Phase 2 Work Plan
Santa Fe County
Domestic Well Monitoring Program

Prepared for

County of Santa Fe, New Mexico

Prepared by

DBS&A
a Geo-Logic Company

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1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) worked with the New Mexico Bureau of Geology and Mineral Resources (NMBGMR) and Santa Fe County (the County) on Phase 1 of the Domestic Well Monitoring Program during 2022 and 2023 (DBS&A and NMBGMR, 2023). Phase 1 of the project focused on documenting current conditions in the La Cienega and La Cieneguilla (LCLC) planning area, summarizing the previous and existing County requirements and procedures for domestic wells, and identifying third-party recommendations on how to implement and improve the existing program. DBS&A understands that the County's goals for the domestic well monitoring program are to monitor, conserve, and protect the local groundwater resource, ensuring the sustainability of the local water supply.

Previous and existing requirements that apply to domestic wells in the LCLC planning area were reviewed during Phase 1. The requirements of the 2016 Sustainable Land Development Code (SLDC) apply to the County as a whole, and supersede the earlier requirements. Specific SLDC requirements include the following:

- All plats and non-residential development shall file signed water restrictions and covenants with the plat or site development plan. Total water use shall not exceed that specified in the development order, plat note, or the SLDC (2016 SLDC Section 7.13.11.1).
- The annual water use for domestic purposes for new residential dwellings constructed on any lot created after the effective date of the 2016 SLDC (December 13, 2016) shall not exceed 0.25 acre-feet per year (ac-ft/yr) or such lower amount as may be established in the development order approving the land division (2016 SLDC Section 7.13.11.1).
- All development using a well shall participate in the well use metering program. County-approved meters are required to be installed on wells for any development subject to the SLDC. The meter shall be read by the property owner and meter readings shall be provided annually (2016 SLDC Section 7.13.11.5).
- Meters shall be installed on wells for any development subject to the SLDC. All meters shall be Santa Fe County-approved meters. The meters shall be read by the property owners annually and meter readings shall be provided to the Administrator no later than April 30 of the same calendar year. Submissions shall include the name and address of well owner, location of well, New Mexico Office of the State Engineer (OSE) well permit number, meter reading, date of meter reading, number of residences served by the well, make and model of

meter, and photograph of the meter. If a property is required to submit meter readings to OSE, the readings may be sent to the Administrator in lieu of the above requirement.

- All properties that are required to report water meter readings as a condition of plat approval shall have the name and address of the property owner entered into the database when the building permit is issued (2016 SLDC Section 7.13.11.5). As discussed in the Phase 1 report, this is not currently done (DBS&A and NMBGMR, 2023).
- All properties that are required to have water meters shall also be required to test their water meters for reading accuracy every ten years and replace them if necessary (2016 SLDC Section 7.13.11.5). Failure to submit the meter reading will result in the same penalties as outlined in Section 7.14.4. As discussed in the Phase 1 report, this requirement is not enforced (DBS&A and NMBGMR, 2023).
- When water is used in excess of the amount allocated to the property, a letter with educational/informational materials on how to reduce water use will be sent to the water user after the first year and they will be required to submit water meter readings every six months to track their progress. All subsequent water usage violations will result in the same penalties as outlined in Section 14.4.

The County's existing domestic well monitoring program has been implemented intermittently as staff resources have been available. The program has been moved between different County departments and has not had consistent staffing or support. The Domestic Well Use Metering Program was transferred from the Community Development Department Sustainability Division to the Public Works Department (PWD) Administrative Services Division in August 2024. The newly created Environmental Compliance Officer (ECO) position took over program administration responsibilities from the Sustainability Manager. DBS&A drafted a Phase 2 work plan in August 2023 and provided the draft to the County with redline questions for County staff. Due to capacity issues within the Sustainability Division, responses from the County to the DBS&A draft work plan were not completed until the ECO forwarded them to DBS&A staff in May 2025.

This updated Phase 2 County Domestic Well Metering Program work plan has an expanded focus on the entire County area. Section 2 details progress made over the last two years, including program updates and updated program goals. Section 3 further details progress made and updated program policies and procedures beyond the recommendations made in Phase 1. Section 4 details a new Phase 3 with next steps for implementing the program County-wide.

2. Progress Report

2.1 Summary of Progress Made

The County's Phase 1 Domestic Well Monitoring Program included recommendations specific to the LCLC area, with the intention of Phase 2 only applying to the same area. However, the program has since expanded to include the whole County. Overall, the Phase 1 project activities found that better tracking of water metering, meter reading, and pumping limitation requirements are needed going forward. The following progress has been made since 2023 on the recommendations from Phase 1:

- *Moving the program to PWD, where staff have experience with the subject matter (e.g., hydrogeology), and filling a full-time position to serve as the lead in implementing the program*. This recommendation has been completed. The project has been moved to PWD under the newly created ECO. A County hydrogeologist has not yet been hired.
- *Collaboration of County staff from Public Works, Growth Management, and Sustainability on a 6-month work planning process to identify the program's next steps*. This recommendation has been initiated. Discussions are underway but a formal 6-month plan has not yet been completed.
- *Working with domestic well owners to implement a domestic well metering and meter reading program and collecting the data necessary to estimate current local groundwater demand*. The program will focus on new developments and ensuring that well meters are installed throughout the County. An effort to solicit volunteers to submit well data can be initiated if it does not interfere with ongoing projects by Utilities & Planning.
- *Adding a final inspection requirement for all new domestic wells to verify that meters have been installed, and requiring that all new domestic wells participate in the domestic well monitoring program going forward*. This will increase the number of monitored domestic wells and the amount of groundwater diversion data collected for this area. This recommendation is currently in progress. PWD began discussions with the Growth Management Division (GWD) and the Sustainability Division in April 2025, during which GWD agreed that final inspection by the Code Enforcement Division (Code Enforcement) can include ensuring installation of well meters. PWD and GMD have a pending meeting with Code Enforcement to draft procedures and include tracking.

- *Addressing water quality in future outreach to County domestic well owners, potentially distributing educational materials that give recommendations for the parameters that should be monitored and options for where samples can be analyzed*. This recommendation has not yet been initiated.
- *Including a series of public outreach events in the next phase of the project, with an outside mediator/facilitator*. This recommendation has not yet been initiated.
- *Making the Phase 1 report available to the Water Policy Advisory Committee (WPAC), La Cienega Valley Association, City/County Water Conservation Committee, and public for review*. This recommendation has been completed.
- *Identifying funding for the domestic well monitoring program*. This recommendation has not yet been initiated.
- *Refining the Phase 1 estimates for current and projected future water demand once the program implementation begins and more domestic well meter readings are obtained*. This recommendation has not yet been initiated.
- *Coordinating with the OSE regarding language to be added to future well permits stating that local restrictions apply to new domestic wells*. This recommendation has not yet been initiated.

Additionally, DBS&A conducted water sampling of six domestic wells within the LCLC area in October 2023. These tests were to determine general chemistry and presence of per- and polyfluoroalkyl substances (PFAS). DBS&A provided a sampling memorandum (Appendix A) to the County on August 27, 2025, and the memorandum was forwarded to County Utilities on September 5, 2025.

2.2 Program Goals

Based on the progress made since Phase 1, the goals of the program are updated to the following:

- *Capture applicable domestic well information from all new developments and redevelopments through the Building & Development Services Division (Development Permit Applications).* Implementation of this goal is currently in progress by the ECO.
- *Initiate inspection of well meter installations during final inspection by Building & Development Services Division (B&D) Code Enforcement at development and redevelopment*

sites (single-family homes, modular homes, accessory dwelling units). This goal is supported by B&D.

- *Document well meter data at installation or during inspection by Code Enforcement for input into tracking spreadsheet (or online database).*
- *Develop an online web portal similar to the OSE MRWEB system for constituents to input their meter readings (rather than the fillable PDF system currently used).* A scope of work for this portal is currently being drafted by the ECO.
- *Following rollout of County domestic well web portal, lead public outreach campaign to notify the public that the program is applying SLDC code and enforcement on new developments.*

Plans for implementing these goals will be discussed in detail in Section 3.

3. Program Policies and Procedures

The proposed program policies, procedures, and responsible parties for further implementation of the Phase 1 project recommendations and the new program goals are outlined in the following subsections.

3.1 Program Staffing

After the Phase 1 report was completed and in line with its recommendations, PWD became the program lead for the County's domestic well monitoring program through the Sustainability Division. Administrative responsibilities over the program were transferred to the ECO in August 2024.

3.2 Domestic Well Metering and Meter Reading

County-approved meters are required to be installed on wells for any development subject to the SLDC. The SLDC requires the meter to be read by the property owner, with meter readings provided annually. As discussed in the Phase 1 report, County staff receive very few meter reading reports from well owners each year (DBS&A and NMBGMR, 2023).

The Phase 1 recommendations include that the County subject matter experts (e.g., County hydrologist or PWD staff) work with domestic well owners to implement a domestic well metering and meter reading program to collect the data necessary to estimate current local groundwater demand. The recommendations were for a volunteer well metering program to be

implemented during the next phase of the domestic well monitoring program, with well owners installing new meters for the participating wells. During Phase 1, County water utility staff recommended that the metering program use Neptune MACH10 water meters, both for new installations and also replacing existing meters, and drive-by data collection using an MRX collector. The Phase 1 report assumed that well owner participation in the program would likely be higher if the County could pay for some or part of the cost of the meter purchase and installation.

For Phase 2, the program will focus on documenting the installation of meters at new developments and redevelopments across the County. The County can solicit volunteers to participate in the program to assist with obtaining metering readings. The County will not initially be able to provide program participants with well meters. This may present a potential issue for low-income, at-risk communities where existing wells have no meters installed. This challenge will be included in future cross-department discussions regarding a potential green stormwater infrastructure (GSI) incentivization program, where advanced metering infrastructure (AMI) equipped well meters could be provided to participants contingent on funding opportunities and program capacity.

As new developments and redevelopments are processed through the County's permitting process, confirmation of well meter installations and initial well meter readings will be collected during final site inspection by Code Enforcement officers. The Domestic Well Use Metering Program requires all development subject to the SLDC to participate in the program. The program will eventually expand beyond new developments and redevelopments as part of Phase 3 of the program (Section 4).

