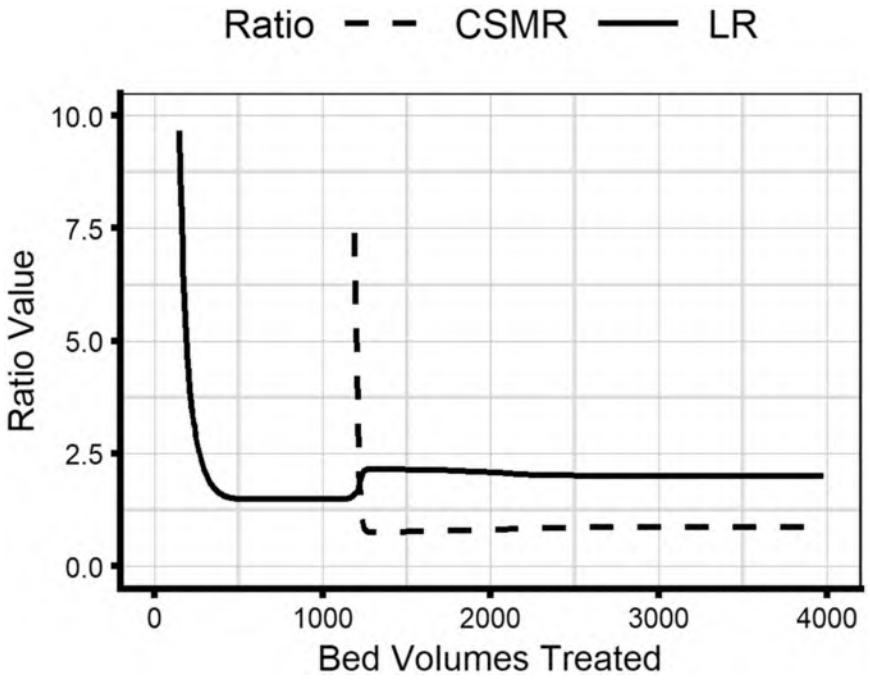


Figure 4.

IEX-CM-simulated effluent chloride-to-sulfate mass ratio (CSMR) and Larson Ratio (LR) for Susquehanna River at Conowingo, MD, source water, 4-min EBCT.

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

Table 1.

Resin Properties (Per Manufacturer Unless Otherwise Noted)[a]

property	unit	resin no. 1	resin no. 2	resin no. 3
manufacturer		Calgon	Purolite	DuPont
resin		CalRes 2304	Purofine PFA694E	DOWEX PSR2 Plus Cl[b]
material		Styrene DVB	Styrene DVB	Styrene DVB
type		SB-AEX	SB-AEX	SB-AEX
type I or II		type I	na	na
matrix structure		gel	gel	gel
functional group		100% *N*-tri-butylamine	complex amino	tri-*N*-butylamine
ionic form		Cl^-	Cl^-	Cl^-
anion exchange capacity (AEC)	Q_b (mequiv/mL packed bed), ±SD	0.65 (min)	0.5–0.9[c]	0.7 (min)
		0.77 ± 0.01[d]	0.86 ± 0.00[d]	0.76 ± 0.00[d]
		0.72 ± 0.01[e]	0.82 ± 0.00[e]	0.71 ± 0.01[e]
		0.74 ± 0.03[f]	0.84 ± 0.02[f]	0.73 ± 0.03[f]
	Q_m (mequiv/g dry resin), ±SD	1.93 ± 0.02[d]	2.18 ± 0.01[d]	1.64 ± 0.01[d]
		1.78 ± 0.02[e]	2.08 ± 0.01[e]	1.54 ± 0.02[e]
		1.85 ± 0.08[f]	2.13 ± 0.06[f]	1.59 ± 0.06[f]
	Q_Γ (mequiv/L swollen resin), ±SD	1237 ± 13[d]	1498 ± 6[d]	1239 ± 7[d]
		1143 ± 15[e]	1429 ± 6[e]	1164 ± 15[e]
		1190 ± 53[f]	1464 ± 38[f]	1201 ± 42[f]
specific volume (V_{sp})	g dry resin/mL packed bed, ±SD	0.35–0.45[g]	0.33–0.43[g]	0.45–0.52[g]
		0.40 ± 0.00[h]	0.40 ± 0.01[h]	0.46 ± 0.00[h]
water retention capacity (WRC)	%, ±SD	37–47	38–50	25–35
		40.1 ± 0.4[h]	38.8 ± 0.2[h]	28.6 ± 0.8[h]
bed porosity (ε_b)		na	0.33–0.38[g]	0.36[g]