3.3 Connection to the County Water Utility

SDLC Section 7.13 requires that all new developments provide water and wastewater systems within the development. The required system is dependent on the nature of the development, its proximity to public water and wastewater infrastructure, and the sustainable development area (SDA) in which it is located. SDLC Section 7.13.2.4 includes a table summarizing these requirements, reproduced as Table 1.

Table 1. When Connection to County Water Utility is Required

	Property Location [a]		
Development Type	SDA-1	SDA-2	SDA-3
New residential dwelling that would otherwise be supplied water for domestic purposes from a new domestic well	If within 200 feet	If within service area and within 200 feet	If within service area and within 200 feet
Residential land division that would otherwise be supplied water for domestic purposes from a new domestic well	If within 290 feet	If within service area and within 290 feet	If within service area and within 290 feet
Multifamily (5+ units) residential development that would otherwise be supplied water for domestic purposes from a new domestic well	If within 290 feet	If within service area and within 290 feet	If within service area and within 290 feet
Minor subdivision	Yes	If within service area	If within service area and within 2,640 feet
Major subdivision	Yes	If within service area	If within service area
Nonresidential use that would otherwise be supplied water for domestic purposes from a new domestic well	If within 200 feet	If within service area and within 200 feet	If within service area and within 200 feet

[a] For purposes of this section, all distances shall be measured between the nearest point of County infrastructure that is capable of providing service and the property line of the property to be developed, not from any structure located or to be located on the property.

During Phase 1, there was not enough information to determine which specific LCLC properties are required to connect to the County water utility (this would have required reviewing parcel-specific requirements on individual plats). The Phase 1 recommendations included that the County review which parcels in the LCLC planning area are connected to the County water utility, evaluate the possibility of connecting additional parcels using existing infrastructure, and potentially extend the water lines to connect additional parcels. This would reduce the number of domestic wells being used as the source of water supply in the LCLC planning area, and would help to conserve the local groundwater resource. The following required steps were completed to implement this goal:

- Ask PWD for updated information regarding the number of LCLC parcels that are connected to the County water utility.

- There are approximately 138 connections to the County water and wastewater utility within the LCLC communities. This approximation is provided with the caveat that the total number of connections within a given area is a constantly changing value based on constituent requests to connect.

- Ask PWD whether the County water utility has been extended within the LCLC area since October/November 2019. If it has, the County should update the geographic information system (GIS) coverage for the County water utility's water lines.
  - There have been no further extensions of the County water utility lines into the LCLC community since the developments made in 2019.
- Ask the County whether they want to review the requirements to connect to the County water utility on a parcel by parcel basis (by reviewing each individual plat). If so, who would do this work?
  - This is already the regular process when working with constituents on connecting to the County water utility. The requirements for connecting to County water and wastewater infrastructure are outlined in SLDC Sections 7.13.3 and 7.13.4. These requirements vary based on the development type and area. It is imperative that constituents with the desire to connect to the Utility contact Santa Fe County Public Works to determine the process to connect.
- Discuss with PWD the possibility of connecting additional parcels to the County utility using existing infrastructure. Should we make recommendations for specific parcels to connect to the water system in this work plan? Would this be done on a volunteer basis? Who would contact the land owners about possible connection?
  - Requirements for property owners throughout the County are determined within SLDC Section 7.13. Constituents are contacted through PWD when these requirements are triggered. Internal review of the parcel determines next steps. Constituents may pay an indefinite fee in lieu of connecting to the County utility. No parcel review or landowner contact is required.
- Discuss with PWD the possibility of extending the County water lines to connect additional parcels and/or identify what extensions are already planned.
  - County water line extension services are determined by community-driven demand.

3.4 Water Level Monitoring

Water level monitoring allows well owners to track water level trends in their wells over time. Water level data can provide warning before the water level in a well falls below the pump intake, allowing well owners to plan should they need to lower the pump and/or replace the well. Evaluated on a larger scale, water level data provide information about the local groundwater resource and the effects of both local and upgradient management decisions.

The Phase 1 report recommended monitoring wells where the NMBGMR has historical data, as long-term data are necessary to be able to evaluate trends, and to resume monitoring of wells where the NMBGMR has relationships with existing well owners. As these recommendations were suggested in 2023, several projects have been initiated in the LCLC community, including investigating the extent of a PFAS contamination plume, developing an integrated water plan and preliminary engineering report (PER), and updating the LCLC community plan. These efforts represent significant investments of County resources to better understand the water systems used within the community. The culmination of these projects over the next several years will determine how water resource management should be handled going forward.

In the interest of avoiding unnecessary workload and complicating the development of the Domestic Well Use Metering Program, the addition of a water level monitoring program will not be included in the next steps of this work plan. Should long-term water level monitoring be identified as a goal of the integrated water plan and PER, led by the Planning Division, additional internal discussion can be organized to identify an appropriate staff administrator.

3.5 Water Quality Monitoring

During Phase 1, domestic well owners asked questions about water quality and whether water quality monitoring was a component of the domestic well monitoring project (it was not). Well owners also asked about what parameters they should be monitoring in the groundwater. The Phase 1 recommendations include that the County address water quality in their future outreach to County domestic well owners, potentially distributing educational materials that give recommendations for the parameters that should be monitored, and options for where samples can be analyzed. During Phase 1, County staff had already contacted the New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) about holding a water fair, which will allow well owners to bring samples of their water for analysis by NMED. The ECO will work with the Sustainability Division on preparing outreach materials for the program

website and flyers regarding water quality monitoring. These can be posted on the Sustainability and Meter Reading web pages, in addition to County community centers.

3.6 Water Conservation

The County's existing water conservation requirements, as outlined by the 2016 SLDC, are comprehensive, and no new water conservation requirements were recommended as part of Phase 1. However, OSE has water conservation materials readily available to increase the awareness of the public regarding the value of water resources and how water can be used more effectively. The County will use and distribute these public outreach materials to educate residents on the existing water conservation requirements. The ECO and the Sustainability Division will also work on outreach materials and flyers for water conservation that are more specific to the County, which will also be uploaded to websites through press releases and posted in County community centers.

3.7 County Domestic Well Online Portal

While development of an online domestic well portal was not a recommendation in Phase 1, such a portal would allow for easier access and implementation of the program. A portal would allow for documentation of well meter data and meter readings. The program currently uses a fillable PDF system, but a portal would allow for a more convenient and centralized gathering of information. A member from the County's WPAC is also working to develop a general GIS map of groundwater/domestic well resources across the County based on a 2025 work plan produced by the same group that will help with tracking meters. This GIS information will also be important to Phase 3 in coordination with OSE.

3.8 Public Outreach

The Phase 1 recommendations called for the next phase of this project to include a series of public outreach events, and for the events to be run by an outside mediator/facilitator. Based on attendance at the project's Phase 1 open house and public interest in the project, the venue for future public outreach events will likely need to be larger than the La Cienega Community Center. A public outreach campaign will be implemented following the rollout of the online portal, and will involve notifying the public that the program is applying the SLDC and enforcement on new developments. It may be necessary to use an outside facilitator if updates can be provided in tandem with ongoing community meetings.

3.9 Other Proposed County Actions

Other actions that were proposed during the project's Phase 1 include the following

- Adding a final inspection requirement for all new domestic wells to verify that meters have been installed.
- Requiring that all new domestic wells participate in the domestic well monitoring program going forward.
- Coordinating with OSE regarding language to be added to future well permits stating that local restrictions apply to new domestic wells. This will involve preparing language and determining exactly where to request inclusion on the OSE website.
- Implementing the requirement that all properties required to report water meter readings as a condition of plat approval be entered into a database of landowners, names, and addresses when the building permit is issued.

4. Next Steps: Phase 3

Once this Phase 2 work plan has been fully initiated, the project will move to Phase 3. The goals of Phase 3 are as follows:

- Expand well meter information collection and verification of installation of meters to all development sites subject to the SLDC.
- Coordinate with OSE to share domestic well data, especially GIS information captured for wells during final inspection by Code Enforcement. Data sharing will allow for better resolution of information available in the NMWRRS for Santa Fe County.
- Develop a map of County communities at risk for groundwater/aquifer contamination or depletion.
- Determine potential options for incentivizing voluntary compliance for the Domestic Well Use Monitoring Program for well users not involved in development or redevelopment.
    - Incorporation into the 2024 Stormwater Management Program Plan directed GSI Incentivization Program
    - Ability to provide meters to low-income or at-risk communities

The ECO anticipates that implementation of Phases 2 and 3 will take about five years.

References

Daniel B. Stephens & Associates, Inc. (DBS&A) and the New Mexico Bureau of Geology and Mineral Resources (NMBGMR). 2023. *La Cienega and La Cieneguilla Domestic Well Monitoring Program*. Prepared for Santa Fe County. March 27, 2023.

Santa Fe County. 2015. *La Cienega and La Cieneguilla community plan update*. Available at <https://www.santafecountynm.gov/media/files/2015LaCienegaandLaCieneguillaPlanUpdate.pdf>.

Appendix A

Water Sampling Memorandum

DBS&A
a Geo-Logic Company

Sampling Memo
Santa Fe County
La Cienega / La Cieneguilla Wells

Date: August 27, 2025

Sample Date: October 5, 2023

Prepared by: Jason Lau, DBS&A

Location: La Cienega / La Cieneguilla

Purpose: Water Quality Sampling

Summary

Daniel B. Stephens & Associates, Inc. (DBS&A) sampled 6 domestic wells from the La Cienega and La Cieneguilla (LCLC) area. The wells were sampled for general chemistry and polyfluoroalkyl substances (PFAS). Figure 1 shows the approximate locations for the domestic wells that were sampled.