ACS ES T Water. Author manuscript; available in PMC 2024 January 19.

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

property	unit	resin no. 1	resin no. 2	resin no. 3
		0.37 ± 0.01[i]	0.42 ± 0.01[i]	0.39 ± 0.01[i]
bulk density (ρ_b)	g swollen resin/mL packed bed	0.66–0.72	0.65–0.70	0.69
		0.67[j]	0.65[j]	0.64[j]
particle density (ρ_p)	g swollen resin/mL swollen resin	na	1.05	1.07
		1.07[j]	1.12[j]	1.06[j]
apparent resin density (ρ_a)	g dry resin/mL swollen resin	na	0.49–0.69[g]	0.7–0.81[g]
		0.64[j]	0.69[j]	0.75[j]
whole bead	% (min)	95	na	na
large fraction	% (max)	5 (>1.25 mm)	na	na
small fraction	% (max)	1 (<0.32 mm)	na	1 (<0.3 mm)
uniformity coefficient		1.7	1.3	1.1
mean diameter (d_p)	μm	750[k]	675 ± 75	700 ± 50
maximum temperature	C	na	100 (Cl^- form)	na

[a] DVB: divinyl benzene; SB-AEX: strong-base anion; na: not available; SD: standard deviation.

[b] Product renamed to Amberlite PSR2 Plus in September 2021.

[c] Personal communication with Purolite.

[d] Current research, sulfate elution basis (Tripp et al.[21]).

[e] Current research, nitrate elution basis (modification to Tripp et al.[21]).

[f] Current research, average of all sulfate ($n = 3$) and nitrate ($n = 3$) results.

[g] Calculated from manufacturer-provided data (Table S1).

[h] Current research (Tripp et al.[21]).

[i] Current research.

[j] Calculated from current research data (Table S1).

[k] Calculated from data obtained from personal communication with Calgon (Table S2).

EPA Author Manuscript
EPA Author Manuscript
EPA Author Manuscript

Table 2.

Initial Condition Summary for Batch Kinetic (KE) and Isotherm (IE) Experiments[a]

			design initial concentrations		measured pH		
experiment	**anion(s)**	**length (days)**	**chloride (mM)**	**anion(s)**	**initial**	**final**	**design resin mass (g)**
KE-N	nitrate	7	5.0	8 mg N/L	6.6–6.9	5.2–6.7	1.1
KE-S	sulfate	7	2.0	27 mg SO_4^{2-}/L	6.6–7.0	5.3–6.7	1.0
KE-B	bicarbonate	7	1.0	16 mg C/L	6.1–8.3	4.8–7.6	1.0
IE-N	nitrate	3	5.0	5–15 mg N/L	6.6–6.9	4.8–6.9	0.22–2.0
IE-S-1	sulfate	4	2.0	27–54 mg SO_4^{2-}/L	5.9–7.5	3.7–7.8	0.35–2.0
IE-S-2	sulfate	4	5.0	27–54 mg SO_4^{2-}/L	6.3–7.3	3.7–7.3	0.5–5.0
IE-S-3	sulfate	7	2.0	175–275 mg SO_4^{2-}/L	6.3–6.7	3.3–4.4	0.5–2.8
IE-B	bicarbonate	5	1.0	1.9–39.1 mg C/L	5.9–8.4	5.7–7.7	2.0
	bicarbonate			45 mg C/L			
IE-ALL	nitrate	≥7	2.0 or 5.0	6 mg N/L	6.7–8.4	2.6–8.4	1.0–4.0
	sulfate			150 mg SO_4^{2-}/L			

[a]All experiments were conducted at 25 °C in a controlled temperature chamber where bottles were rotated at 30 rpm.

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

Table 3.

Anion Selectivity with Respect to Chloride ($K_{x/C}$) Determined from Batch Binary Kinetic (KE) and Isotherm (IE) Experiments[a]

		anion (x) selectivity with respect to chloride (C), $K_{x/C}$[b]					
		PSR2 Plus Cl		Purofine PFA694E		CalRes 2304	
anion	experiment	$K_{x/C} \pm$ SD	*n*	$K_{x/C} \pm$ SD	*n*	$K_{x/C} \pm$ SD	*n*
nitrate	KE-N	17 ± 0.1	9	13 ± 0.1	9	13 ± 0.1	9
	IE-N	16 ± 0.1	26	13 ± 0.2	27	13 ± 0.2	26
sulfate	KE-S	0.017 ± 0.001	12	0.027 ± 0.001	12	0.037 ± 0.001	12
	IE-S[c]	0.018 ± 0.001	80	0.025 ± 0.001	77	0.033 ± 0.001	80
bicarbonate	KE-B	0.28 ± 0.008	9	0.32 ± 0.005	9	0.32 ± 0.003	9
	IE-B	0.31 ± 0.006	25	0.35 ± 0.007	26	0.31 ± 0.005	27

[a] *n* = number of observations; SD = standard deviation.

[b] $K_{x/C}$ is dimensionless for monovalent ions (e.g., nitrate and bicarbonate) and has units of L swollen resin/L liquid for divalent ions (e.g., sulfate).

[c] Overall selectivity estimate for all sulfate IEs.

EPA Author Manuscript EPA Author Manuscript EPA Author Manuscript

Table 4.

Summary of Measured vs. IEX-CM-Simulated Breakthrough and NOM Effects from Column 1 and Columns 1 + 2 for Medium Condition Column Experiments (CE-Med and CE-Med+NOM)[a]

		column 1							columns 1 + 2						
		experimental BV ± SD		IEX-CM BV ± SD		RPD (%)			experimental BV ± SD		IEX-CM BV ± SD		RPD (%)		
anion	C / C_0	−NOM	+NOM	−NOM	+NOM	−NOM vs +NOM	−NOM IEX-CM vs exp.	+NOM IEX-CM vs exp.	−NOM	+NOM	−NOM	+NOM	−NOM vs +NOM	−NOM IEX-CM vs exp.	+NOM IEX-CM vs exp.
bicarbonate	0.1	10 ± 0.36	11 ± 0.068	13 ± 0.53	12 ± 0.068	6	22	7.6	13 ± 0.26	13 ± 0.93	17 ± 0.68	16 ± 0.054	2.2	32	24
	0.5	23 ± 1.3	24 ± 0.36	30 ± 0.98	29 ± 0.15	2.3	26	19	22 ± 0.39	22 ± 0.41	32 ± 1.1	31 ± 0.1	−0.4	38	35
	0.9	39 ± 3.2	41 ± 0.77	53 ± 1.1	53 ± 0.45	4	30	25	33 ± 1.2	35 ± 0.2	49 ± 1.4	49 ± 0.31	5.2	38	32
sulfate	0.1	120 ± 6.1	120 ± 3.3	130 ± 8	130 ± 0.48	−1.5	14	9	110 ± 14	110 ± 1.3	150 ± 8.5	140 ± 0.46	−5.6	26	27
	0.5	140 ± 4.6	150 ± 1.6	160 ± 8.4	150 ± 0.44	4.4	11	1.8	130 ± 5.8	130 ± 1.8	160 ± 8.6	150 ± 0.46	0.63	20	15
	0.9	160 ± 7.9	170 ± 1.2	180 ± 8.4	170 ± 0.56	2.2	7.9	1.8	140 ± 4.7	140 ± 0.93	170 ± 8.7	160 ± 0.41	2.1	19	13
nitrate	0.1	590 ± 17	560 ± 33	480 ± 15	460 ± 0.56	−4	−21	−21	630 ± 19	630 ± 12	540 ± 19	530 ± 1.5	−0.27	−15	−17
	0.5	740 ± 19	750 ± 3.2	650 ± 24	630 ± 1.6	2.3	−13	−18	700 ± 6.2	700 ± 4.3	650 ± 25	640 ± 1.3	0.063	−7.1	−9.5
	0.9	880 ± 46	910 ± 23	830 ± 40	810 ± 4.6	2.4	−6.6	−11	790 ± 20	790 ± 19	750 ± 31	740 ± 4.7	0.39	−4.4	−6.5