Laboratory Analysis Notes

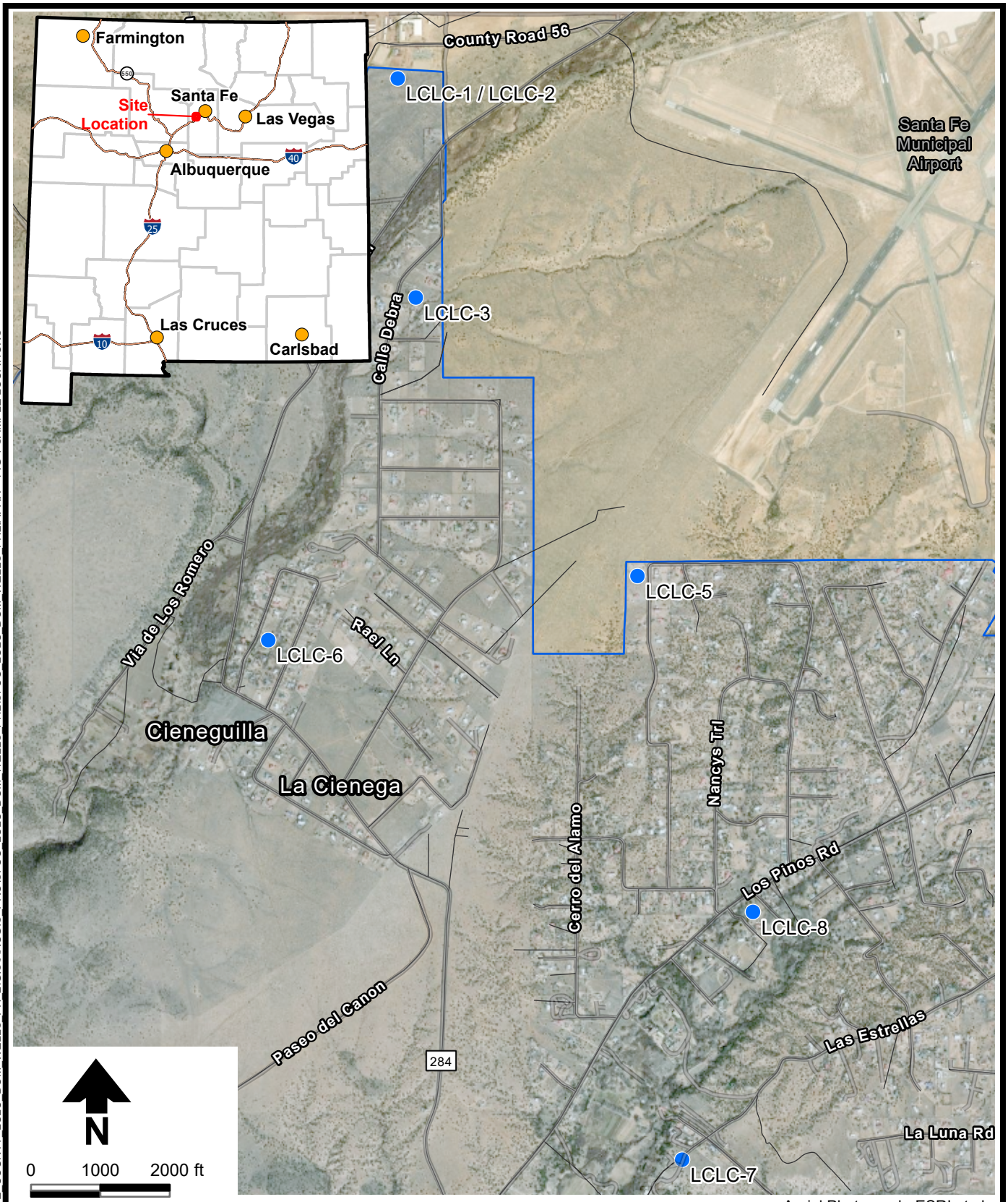
A summary of the results is included in Table 1. The Environmental Protection Agency's (EPA) Maximum Contaminant Level (MCL) for each analyte is listed where applicable.

LCLC-2 was a duplicate of the LCLC-1 location. LCLC-4 was a field blank. The LCLC-5 well is from the La Cienega Mutual Domestic Water Consumers Association (MDWCA) that serves approximately 500 people.

The PFAS analytical methods used were isotope dilution liquid chromatography/tandem mass spectrometry (LC/MS/MS) methods adhering to the Department of Defense Quality Systems Manual (QSM) Version 5.3 Table B-15, and the samples were analyzed by Eurofins, through Hall Environmental Analysis Laboratory, Inc.

The full laboratory report is included as Attachment 1.

Figures



Aerial Photograph: ESRI et al.

Explanation

- Approximate October 2023 sample location
- LCLC area

SANTA FE COUNTY
LCLC DOMESTIC WELLS PHASE 2
Sample Locations

DBS&A
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8/27/2025 DB23.1188

Figure 1

S:\PROJECTS\DB23.1188 SANTA FE COUNTY LCLC DOM WELLS PH 2\GIS\ARCGIS PRO\SFCO LCLC DOM WELLS PH2\SFCO LCLC DOM WELLS PH2.APRX • FIG 1 SAMPLE LOCATIONS

Tables

Table 1. Lab Report Summary

Analyte	Unit	MCL	LCLC-1	LCLC-2	LCLC-3	LCLC-4	LCLC-5	LCLC-6	LCLC-7	LCLC-8
Fluoride	mg/L	4	<0.10	<0.10	<0.10	<0.10	0.22	<1.0	<1.0	<0.5
Chloride	mg/L		55	57	69	<0..50	8.1	39	39	9
Nitrogen, Nitrite (As N)	mg/L	1	<0.10	<0.10	<0.10	<0.10 H	<0.10 H	<1.0 H	<1.0 H	<0.5 H
Bromide	mg/L		0.14	0.14	0.17	0.1	0.13	<1.0	<1.0	<0.5
Nitrogen, Nitrate (As N)	mg/L	10	1.6	1.6	0.38	<0.10 H	0.77 H	2.9 H	3.7 H	<0.5 H
Phosphorus, Orthophosphate (As P)	mg/L		<0.50	<0.50	<0.50	<0.50 H	<0.50 H	<5.0 H	<5.0	2.5 H
Sulfate	mg/L		31	31	46	<0.50	44	25	73	29
Conductivity	µmhos/c		580	580	720	<10	310	540	610	350
Bicarbonate (As CaCO3)	mg/L Ca		170.5	170.9	211.9	<20	98.32	171.8	163.4	118.6
Carbonate (As CaCO3)	mg/L Ca		<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2.0	<2.0
Total Alkalinity (as CaCO3)	mg/L Ca		170.5	170.9	211.9	<20	98.32	171.8	163.4	118.6
Total Dissolved Solids	mg/L		369	396 D	428	<50	196	338	385	208
Calcium	mg/L		83	80	98	<1.0	32	79	85	41
Magnesium	mg/L		13	12	11	<1.0	3.8	10	9.9	4.1
Potassium	mg/L		1.8	1.9	1.7	<1.0	1	1.7	2.4	1.4
Sodium	mg/L		18	18	39	<1.0	27	16	30	25
Perfluorobutanoic acid (PFBA)	ng/L		6.5	6.4	10	0.43 U	0.45 U M	4.5	1.0 J M	0.31 J M
Perfluoropentanoic acid (PFPeA)	ng/L		27	25	33	0.43 U	0.45 U	8.3	2.8	0.60 J M
Perfluorohexanoic acid (PFHxA)	ng/L		19	19	25	1.3 U	1.4 U	8.8	2.3	0.70 J M
Perfluoroheptanoic acid (PFHpA)	ng/L		4.7	4.9	5.6	0.86 U M	0.91 U	2.7	0.90 U	0.89 U
Perfluorooctanoic acid (PFOA)	ng/L	4	23 M	24 M	25 M	1.8 M	1.8 M	14 M	2.1 M	1.9 M
Perfluorononanoic acid (PFNA)	ng/L	10	1.4 J	1.2 J	4.7	1.3 U	1.4 U	1.3 U	1.4 U	1.3 U

Perfluorodecanoic acid (PFDA)	ng/L		0.93 U M	0.88 U	0.56 J M	0.86 U	0.91 U M	0.86 U M	0.90 U M	0.89 U M
Perfluoroundecanoic acid (PFUnA)	ng/L		1.4 U	1.3 U	1.3 U M	1.3 U	1.4 U	1.3 U	1.4 U M	1.3 U
Perfluorododecanoic acid (PFDoA)	ng/L		0.93 U M	0.88 U	0.85 U	0.86 U	0.91 U	0.86 U	0.90 U	0.89 U
Perfluorotridecanoic acid (PFTrDA)	ng/L		1.4 U M	1.3 U	1.3 U	1.3 U	1.4 U	1.3 U M	1.4 U	1.3 U M
Perfluorotetradecanoic acid (PFTeA)	ng/L		1.4 U	1.3 U	1.3 U	1.3 U	1.4 U M	1.3 U	1.4 U	1.3 U
Perfluorobutanesulfonic acid (PFBS)	ng/L	2000	17	17	22	0.86 U	0.91 U	6.3	0.54 J	0.42 J M
Perfluoropentanesulfonic acid (PFPeS)	ng/L		0.93 J	0.94 J	0.63 J	1.3 U	1.4 U	2.1	1.4 U	1.3 U
Perfluorohexanesulfonic acid (PFHxS)	ng/L	10	11	10	9.3	0.86 U	0.91 U	9.9	0.52 J M	0.39 J M
Perfluoroheptanesulfonic acid (PFHpS)	ng/L		1.4 U	1.3 U	1.3 U	1.3 U	1.4 U	1.3 U	1.4 U	1.3 U
Perfluorooctanesulfonic acid (PFOS)	ng/L	4	5.7	6	25 M	1.3 U	1.4 U	7.4 I	1.4 U	1.3 U
Perfluorononanesulfonic acid (PFNS)	ng/L		1.4 U	1.3 U	1.3 U	1.3 U	1.4 U	1.3 U	1.4 U	1.3 U
Perfluorodecanesulfonic acid (PFDS)	ng/L		1.4 U	1.3 U	1.3 U	1.3 U	1.4 U	1.3 U	1.4 U	1.3 U
Perfluorododecanesulfonic acid (PFDoS)	ng/L		2.8 U	2.6 U	2.5 U	2.6 U	2.7 U	2.6 U	2.7 U	2.7 U
Perfluorooctanesulfonamide (FOSA)	ng/L		1.4 U	1.3 U	0.48 J M	1.3 U	1.4 U	1.3 U	1.4 U	1.3 U

mg/L = milligrams per liter
ng/L = nanograms per liter
MCL = EPA Maximum Contaminant Level
D = Sample Diluted Due to Matrix
H = Holding times for preparation or analysis exceeded
I = Value is EMPC (estimated maximum possible concentration).
J = Estimated: The analyte was positively identified; the quantitation is an estimation
M = Manual integrated compound
U = Undetected at the Limit of Detection

Attachment 1

Laboratory Analytical Report

DBS&A
a Geo-Logic Company

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 06, 2023

Amy Ewing
Daniel B. Stephens & Assoc.
6020 Academy NE Suite 100
Albuquerque, NM 87109
TEL: (505) 822-9400
FAX: (505) 822-8877

RE: LCLC domestic Well Sampling OrderNo.: 2310374

Dear Amy Ewing:

Eurofins Environment Testing South Central, LLC received 8 sample(s) on 10/6/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-1
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 9:20:00 AM
Lab ID: 2310374-001 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Fluoride	ND	0.10		mg/L	1	10/6/2023 9:03:12 PM	A100294
Chloride	55	10		mg/L	20	10/6/2023 9:15:37 PM	A100294
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	10/6/2023 9:03:12 PM	A100294
Bromide	0.14	0.10		mg/L	1	10/6/2023 9:03:12 PM	A100294
Nitrogen, Nitrate (As N)	1.6	0.10		mg/L	1	10/6/2023 9:03:12 PM	A100294
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	10/6/2023 9:03:12 PM	A100294
Sulfate	31	0.50		mg/L	1	10/6/2023 9:03:12 PM	A100294
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	580	10		µmhos/c	1	10/12/2023 7:05:56 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	170.5	20.00		mg/L Ca	1	10/12/2023 7:05:56 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 7:05:56 PM	B100435
Total Alkalinity (as CaCO3)	170.5	20.00		mg/L Ca	1	10/12/2023 7:05:56 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	369	50.0		mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	83	1.0		mg/L	1	10/12/2023 1:52:02 PM	B100429
Magnesium	13	1.0		mg/L	1	10/12/2023 1:52:02 PM	B100429
Potassium	1.8	1.0		mg/L	1	10/12/2023 1:52:02 PM	B100429
Sodium	18	1.0		mg/L	1	10/12/2023 1:52:02 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-2
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 9:30:00 AM
Lab ID: 2310374-002 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Fluoride	ND	0.10		mg/L	1	10/6/2023 9:28:02 PM	A100294
Chloride	57	10		mg/L	20	10/6/2023 9:40:26 PM	A100294
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	10/6/2023 9:28:02 PM	A100294
Bromide	0.14	0.10		mg/L	1	10/6/2023 9:28:02 PM	A100294
Nitrogen, Nitrate (As N)	1.6	0.10		mg/L	1	10/6/2023 9:28:02 PM	A100294
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	10/6/2023 9:28:02 PM	A100294
Sulfate	31	0.50		mg/L	1	10/6/2023 9:28:02 PM	A100294
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	580	10		µmhos/c	1	10/12/2023 7:27:02 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	170.9	20.00		mg/L Ca	1	10/12/2023 7:27:02 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 7:27:02 PM	B100435
Total Alkalinity (as CaCO3)	170.9	20.00		mg/L Ca	1	10/12/2023 7:27:02 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	396	100	D	mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	80	1.0		mg/L	1	10/12/2023 1:55:37 PM	B100429
Magnesium	12	1.0		mg/L	1	10/12/2023 1:55:37 PM	B100429
Potassium	1.9	1.0		mg/L	1	10/12/2023 1:55:37 PM	B100429
Sodium	18	1.0		mg/L	1	10/12/2023 1:55:37 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-3
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 9:55:00 AM
Lab ID: 2310374-003 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Fluoride	ND	0.10		mg/L	1	10/6/2023 9:52:50 PM	A100294
Chloride	69	10		mg/L	20	10/17/2023 1:35:42 AM	A100500
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	10/6/2023 9:52:50 PM	A100294
Bromide	0.17	0.10		mg/L	1	10/6/2023 9:52:50 PM	A100294
Nitrogen, Nitrate (As N)	0.38	0.10		mg/L	1	10/6/2023 9:52:50 PM	A100294
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	10/6/2023 9:52:50 PM	A100294
Sulfate	46	10		mg/L	20	10/17/2023 1:35:42 AM	A100500
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	720	10		µmhos/c	1	10/12/2023 7:37:15 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	211.9	20.00		mg/L Ca	1	10/12/2023 7:37:15 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 7:37:15 PM	B100435
Total Alkalinity (as CaCO3)	211.9	20.00		mg/L Ca	1	10/12/2023 7:37:15 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	428	50.0		mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	98	1.0		mg/L	1	10/12/2023 1:59:35 PM	B100429
Magnesium	11	1.0		mg/L	1	10/12/2023 1:59:35 PM	B100429
Potassium	1.7	1.0		mg/L	1	10/12/2023 1:59:35 PM	B100429
Sodium	39	1.0		mg/L	1	10/12/2023 1:59:35 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-4
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 9:50:00 AM
Lab ID: 2310374-004 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Fluoride	ND	0.10		mg/L	1	10/7/2023 12:40:25 PM	R100302
Chloride	ND	0.50		mg/L	1	10/7/2023 12:40:25 PM	R100302
Nitrogen, Nitrite (As N)	ND	0.10	H	mg/L	1	10/7/2023 12:40:25 PM	R100302
Bromide	ND	0.10		mg/L	1	10/7/2023 12:40:25 PM	R100302
Nitrogen, Nitrate (As N)	ND	0.10	H	mg/L	1	10/7/2023 12:40:25 PM	R100302
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	10/7/2023 12:40:25 PM	R100302
Sulfate	ND	0.50		mg/L	1	10/7/2023 12:40:25 PM	R100302
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	ND	10		µmhos/c	1	10/12/2023 7:48:59 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	ND	20.00		mg/L Ca	1	10/12/2023 7:48:59 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 7:48:59 PM	B100435
Total Alkalinity (as CaCO3)	ND	20.00		mg/L Ca	1	10/12/2023 7:48:59 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	ND	50.0		mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	ND	1.0		mg/L	1	10/12/2023 2:08:23 PM	B100429
Magnesium	ND	1.0		mg/L	1	10/12/2023 2:08:23 PM	B100429
Potassium	ND	1.0		mg/L	1	10/12/2023 2:08:23 PM	B100429
Sodium	ND	1.0		mg/L	1	10/12/2023 2:08:23 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-5
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 10:25:00 AM
Lab ID: 2310374-005 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Fluoride	0.22	0.10		mg/L	1	10/7/2023 12:52:50 PM	R100302
Chloride	8.1	0.50		mg/L	1	10/7/2023 12:52:50 PM	R100302
Nitrogen, Nitrite (As N)	ND	0.10	H	mg/L	1	10/7/2023 12:52:50 PM	R100302
Bromide	0.13	0.10		mg/L	1	10/7/2023 12:52:50 PM	R100302
Nitrogen, Nitrate (As N)	0.77	0.10	H	mg/L	1	10/7/2023 12:52:50 PM	R100302
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	10/7/2023 12:52:50 PM	R100302
Sulfate	44	0.50		mg/L	1	10/7/2023 12:52:50 PM	R100302
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	310	10		µmhos/c	1	10/12/2023 7:54:26 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	98.32	20.00		mg/L Ca	1	10/12/2023 7:54:26 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 7:54:26 PM	B100435
Total Alkalinity (as CaCO3)	98.32	20.00		mg/L Ca	1	10/12/2023 7:54:26 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	196	50.0		mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	32	1.0		mg/L	1	10/12/2023 2:11:53 PM	B100429
Magnesium	3.8	1.0		mg/L	1	10/12/2023 2:11:53 PM	B100429
Potassium	1.0	1.0		mg/L	1	10/12/2023 2:11:53 PM	B100429
Sodium	27	1.0		mg/L	1	10/12/2023 2:11:53 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-6
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 10:50:00 AM
Lab ID: 2310374-006 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Fluoride	ND	1.0		mg/L	10	10/7/2023 1:05:15 PM	R100302
Chloride	39	5.0		mg/L	10	10/7/2023 1:05:15 PM	R100302
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	10/7/2023 1:05:15 PM	R100302
Bromide	ND	1.0		mg/L	10	10/7/2023 1:05:15 PM	R100302
Nitrogen, Nitrate (As N)	2.9	1.0	H	mg/L	10	10/7/2023 1:05:15 PM	R100302
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	10/7/2023 1:05:15 PM	R100302
Sulfate	25	5.0		mg/L	10	10/7/2023 1:05:15 PM	R100302
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	540	10		µmhos/c	1	10/12/2023 8:03:14 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	171.8	20.00		mg/L Ca	1	10/12/2023 8:03:14 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 8:03:14 PM	B100435
Total Alkalinity (as CaCO3)	171.8	20.00		mg/L Ca	1	10/12/2023 8:03:14 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	338	50.0		mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	79	1.0		mg/L	1	10/12/2023 2:15:21 PM	B100429
Magnesium	10	1.0		mg/L	1	10/12/2023 2:15:21 PM	B100429
Potassium	1.7	1.0		mg/L	1	10/12/2023 2:15:21 PM	B100429
Sodium	16	1.0		mg/L	1	10/12/2023 2:15:21 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-7
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 12:20:00 PM
Lab ID: 2310374-007 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Fluoride	ND	1.0		mg/L	10	10/7/2023 1:17:39 PM	R100302
Chloride	39	5.0		mg/L	10	10/7/2023 1:17:39 PM	R100302
Nitrogen, Nitrite (As N)	ND	1.0	H	mg/L	10	10/7/2023 1:17:39 PM	R100302
Bromide	ND	1.0		mg/L	10	10/7/2023 1:17:39 PM	R100302
Nitrogen, Nitrate (As N)	3.7	1.0	H	mg/L	10	10/7/2023 1:17:39 PM	R100302
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	10/7/2023 1:17:39 PM	R100302
Sulfate	73	5.0		mg/L	10	10/7/2023 1:17:39 PM	R100302
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	610	10		µmhos/c	1	10/12/2023 8:13:32 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	163.4	20.00		mg/L Ca	1	10/12/2023 8:13:32 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 8:13:32 PM	B100435
Total Alkalinity (as CaCO3)	163.4	20.00		mg/L Ca	1	10/12/2023 8:13:32 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	385	50.0		mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	85	1.0		mg/L	1	10/12/2023 2:18:44 PM	B100429
Magnesium	9.9	1.0		mg/L	1	10/12/2023 2:18:44 PM	B100429
Potassium	2.4	1.0		mg/L	1	10/12/2023 2:18:44 PM	B100429
Sodium	30	1.0		mg/L	1	10/12/2023 2:18:44 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** LCLC-8
Project: LCLC domestic Well Sampling **Collection Date:** 10/5/2023 12:35:00 PM
Lab ID: 2310374-008 **Matrix:** GROUNDWA **Received Date:** 10/6/2023 3:37:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Fluoride	ND	0.50		mg/L	5	10/7/2023 1:30:03 PM	R100302
Chloride	9.7	2.5		mg/L	5	10/7/2023 1:30:03 PM	R100302
Nitrogen, Nitrite (As N)	ND	0.50	H	mg/L	5	10/7/2023 1:30:03 PM	R100302
Bromide	ND	0.50		mg/L	5	10/7/2023 1:30:03 PM	R100302
Nitrogen, Nitrate (As N)	1.4	0.50	H	mg/L	5	10/7/2023 1:30:03 PM	R100302
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	10/7/2023 1:30:03 PM	R100302
Sulfate	29	2.5		mg/L	5	10/7/2023 1:30:03 PM	R100302
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	350	10		µmhos/c	1	10/12/2023 8:27:45 PM	R100435
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	118.6	20.00		mg/L Ca	1	10/12/2023 8:27:45 PM	B100435
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	10/12/2023 8:27:45 PM	B100435
Total Alkalinity (as CaCO3)	118.6	20.00		mg/L Ca	1	10/12/2023 8:27:45 PM	B100435
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MCA**	
Total Dissolved Solids	208	50.0		mg/L	1	10/11/2023 2:20:00 PM	78055
EPA METHOD 200.7: METALS						Analyst: **JRR**	
Calcium	41	1.0		mg/L	1	10/12/2023 2:22:09 PM	B100429
Magnesium	4.1	1.0		mg/L	1	10/12/2023 2:22:09 PM	B100429
Potassium	1.4	1.0		mg/L	1	10/12/2023 2:22:09 PM	B100429
Sodium	25	1.0		mg/L	1	10/12/2023 2:22:09 PM	B100429