[a]BV ± SD = bed volumes ± standard deviation. −NOM = no natural organic matter. +NOM = with natural organic matter. RPD = relative percent difference between means $(x_1 \text{ and } x_2) = (x_1 - x_2) / [(x_1 + x_2) / 2] \times 100$.

Skaps Industries, Inc.

3985 Steve Reynolds Blvd.
Norcross, GA 30093
Phone (770)564-1857

DRAINAGE PRODUCT DESCRIPTION SHEET

TRANSNET 270-2-6

Transnet 270-2-6 is a superior quality drainage media made by extruding two sets of HDPE strands together to form a diamond shaped net. The net is then heat laminated to a 6 ounce non-woven fabric. This three dimensional structure provides excellent planar liquid flow. The Transnet 270-2-6 conforms to the physical property values listed below:

NET PROPERTY	TEST METHOD	UNITS	MINIMUM AVERAGE ROLL VALUE
Thickness	ASTM D-5199	inches	.270 +/- .02
Density of Polymer	ASTM D-1505	g/cm^2	0.94
Carbon Black	ASTM D-1603	%	2
Transmissivity (Geocomposite)	ASTM D-4716	m^2/s	$5x10^{-4}$*
Tensile Strength	ASTM D-7179	lbs/in	60
Ply Adhesion	ASTM D-7005	lbsin	1.0

*Transmissivity of the geocomposite measured using water at 20 Degrees C with a gradient of 0.1, between two steel plates under a confining pressure of 10,000 psf after 1 hour. Values may vary based on dimension of the transmissivity specimen and specific laboratory.

STYLE GE-160

GE-160 is a superior quality, nonwoven geotextile produced by needlepunching together 100% polypropylene staple fibers in a random network to form a high strength dimensionally stable fabric. The polypropylene fibers are specially formulated to resist ultraviolet light deterioration, and are inert to commonly encountered soil chemicals. The fabric will not mildew, is non-biodegradable, and is resistant to damage from insects and rodents. Polypropylene is stable within a ph range of 2 to 13. GE160 conforms to the physical property values below:

FABRIC PROPERTY	TEST METHOD	UNITS	MINIMUM AVERAGE ROLL VALUE
Weight	ASTM D-5261	oz	6.0
Grab Tensile	ASTM D-4632	lbs	160
Grab Elongation	ASTM D-4632	%	50
Trap Tear	ASTM D-4533	lbs	65
CBR Puncture	ASTM D-6241	lbs	450
Water Flow Rate	ATMD D-4491	gpm/ft^2	125
Permittivity*	ASTM D-4491	sec^{-1}	1.63
AOS	ASTM D-4751	US Sieve	70

*At time of manufacturing. Handling may change these properties.

To the best of our knowledge the information contained herein is accurate. However, ESP, Inc. cannot anticipate all conditions under which ESP's product information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety or suitability of our products either alone or in combination with other products. Final determination of the suitability of any information or material for the use contemplated, of its manner of use, and whether the suggested use infringes any patents is the sole responsibility of the user.