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

ANALYTICAL REPORT

PREPARED FOR

Attn: Data Submittal
Hall Environmental Analysis Laboratory
4901 Hawkins NE
Suite D
Albuquerque, New Mexico 87109

Generated 11/2/2023 11:39:19 AM

JOB DESCRIPTION

2310374

JOB NUMBER

320-105783-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

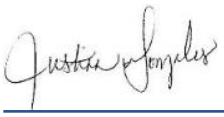
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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 Northern California, LLC Project Manager.

Authorization



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Authorized for release by
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Table of Contents

Definitions/Glossary

Client: Hall Environmental Analysis Laboratory
Job ID: 320-105783-1
Project/Site: 2310374

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

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: 320-105783-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-105783-1

Receipt
The samples were received on 10/10/2023 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.9º C.

LCMS
Method QSM B15: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: 2310374-006C LCLC-6 (320-105783-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-714316.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-001C LCLC-1 — Lab Sample ID: 320-105783-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.5		1.9	0.22	ng/L	1		QSM B15	Total/NA
Perfluoropentanoic acid (PFPeA)	27		1.9	0.22	ng/L	1		QSM B15	Total/NA
Perfluorohexanoic acid (PFHxA)	19		1.9	0.51	ng/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.7		1.9	0.45	ng/L	1		QSM B15	Total/NA
Perfluorooctanoic acid (PFOA)	23	M	1.9	0.52	ng/L	1		QSM B15	Total/NA
Perfluorononanoic acid (PFNA)	1.4	J	1.9	0.52	ng/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid (PFBS)	17		1.9	0.32	ng/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.93	J	1.9	0.47	ng/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11		1.9	0.35	ng/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.7		1.9	0.54	ng/L	1		QSM B15	Total/NA

Client Sample ID: 2310374-002C LCLC-2 — Lab Sample ID: 320-105783-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.4		1.8	0.21	ng/L	1		QSM B15	Total/NA
Perfluoropentanoic acid (PFPeA)	25		1.8	0.21	ng/L	1		QSM B15	Total/NA
Perfluorohexanoic acid (PFHxA)	19		1.8	0.48	ng/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.9		1.8	0.42	ng/L	1		QSM B15	Total/NA
Perfluorooctanoic acid (PFOA)	24	M	1.8	0.49	ng/L	1		QSM B15	Total/NA
Perfluorononanoic acid (PFNA)	1.2	J	1.8	0.49	ng/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid (PFBS)	17		1.8	0.30	ng/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.94	J	1.8	0.45	ng/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	10		1.8	0.33	ng/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.0		1.8	0.51	ng/L	1		QSM B15	Total/NA

Client Sample ID: 2310374-003C LCLC-3 — Lab Sample ID: 320-105783-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	10		1.7	0.20	ng/L	1		QSM B15	Total/NA
Perfluoropentanoic acid (PFPeA)	33		1.7	0.20	ng/L	1		QSM B15	Total/NA
Perfluorohexanoic acid (PFHxA)	25		1.7	0.47	ng/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid (PFHpA)	5.6		1.7	0.41	ng/L	1		QSM B15	Total/NA
Perfluorooctanoic acid (PFOA)	25	M	1.7	0.47	ng/L	1		QSM B15	Total/NA
Perfluorononanoic acid (PFNA)	4.7		1.7	0.47	ng/L	1		QSM B15	Total/NA
Perfluorodecanoic acid (PFDA)	0.56	J M	1.7	0.28	ng/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid (PFBS)	22		1.7	0.29	ng/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.63	J	1.7	0.43	ng/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	9.3		1.7	0.32	ng/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid (PFOS)	25	M	1.7	0.49	ng/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.48	J M	1.7	0.44	ng/L	1		QSM B15	Total/NA

Client Sample ID: 2310374-004C LCLC-4 — Lab Sample ID: 320-105783-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	1.8	M	1.7	0.48	ng/L	1		QSM B15	Total/NA

Client Sample ID: 2310374-005C LCLC-5 — Lab Sample ID: 320-105783-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	1.8	M	1.8	0.51	ng/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-006C LCLC-6 — Lab Sample ID: 320-105783-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.5		1.7	0.21	ng/L	1		QSM B15	Total/NA
Perfluoropentanoic acid (PFPeA)	8.3		1.7	0.21	ng/L	1		QSM B15	Total/NA
Perfluorohexanoic acid (PFHxA)	8.8		1.7	0.47	ng/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.7		1.7	0.41	ng/L	1		QSM B15	Total/NA
Perfluorooctanoic acid (PFOA)	14	M	1.7	0.48	ng/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.3		1.7	0.29	ng/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	2.1		1.7	0.44	ng/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	9.9		1.7	0.33	ng/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.4	I	1.7	0.50	ng/L	1		QSM B15	Total/NA
PFMPA	0.35	J	1.7	0.24	ng/L	1		QSM B15	Total/NA

Client Sample ID: 2310374-007C LCLC-7 — Lab Sample ID: 320-105783-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.0	J M	1.8	0.22	ng/L	1		QSM B15	Total/NA
Perfluoropentanoic acid (PFPeA)	2.8		1.8	0.22	ng/L	1		QSM B15	Total/NA
Perfluorohexanoic acid (PFHxA)	2.3		1.8	0.50	ng/L	1		QSM B15	Total/NA
Perfluorooctanoic acid (PFOA)	2.1	M	1.8	0.51	ng/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.54	J	1.8	0.31	ng/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.52	J M	1.8	0.34	ng/L	1		QSM B15	Total/NA

Client Sample ID: 2310374-008C LCLC-8 — Lab Sample ID: 320-105783-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.31	J M	1.8	0.21	ng/L	1		QSM B15	Total/NA
Perfluoropentanoic acid (PFPeA)	0.60	J M	1.8	0.21	ng/L	1		QSM B15	Total/NA
Perfluorohexanoic acid (PFHxA)	0.70	J M	1.8	0.49	ng/L	1		QSM B15	Total/NA
Perfluorooctanoic acid (PFOA)	1.9	M	1.8	0.50	ng/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.42	J M	1.8	0.30	ng/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.39	J M	1.8	0.34	ng/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-001C LCLC-1