LAYFIELD GEOSYNTHETICS

TECHNICAL SPECIFICATIONS

ENVIRO LINER® 6000 – TEXTURED GEOMEMBRANE

With its exceptional flexibility and endurance properties, Layfield's Enviro Liner® (EL) brand of geomembranes has been a trusted performer in our portfolio for many years. Available in four unique formulations, this series of geomembranes offers solutions for a wide range of containment applications.

The flagship Enviro Liner® 6000 incorporates the latest ultraviolet/anti-oxidant (UV/AO) stabilization technology, providing a new level of UV resistance and endurance properties. It is designed for long-term exposed applications and has excellent chemical resistance, making it one of the most durable geomembranes on the market. Additionally, it is NSF 61 compliant, ensuring its safety and suitability for potable water applications. Textured Enviro Liner® 6000 geomembrane is available with texturing on one or both sides to provide excellent interface friction properties in combination with outstanding longevity.

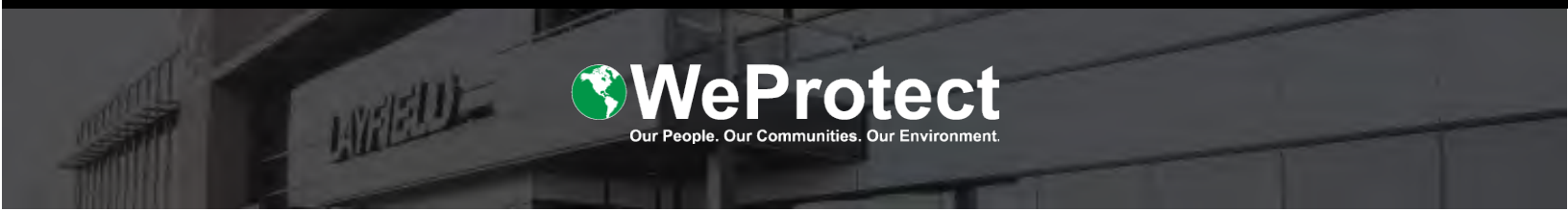
September 2024

Enviro Liner® 6000 Textured

Material Properties

Style	ASTM	Enviro Liner® 6030	Enviro Liner® 6140/6240	Enviro Liner® 6150/6250	Enviro Liner® 6160/6260	Enviro Liner® 6180/6280
Thickness Minimum Average Value	D5994	28.5 mil 0.72 mm	38 mil .95 mm	47.5 mil 1.19 mm	57 mil 1.43 mm	76 mil 1.9 mm
Thickness Lowest individual for 8 out of 10 values	D5994	27 mil 0.68 mm	36 mil 0.90 mm	45 mil 1.13 mm	54 mil 1.35 mm	72 mil 1.8 mm
Thickness Lowest individual for any of the 10 values	D5994	25.5 mil 0.65 mm	34 mil 0.85 mm	42.5 mil 1.07 mm	51.0 mil 1.28 mm	68.0 mil 1.7 mm
Asperity Height	D7466	10 mil 0.25 mm	16 mil 0.40 mm	16 mil 0.40 mm	16 mil 0.40 mm	16 mil 0.40 mm
Tensile Strength at Break	D6693	57 ppi 10 N/mm	76 ppi 13 N/mm	95 ppi 17 N/mm	114 ppi 20 N/mm	120 ppi 21 N/mm
Elongation at Break Tested using 50 mm (2") Gauge Length	D6693	350%	350%	350%	350%	250%
Tear Resistance	D1004	16 lbs 71 N	22 lbs 98 N	27 lbs 120 N	33 lbs 147 N	44 lbs 200 N
Puncture Resistance	D4833	40 lbs 178 N	53 lbs 236 N	66 lbs 294 N	80 lbs 355 N	88 lbs 400 N
Axi-Symmetric Strain	D5617	30%	50%	50%	50%	50%
Carbon Black Content	D4218	2-3%	2-3%	2-3%	2-3%	2-3%

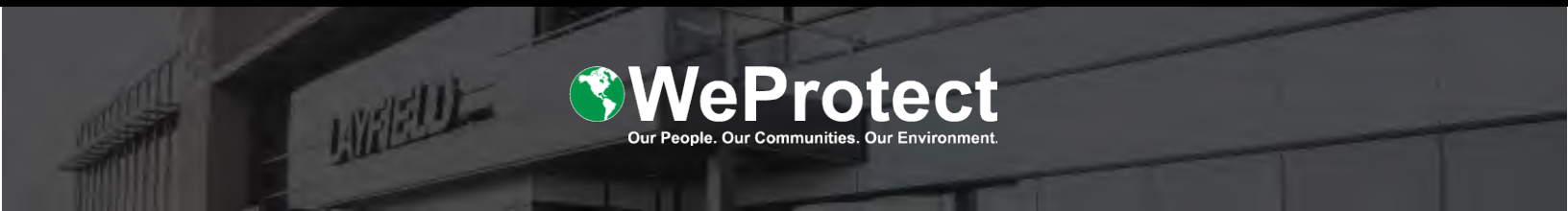
Disclaimer: *Layfield disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose*



	Carbon Black Dispersion	D5596	9 out of 10 in CAT 1 or 2; 1 in CAT 3
	Oxidative Induction Time (OIT)	D8117	> 180 Minutes
	High Pressure Oxidative Induction Time (HPOIT)	D5885	> 2,000 Minutes
	UV Resistance 30,000 hrs Strength Retained[1]	D4329	90% (Black)
	Notes: [1]UV testing performed on EL6030 smooth black specimen		

September 2024	Enviro Liner® 6000 Minimum Shop Seam Strengths					
Style	ASTM D6392	**Enviro Liner® 6130**	**Enviro Liner® 6140/6240**	**Enviro Liner® 6150/6250**	**Enviro Liner® 6160/6260**	**Enviro Liner® 6180/6280**
Heat Bonded Seam Strength	25.4 mm (1") Strip	45 ppi 7.8 N/mm	60 ppi 10.5 N/mm	75 ppi 13.1 N/mm	Not Shop Fabricated	Not Shop Fabricated
Peel Adhesion Strength (Wedge Welded	25.4 mm (1") Strip	38 ppi 6.7 N/mm	50 ppi 8.8 N/mm	63 ppi 11.0 N/mm	Not Shop Fabricated	Not Shop Fabricated

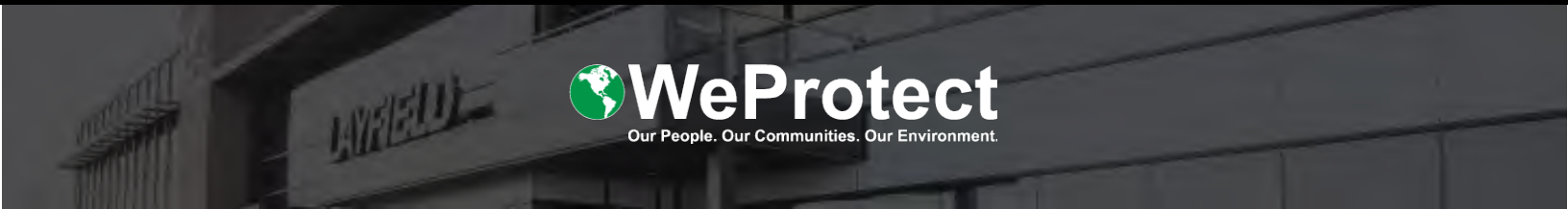
September 2024	Enviro Liner® 6000 Minimum Field Seam Strengths					
Style	ASTM D6392	**Enviro Liner® 6030**	**Enviro Liner® 6140/6240**	**Enviro Liner® 6150/6250**	**Enviro Liner® 6160/6260**	**Enviro Liner® 6180/6280**
Heat Bonded Seam Strength *Test Temp 23°C, 73°F*	25.4 mm (1") Strip	45 ppi 7.8 N/mm	60 ppi 10.5 N/mm	75 ppi 13.1 N/mm	90 ppi 15.7 N/mm	120 ppi 21.0 N/mm
Peel Adhesion Strength (Wedge Welded	25.4 mm (1") Strip	38 ppi 6.7 N/mm	50 ppi 8.8 N/mm	63 ppi 11.0 N/mm	75 ppi 13.1 N/mm	100 ppi 17.5 N/mm