Date Collected: 10/05/23 09:20
Date Received: 10/10/23 09:10

Lab Sample ID: 320-105783-1

Matrix: Water

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.5**		1.9	0.22	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluoropentanoic acid (PFPeA)	**27**		1.9	0.22	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorohexanoic acid (PFHxA)	**19**		1.9	0.51	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluoroheptanoic acid (PFHpA)	**4.7**		1.9	0.45	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorooctanoic acid (PFOA)	**23**	**M**	1.9	0.52	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorononanoic acid (PFNA)	**1.4**	**J**	1.9	0.52	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorodecanoic acid (PFDA)	0.93	U M	1.9	0.31	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluoroundecanoic acid (PFUnA)	1.4	U	1.9	0.68	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorododecanoic acid (PFDoA)	0.93	U	1.9	0.39	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorotridecanoic acid (PFTrDA)	1.4	U M	1.9	0.64	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorotetradecanoic acid (PFTeA)	1.4	U	1.9	0.47	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorobutanesulfonic acid (PFBS)	**17**		1.9	0.32	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluoropentanesulfonic acid (PFPeS)	**0.93**	**J**	1.9	0.47	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorohexanesulfonic acid (PFHxS)	**11**		1.9	0.35	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluoroheptanesulfonic acid (PFHpS)	1.4	U	1.9	0.66	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorooctanesulfonic acid (PFOS)	**5.7**		1.9	0.54	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorononanesulfonic acid (PFNS)	1.4	U	1.9	0.61	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorodecanesulfonic acid (PFDS)	1.4	U	1.9	0.51	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorododecanesulfonic acid (PFDoS)	2.8	U	3.7	0.79	ng/L		10/19/23 12:32	11/01/23 04:26	1
Perfluorooctanesulfonamide (FOSA)	1.4	U M	1.9	0.48	ng/L		10/19/23 12:32	11/01/23 04:26	1
NMeFOSAA	0.93	U	4.6	0.43	ng/L		10/19/23 12:32	11/01/23 04:26	1
NEtFOSAA	0.93	U	4.6	0.32	ng/L		10/19/23 12:32	11/01/23 04:26	1
4:2 FTS	0.93	U	1.9	0.33	ng/L		10/19/23 12:32	11/01/23 04:26	1
6:2 FTS	0.93	U M	4.6	0.35	ng/L		10/19/23 12:32	11/01/23 04:26	1
8:2 FTS	1.4	U	1.9	0.57	ng/L		10/19/23 12:32	11/01/23 04:26	1
NEtFOSA	1.4	U	1.9	0.69	ng/L		10/19/23 12:32	11/01/23 04:26	1
NMeFOSA	1.4	U	1.9	0.69	ng/L		10/19/23 12:32	11/01/23 04:26	1
NMeFOSE	0.93	U	3.7	0.45	ng/L		10/19/23 12:32	11/01/23 04:26	1
NEtFOSE	1.4	U	1.9	0.67	ng/L		10/19/23 12:32	11/01/23 04:26	1
9Cl-PF3ONS	0.93	U	1.9	0.39	ng/L		10/19/23 12:32	11/01/23 04:26	1
HFPO-DA (GenX)	1.4	U	3.7	0.64	ng/L		10/19/23 12:32	11/01/23 04:26	1
11Cl-PF3OUdS	0.93	U	1.9	0.45	ng/L		10/19/23 12:32	11/01/23 04:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.4	U M	1.9	0.47	ng/L		10/19/23 12:32	11/01/23 04:26	1
3:3 FTCA	0.93	U	1.9	0.40	ng/L		10/19/23 12:32	11/01/23 04:26	1
5:3 FTCA	0.93	U	1.9	0.31	ng/L		10/19/23 12:32	11/01/23 04:26	1
7:3 FTCA	1.4	U	1.9	0.51	ng/L		10/19/23 12:32	11/01/23 04:26	1
NFDHA	1.4	U	1.9	0.57	ng/L		10/19/23 12:32	11/01/23 04:26	1
PFMBA	0.93	U	1.9	0.24	ng/L		10/19/23 12:32	11/01/23 04:26	1
PFMPA	0.93	U	1.9	0.26	ng/L		10/19/23 12:32	11/01/23 04:26	1
PFEESA	0.93	U	1.9	0.27	ng/L		10/19/23 12:32	11/01/23 04:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*89*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:26*	*1*
13C4 PFBA	*97*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:26*	*1*
13C5 PFPeA	*99*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:26*	*1*

Client Sample ID: 2310374-001C LCLC-1
Lab Sample ID: 320-105783-1
Date Collected: 10/05/23 09:20
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	100		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C4 PFHpA	107		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C4 PFOA	101		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C5 PFNA	108		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C2 PFDA	98		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C2 PFUnA	89		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C2 PFDoA	86		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C2 PFTeDA	82		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C3 PFBS	98		50 - 150	10/19/23 12:32	11/01/23 04:26	1
18O2 PFHxS	98		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C4 PFOS	101		50 - 150	10/19/23 12:32	11/01/23 04:26	1
d3-NMeFOSAA	88		50 - 150	10/19/23 12:32	11/01/23 04:26	1
d5-NEtFOSAA	97		50 - 150	10/19/23 12:32	11/01/23 04:26	1
M2-4:2 FTS	91		50 - 150	10/19/23 12:32	11/01/23 04:26	1
M2-6:2 FTS	101		50 - 150	10/19/23 12:32	11/01/23 04:26	1
M2-8:2 FTS	91		50 - 150	10/19/23 12:32	11/01/23 04:26	1
d-N-MeFOSA-M	63		50 - 150	10/19/23 12:32	11/01/23 04:26	1
d-N-EtFOSA-M	60		50 - 150	10/19/23 12:32	11/01/23 04:26	1
d7-N-MeFOSE-M	71		50 - 150	10/19/23 12:32	11/01/23 04:26	1
d9-N-EtFOSE-M	68		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C3 HFPO-DA	95		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C-6:2 FTCA	89		50 - 150	10/19/23 12:32	11/01/23 04:26	1
13C-8:2 FTCA	89		50 - 150	10/19/23 12:32	11/01/23 04:26	1

Client Sample ID: 2310374-002C LCLC-2
Lab Sample ID: 320-105783-2
Date Collected: 10/05/23 09:30
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.4**		1.8	0.21	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluoropentanoic acid (PFPeA)	**25**		1.8	0.21	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorohexanoic acid (PFHxA)	**19**		1.8	0.48	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluoroheptanoic acid (PFHpA)	**4.9**		1.8	0.42	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorooctanoic acid (PFOA)	**24**	**M**	1.8	0.49	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorononanoic acid (PFNA)	**1.2**	**J**	1.8	0.49	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorodecanoic acid (PFDA)	0.88	U	1.8	0.29	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluoroundecanoic acid (PFUnA)	1.3	U	1.8	0.64	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorododecanoic acid (PFDoA)	0.88	U	1.8	0.37	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorotridecanoic acid (PFTrDA)	1.3	U	1.8	0.61	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorotetradecanoic acid (PFTeA)	1.3	U	1.8	0.45	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorobutanesulfonic acid (PFBS)	**17**		1.8	0.30	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluoropentanesulfonic acid (PFPeS)	**0.94**	**J**	1.8	0.45	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorohexanesulfonic acid (PFHxS)	**10**		1.8	0.33	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluoroheptanesulfonic acid (PFHpS)	1.3	U	1.8	0.62	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorooctanesulfonic acid (PFOS)	**6.0**		1.8	0.51	ng/L		10/19/23 12:32	11/01/23 04:37	1

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-002C LCLC-2

Date Collected: 10/05/23 09:30
Date Received: 10/10/23 09:10

Lab Sample ID: 320-105783-2

Matrix: Water

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	1.3	U	1.8	0.58	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorodecanesulfonic acid (PFDS)	1.3	U	1.8	0.48	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorododecanesulfonic acid (PFDoS)	2.6	U	3.5	0.75	ng/L		10/19/23 12:32	11/01/23 04:37	1
Perfluorooctanesulfonamide (FOSA)	1.3	U	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 04:37	1
NMeFOSAA	0.88	U	4.4	0.40	ng/L		10/19/23 12:32	11/01/23 04:37	1
NEtFOSAA	0.88	U	4.4	0.30	ng/L		10/19/23 12:32	11/01/23 04:37	1
4:2 FTS	0.88	U	1.8	0.32	ng/L		10/19/23 12:32	11/01/23 04:37	1
6:2 FTS	0.88	U	4.4	0.33	ng/L		10/19/23 12:32	11/01/23 04:37	1
8:2 FTS	1.3	U	1.8	0.54	ng/L		10/19/23 12:32	11/01/23 04:37	1
NEtFOSA	1.3	U M	1.8	0.65	ng/L		10/19/23 12:32	11/01/23 04:37	1
NMeFOSA	1.3	U	1.8	0.65	ng/L		10/19/23 12:32	11/01/23 04:37	1
NMeFOSE	0.88	U	3.5	0.42	ng/L		10/19/23 12:32	11/01/23 04:37	1
NEtFOSE	1.3	U	1.8	0.63	ng/L		10/19/23 12:32	11/01/23 04:37	1
9Cl-PF3ONS	0.88	U	1.8	0.37	ng/L		10/19/23 12:32	11/01/23 04:37	1
HFPO-DA (GenX)	1.3	U	3.5	0.61	ng/L		10/19/23 12:32	11/01/23 04:37	1
11Cl-PF3OUdS	0.88	U	1.8	0.42	ng/L		10/19/23 12:32	11/01/23 04:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.3	U	1.8	0.45	ng/L		10/19/23 12:32	11/01/23 04:37	1
3:3 FTCA	0.88	U	1.8	0.38	ng/L		10/19/23 12:32	11/01/23 04:37	1
5:3 FTCA	0.88	U	1.8	0.29	ng/L		10/19/23 12:32	11/01/23 04:37	1
7:3 FTCA	1.3	U	1.8	0.48	ng/L		10/19/23 12:32	11/01/23 04:37	1
NFDHA	1.3	U	1.8	0.54	ng/L		10/19/23 12:32	11/01/23 04:37	1
PFMBA	0.88	U	1.8	0.23	ng/L		10/19/23 12:32	11/01/23 04:37	1
PFMPA	0.88	U	1.8	0.25	ng/L		10/19/23 12:32	11/01/23 04:37	1
PFEESA	0.88	U	1.8	0.25	ng/L		10/19/23 12:32	11/01/23 04:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*83*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C4 PFBA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C5 PFPeA	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C2 PFHxA	*101*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C4 PFHpA	*102*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C4 PFOA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C5 PFNA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C2 PFDA	*91*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C2 PFUnA	*82*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C2 PFDoA	*80*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C2 PFTeDA	*82*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C3 PFBS	*99*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
18O2 PFHxS	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
13C4 PFOS	*90*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
d3-NMeFOSAA	*86*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
d5-NEtFOSAA	*90*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
M2-4:2 FTS	*90*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
M2-6:2 FTS	*93*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
M2-8:2 FTS	*80*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
d-N-MeFOSA-M	*65*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
d-N-EtFOSA-M	*64*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
d7-N-MeFOSE-M	*79*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*
d9-N-EtFOSE-M	*73*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:37*	*1*

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-002C LCLC-2

Lab Sample ID: 320-105783-2

Date Collected: 10/05/23 09:30
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 150	10/19/23 12:32	11/01/23 04:37	1
13C-6:2 FTCA	97		50 - 150	10/19/23 12:32	11/01/23 04:37	1
13C-8:2 FTCA	71		50 - 150	10/19/23 12:32	11/01/23 04:37	1