INSTALLATION

Layfield's Enviro Liner® 6000 textured geomembrane is normally supplied in prefabricated panels when the thickness is 50 mil (1.25 mm) or thinner. These fabricated panels are deployed onsite, often covering a small project in a single piece. The installation of textured geomembranes follows the same procedures and techniques as for the corresponding smooth material. Panels are deployed and then welded together using normal wedge welding and extrusion welding techniques. The welding edges of our textured geomembranes feature a reduction in the texturing height to make welding easier. When fabricated panels of textured materials are supplied, they will be marked to show how they unroll/unfold in the containment area. When wide rolls of materials are supplied, the white textured surface (if supplied) will be wound onto the inside of the roll. Installation guide specifications for textured Enviro Liner® 6000 materials are available on our web site.

Disclaimer: *Layfield disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.*



BENTOFIX® NSL

NSL

Thermal Lock® Geosynthetic Clay Liners

Bentofix Thermal Lock® NSL Geosynthetic Clay Liner (GCL) is a needlepunched, thermally reinforced composite comprised of a core of natural sodium Wyoming bentonite clay between two durable geotextile layers to form a low permeability hydraulic barrier. The top layer is a staple fiber nonwoven (NW) geotextile while the bottom layer is a woven (W) geotextile. The product is intended for moderate to steep slopes and moderate to high load applications where increased internal shear strength is required.

Property	ASTM Test Method	Frequency	Value Imperial Units	Value Metric Units
Typical Geotextile Properties				
• Top / Cap Nonwoven	D 5261	200,000 sq ft (20,000 m^2)	6.0 oz./yd^2 MARV	200 g / m^2 MARV(1)
• Woven			3.1 oz./yd^2 MARV	105 g / m^2 MARV
Bentonite Properties (SI Units Only)				
• Swell Index	D 5890	100,000 lbs.	24 ml/ 2 g min.	24 ml/ 2 g min.
• Moisture Content	D 4643	(50,000 kg)	12 % max.	12 % max.
• Fluid Loss	D 5891	100,000 lbs.	18 ml max.	18 ml max.
Finished GCL Properties				
• Bentonite Mass/Unit Area[2]	D 5993	40,000 ft^2 (4,000 m^2)	0.75 lbs/ft^2 MARV	3.66 kg/m^2 MARV
• Tensile Strength	D 6768	40,000 ft^2 (4,000 m^2)	30 lb/in MARV	5 kN/m MARV
• Peel Strength	D 6496	40,000 ft^2 (4,000 m^2)	3.5 lbs/in min	610 N/m min
• Permeability[3]	D 5887	Weekly	5 x 10^{-9} cm/s max	5 x 10^{-9} cm/s max
• Index Flux[3]	D 5887	Weekly	1 x 10^{-8} $m^3/m^2/s$ max	1 x 10^{-8} $m^3/m^2/s$ max
• Internal Shear Strength[4]	D 6243	Periodic	500 psf Typical	24 kPa Typical

(1) Minimim Average Roll Value.
(2) Oven-dried measurement. Equates to 0.84 lb/sqft (4.1 kg/sqm) when indexed to 12% moisture content.
(3) Deaired, deionized water @ 5 psi (34.5 kPa) maximum effective confining stress and 2 psi (13.8 kPa) head pressure.
(4) Typical peak value for specimen hydrated for 24 hours and sheared under a 200 psf (9.6 kPa) normal stress.

The information contained herein has been compiled by TAG Environmental Inc.. and is, to the best of our knowledge, true and accurate. This information is offered without warranty. Final determination of suitability for use contemplated is the sole responsibility of the user. This information is subject to change without notice. TAG is a division of Terrafix Geosynthetics Inc. GCLs since 1992. 04-2021.