Client Sample ID: 2310374-003C LCLC-3

Lab Sample ID: 320-105783-3

Date Collected: 10/05/23 09:55
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**10**		1.7	0.20	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluoropentanoic acid (PFPeA)	**33**		1.7	0.20	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorohexanoic acid (PFHxA)	**25**		1.7	0.47	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluoroheptanoic acid (PFHpA)	**5.6**		1.7	0.41	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorooctanoic acid (PFOA)	**25**	**M**	1.7	0.47	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorononanoic acid (PFNA)	**4.7**		1.7	0.47	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorodecanoic acid (PFDA)	**0.56**	**J M**	1.7	0.28	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluoroundecanoic acid (PFUnA)	1.3	U M	1.7	0.62	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorododecanoic acid (PFDoA)	0.85	U	1.7	0.36	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorotridecanoic acid (PFTrDA)	1.3	U	1.7	0.58	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorotetradecanoic acid (PFTeA)	1.3	U	1.7	0.43	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorobutanesulfonic acid (PFBS)	**22**		1.7	0.29	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluoropentanesulfonic acid (PFPeS)	**0.63**	**J**	1.7	0.43	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorohexanesulfonic acid (PFHxS)	**9.3**		1.7	0.32	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluoroheptanesulfonic acid (PFHpS)	1.3	U	1.7	0.60	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorooctanesulfonic acid (PFOS)	**25**	**M**	1.7	0.49	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorononanesulfonic acid (PFNS)	1.3	U	1.7	0.56	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorodecanesulfonic acid (PFDS)	1.3	U	1.7	0.47	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorododecanesulfonic acid (PFDoS)	2.5	U	3.4	0.72	ng/L		10/19/23 12:32	11/01/23 04:49	1
Perfluorooctanesulfonamide (FOSA)	**0.48**	**J M**	1.7	0.44	ng/L		10/19/23 12:32	11/01/23 04:49	1
NMeFOSAA	0.85	U	4.2	0.39	ng/L		10/19/23 12:32	11/01/23 04:49	1
NEtFOSAA	0.85	U	4.2	0.29	ng/L		10/19/23 12:32	11/01/23 04:49	1
4:2 FTS	0.85	U	1.7	0.30	ng/L		10/19/23 12:32	11/01/23 04:49	1
6:2 FTS	0.85	U	4.2	0.32	ng/L		10/19/23 12:32	11/01/23 04:49	1
8:2 FTS	1.3	U	1.7	0.52	ng/L		10/19/23 12:32	11/01/23 04:49	1
NEtFOSA	1.3	U M	1.7	0.63	ng/L		10/19/23 12:32	11/01/23 04:49	1
NMeFOSA	1.3	U	1.7	0.63	ng/L		10/19/23 12:32	11/01/23 04:49	1
NMeFOSE	0.85	U	3.4	0.41	ng/L		10/19/23 12:32	11/01/23 04:49	1
NEtFOSE	1.3	U	1.7	0.61	ng/L		10/19/23 12:32	11/01/23 04:49	1
9Cl-PF3ONS	0.85	U	1.7	0.36	ng/L		10/19/23 12:32	11/01/23 04:49	1
HFPO-DA (GenX)	1.3	U	3.4	0.58	ng/L		10/19/23 12:32	11/01/23 04:49	1
11Cl-PF3OUdS	0.85	U M	1.7	0.41	ng/L		10/19/23 12:32	11/01/23 04:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.3	U	1.7	0.43	ng/L		10/19/23 12:32	11/01/23 04:49	1
3:3 FTCA	0.85	U	1.7	0.36	ng/L		10/19/23 12:32	11/01/23 04:49	1

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-003C LCLC-3

Lab Sample ID: 320-105783-3

Date Collected: 10/05/23 09:55
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
5:3 FTCA	0.85	U	1.7	0.28	ng/L		10/19/23 12:32	11/01/23 04:49	1
7:3 FTCA	1.3	U	1.7	0.47	ng/L		10/19/23 12:32	11/01/23 04:49	1
NFDHA	1.3	U	1.7	0.52	ng/L		10/19/23 12:32	11/01/23 04:49	1
PFMBA	0.85	U	1.7	0.22	ng/L		10/19/23 12:32	11/01/23 04:49	1
PFMPA	0.85	U M	1.7	0.24	ng/L		10/19/23 12:32	11/01/23 04:49	1
PFEESA	0.85	U	1.7	0.25	ng/L		10/19/23 12:32	11/01/23 04:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*81*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C4 PFBA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C5 PFPeA	*92*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C2 PFHxA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C4 PFHpA	*104*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C4 PFOA	*99*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C5 PFNA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C2 PFDA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C2 PFUnA	*84*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C2 PFDoA	*84*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C2 PFTeDA	*78*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C3 PFBS	*93*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
18O2 PFHxS	*91*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C4 PFOS	*86*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
d3-NMeFOSAA	*86*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
d5-NEtFOSAA	*97*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
M2-4:2 FTS	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
M2-6:2 FTS	*91*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
M2-8:2 FTS	*89*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
d-N-MeFOSA-M	*66*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
d-N-EtFOSA-M	*66*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
d7-N-MeFOSE-M	*74*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
d9-N-EtFOSE-M	*78*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C3 HFPO-DA	*90*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C-6:2 FTCA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*
13C-8:2 FTCA	*90*		*50 - 150*	*10/19/23 12:32*	*11/01/23 04:49*	*1*

Client Sample ID: 2310374-004C LCLC-4

Lab Sample ID: 320-105783-4

Date Collected: 10/05/23 09:50
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.43	U	1.7	0.21	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluoropentanoic acid (PFPeA)	0.43	U	1.7	0.21	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorohexanoic acid (PFHxA)	1.3	U	1.7	0.48	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluoroheptanoic acid (PFHpA)	0.86	U M	1.7	0.41	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorooctanoic acid (PFOA)	**1.8**	**M**	1.7	0.48	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorononanoic acid (PFNA)	1.3	U	1.7	0.48	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorodecanoic acid (PFDA)	0.86	U	1.7	0.29	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluoroundecanoic acid (PFUnA)	1.3	U	1.7	0.63	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorododecanoic acid (PFDoA)	0.86	U	1.7	0.36	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorotridecanoic acid (PFTrDA)	1.3	U	1.7	0.60	ng/L		10/19/23 12:32	11/01/23 05:00	1

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-004C LCLC-4

Date Collected: 10/05/23 09:50
Date Received: 10/10/23 09:10

Lab Sample ID: 320-105783-4

Matrix: Water

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	1.3	U	1.7	0.44	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorobutanesulfonic acid (PFBS)	0.86	U	1.7	0.29	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluoropentanesulfonic acid (PFPeS)	1.3	U	1.7	0.44	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorohexanesulfonic acid (PFHxS)	0.86	U M	1.7	0.33	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluoroheptanesulfonic acid (PFHpS)	1.3	U	1.7	0.61	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorooctanesulfonic acid (PFOS)	1.3	U	1.7	0.50	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorononanesulfonic acid (PFNS)	1.3	U	1.7	0.57	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorodecanesulfonic acid (PFDS)	1.3	U	1.7	0.48	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorododecanesulfonic acid (PFDoS)	2.6	U	3.5	0.73	ng/L		10/19/23 12:32	11/01/23 05:00	1
Perfluorooctanesulfonamide (FOSA)	1.3	U	1.7	0.45	ng/L		10/19/23 12:32	11/01/23 05:00	1
NMeFOSAA	0.86	U	4.3	0.40	ng/L		10/19/23 12:32	11/01/23 05:00	1
NEtFOSAA	0.86	U	4.3	0.29	ng/L		10/19/23 12:32	11/01/23 05:00	1
4:2 FTS	0.86	U	1.7	0.31	ng/L		10/19/23 12:32	11/01/23 05:00	1
6:2 FTS	0.86	U M	4.3	0.33	ng/L		10/19/23 12:32	11/01/23 05:00	1
8:2 FTS	1.3	U	1.7	0.54	ng/L		10/19/23 12:32	11/01/23 05:00	1
NEtFOSA	1.3	U M	1.7	0.64	ng/L		10/19/23 12:32	11/01/23 05:00	1
NMeFOSA	1.3	U	1.7	0.64	ng/L		10/19/23 12:32	11/01/23 05:00	1
NMeFOSE	0.86	U	3.5	0.41	ng/L		10/19/23 12:32	11/01/23 05:00	1
NEtFOSE	1.3	U	1.7	0.62	ng/L		10/19/23 12:32	11/01/23 05:00	1
9Cl-PF3ONS	0.86	U	1.7	0.36	ng/L		10/19/23 12:32	11/01/23 05:00	1
HFPO-DA (GenX)	1.3	U	3.5	0.60	ng/L		10/19/23 12:32	11/01/23 05:00	1
11Cl-PF3OUdS	0.86	U M	1.7	0.41	ng/L		10/19/23 12:32	11/01/23 05:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.3	U	1.7	0.44	ng/L		10/19/23 12:32	11/01/23 05:00	1
3:3 FTCA	0.86	U	1.7	0.37	ng/L		10/19/23 12:32	11/01/23 05:00	1
5:3 FTCA	0.86	U	1.7	0.29	ng/L		10/19/23 12:32	11/01/23 05:00	1
7:3 FTCA	1.3	U	1.7	0.48	ng/L		10/19/23 12:32	11/01/23 05:00	1
NFDHA	1.3	U	1.7	0.54	ng/L		10/19/23 12:32	11/01/23 05:00	1
PFMBA	0.86	U	1.7	0.22	ng/L		10/19/23 12:32	11/01/23 05:00	1
PFMPA	0.86	U	1.7	0.24	ng/L		10/19/23 12:32	11/01/23 05:00	1
PFEESA	0.86	U	1.7	0.25	ng/L		10/19/23 12:32	11/01/23 05:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*90*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C4 PFBA	*103*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C5 PFPeA	*105*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C2 PFHxA	*105*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C4 PFHpA	*106*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C4 PFOA	*102*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C5 PFNA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C2 PFDA	*96*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C2 PFUnA	*102*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C2 PFDoA	*97*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C2 PFTeDA	*87*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C3 PFBS	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
18O2 PFHxS	*93*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
13C4 PFOS	*96*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*
d3-NMeFOSAA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:00*	*1*

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-004C LCLC-4

Lab Sample ID: 320-105783-4

Date Collected: 10/05/23 09:50
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		50 - 150	10/19/23 12:32	11/01/23 05:00	1
M2-4:2 FTS	95		50 - 150	10/19/23 12:32	11/01/23 05:00	1
M2-6:2 FTS	104		50 - 150	10/19/23 12:32	11/01/23 05:00	1
M2-8:2 FTS	93		50 - 150	10/19/23 12:32	11/01/23 05:00	1
d-N-MeFOSA-M	69		50 - 150	10/19/23 12:32	11/01/23 05:00	1
d-N-EtFOSA-M	66		50 - 150	10/19/23 12:32	11/01/23 05:00	1
d7-N-MeFOSE-M	79		50 - 150	10/19/23 12:32	11/01/23 05:00	1
d9-N-EtFOSE-M	81		50 - 150	10/19/23 12:32	11/01/23 05:00	1
13C3 HFPO-DA	100		50 - 150	10/19/23 12:32	11/01/23 05:00	1
13C-6:2 FTCA	97		50 - 150	10/19/23 12:32	11/01/23 05:00	1
13C-8:2 FTCA	94		50 - 150	10/19/23 12:32	11/01/23 05:00	1

Client Sample ID: 2310374-005C LCLC-5

Lab Sample ID: 320-105783-5

Date Collected: 10/05/23 10:25
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.45	U M	1.8	0.22	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluoropentanoic acid (PFPeA)	0.45	U	1.8	0.22	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorohexanoic acid (PFHxA)	1.4	U	1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluoroheptanoic acid (PFHpA)	0.91	U	1.8	0.43	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorooctanoic acid (PFOA)	**1.8**	**M**	1.8	0.51	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorononanoic acid (PFNA)	1.4	U	1.8	0.51	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorodecanoic acid (PFDA)	0.91	U M	1.8	0.30	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluoroundecanoic acid (PFUnA)	1.4	U	1.8	0.66	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorododecanoic acid (PFDoA)	0.91	U	1.8	0.38	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorotridecanoic acid (PFTrDA)	1.4	U	1.8	0.62	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorotetradecanoic acid (PFTeA)	1.4	U M	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorobutanesulfonic acid (PFBS)	0.91	U	1.8	0.31	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluoropentanesulfonic acid (PFPeS)	1.4	U	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorohexanesulfonic acid (PFHxS)	0.91	U	1.8	0.34	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluoroheptanesulfonic acid (PFHpS)	1.4	U	1.8	0.64	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorooctanesulfonic acid (PFOS)	1.4	U	1.8	0.52	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorononanesulfonic acid (PFNS)	1.4	U	1.8	0.60	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorodecanesulfonic acid (PFDS)	1.4	U	1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorododecanesulfonic acid (PFDoS)	2.7	U	3.6	0.77	ng/L		10/19/23 12:32	11/01/23 05:11	1
Perfluorooctanesulfonamide (FOSA)	1.4	U	1.8	0.47	ng/L		10/19/23 12:32	11/01/23 05:11	1
NMeFOSAA	0.91	U	4.5	0.42	ng/L		10/19/23 12:32	11/01/23 05:11	1
NEtFOSAA	0.91	U	4.5	0.31	ng/L		10/19/23 12:32	11/01/23 05:11	1
4:2 FTS	0.91	U	1.8	0.33	ng/L		10/19/23 12:32	11/01/23 05:11	1
6:2 FTS	0.91	U	4.5	0.34	ng/L		10/19/23 12:32	11/01/23 05:11	1
8:2 FTS	1.4	U	1.8	0.56	ng/L		10/19/23 12:32	11/01/23 05:11	1
NEtFOSA	1.4	U M	1.8	0.67	ng/L		10/19/23 12:32	11/01/23 05:11	1
NMeFOSA	1.4	U	1.8	0.67	ng/L		10/19/23 12:32	11/01/23 05:11	1
NMeFOSE	0.91	U	3.6	0.43	ng/L		10/19/23 12:32	11/01/23 05:11	1
NEtFOSE	1.4	U	1.8	0.65	ng/L		10/19/23 12:32	11/01/23 05:11	1
9Cl-PF3ONS	0.91	U	1.8	0.38	ng/L		10/19/23 12:32	11/01/23 05:11	1

Client Sample ID: 2310374-005C LCLC-5
Lab Sample ID: 320-105783-5
Date Collected: 10/05/23 10:25
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	1.4	U	3.6	0.62	ng/L		10/19/23 12:32	11/01/23 05:11	1
11Cl-PF3OUdS	0.91	U	1.8	0.43	ng/L		10/19/23 12:32	11/01/23 05:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.4	U M	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 05:11	1
3:3 FTCA	0.91	U	1.8	0.39	ng/L		10/19/23 12:32	11/01/23 05:11	1
5:3 FTCA	0.91	U	1.8	0.30	ng/L		10/19/23 12:32	11/01/23 05:11	1
7:3 FTCA	1.4	U	1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:11	1
NFDHA	1.4	U	1.8	0.56	ng/L		10/19/23 12:32	11/01/23 05:11	1
PFMBA	0.91	U	1.8	0.24	ng/L		10/19/23 12:32	11/01/23 05:11	1
PFMPA	0.91	U M	1.8	0.25	ng/L		10/19/23 12:32	11/01/23 05:11	1
PFEESA	0.91	U M	1.8	0.26	ng/L		10/19/23 12:32	11/01/23 05:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*90*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C4 PFBA	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C5 PFPeA	*95*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C2 PFHxA	*102*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C4 PFHpA	*102*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C4 PFOA	*103*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C5 PFNA	*96*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C2 PFDA	*101*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C2 PFUnA	*95*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C2 PFDoA	*83*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C3 PFBS	*101*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
18O2 PFHxS	*97*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C4 PFOS	*95*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
d3-NMeFOSAA	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
d5-NEtFOSAA	*95*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
M2-4:2 FTS	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
M2-6:2 FTS	*105*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
M2-8:2 FTS	*88*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
d-N-MeFOSA-M	*70*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
d-N-EtFOSA-M	*67*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
d7-N-MeFOSE-M	*79*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
d9-N-EtFOSE-M	*85*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C-6:2 FTCA	*99*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*
13C-8:2 FTCA	*92*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:11*	*1*

Client Sample ID: 2310374-006C LCLC-6
Lab Sample ID: 320-105783-6
Date Collected: 10/05/23 10:50
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.5**		1.7	0.21	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluoropentanoic acid (PFPeA)	**8.3**		1.7	0.21	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorohexanoic acid (PFHxA)	**8.8**		1.7	0.47	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluoroheptanoic acid (PFHpA)	**2.7**		1.7	0.41	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorooctanoic acid (PFOA)	**14**	**M**	1.7	0.48	ng/L		10/19/23 12:32	11/01/23 05:23	1

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-006C LCLC-6
Date Collected: 10/05/23 10:50
Date Received: 10/10/23 09:10

Lab Sample ID: 320-105783-6
Matrix: Water

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	1.3	U	1.7	0.48	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorodecanoic acid (PFDA)	0.86	U M	1.7	0.28	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluoroundecanoic acid (PFUnA)	1.3	U	1.7	0.63	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorododecanoic acid (PFDoA)	0.86	U	1.7	0.36	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorotridecanoic acid (PFTrDA)	1.3	U M	1.7	0.59	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorotetradecanoic acid (PFTeA)	1.3	U	1.7	0.44	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorobutanesulfonic acid (PFBS)	**6.3**		1.7	0.29	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluoropentanesulfonic acid (PFPeS)	**2.1**		1.7	0.44	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorohexanesulfonic acid (PFHxS)	**9.9**		1.7	0.33	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluoroheptanesulfonic acid (PFHpS)	1.3	U	1.7	0.61	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorooctanesulfonic acid (PFOS)	**7.4**	**I**	1.7	0.50	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorononanesulfonic acid (PFNS)	1.3	U	1.7	0.57	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorodecanesulfonic acid (PFDS)	1.3	U	1.7	0.47	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorododecanesulfonic acid (PFDoS)	2.6	U	3.4	0.73	ng/L		10/19/23 12:32	11/01/23 05:23	1
Perfluorooctanesulfonamide (FOSA)	1.3	U	1.7	0.45	ng/L		10/19/23 12:32	11/01/23 05:23	1
NMeFOSAA	0.86	U	4.3	0.40	ng/L		10/19/23 12:32	11/01/23 05:23	1
NEtFOSAA	0.86	U	4.3	0.29	ng/L		10/19/23 12:32	11/01/23 05:23	1
4:2 FTS	0.86	U	1.7	0.31	ng/L		10/19/23 12:32	11/01/23 05:23	1
6:2 FTS	0.86	U M	4.3	0.33	ng/L		10/19/23 12:32	11/01/23 05:23	1
8:2 FTS	1.3	U	1.7	0.53	ng/L		10/19/23 12:32	11/01/23 05:23	1
NEtFOSA	1.3	U M	1.7	0.64	ng/L		10/19/23 12:32	11/01/23 05:23	1
NMeFOSA	1.3	U	1.7	0.64	ng/L		10/19/23 12:32	11/01/23 05:23	1
NMeFOSE	0.86	U	3.4	0.41	ng/L		10/19/23 12:32	11/01/23 05:23	1
NEtFOSE	1.3	U	1.7	0.62	ng/L		10/19/23 12:32	11/01/23 05:23	1
9Cl-PF3ONS	0.86	U	1.7	0.36	ng/L		10/19/23 12:32	11/01/23 05:23	1
HFPO-DA (GenX)	1.3	U	3.4	0.59	ng/L		10/19/23 12:32	11/01/23 05:23	1
11Cl-PF3OUdS	0.86	U	1.7	0.41	ng/L		10/19/23 12:32	11/01/23 05:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.3	U	1.7	0.44	ng/L		10/19/23 12:32	11/01/23 05:23	1
3:3 FTCA	0.86	U	1.7	0.37	ng/L		10/19/23 12:32	11/01/23 05:23	1
5:3 FTCA	0.86	U	1.7	0.28	ng/L		10/19/23 12:32	11/01/23 05:23	1
7:3 FTCA	1.3	U	1.7	0.47	ng/L		10/19/23 12:32	11/01/23 05:23	1
NFDHA	1.3	U	1.7	0.53	ng/L		10/19/23 12:32	11/01/23 05:23	1
PFMBA	0.86	U	1.7	0.22	ng/L		10/19/23 12:32	11/01/23 05:23	1
PFMPA	**0.35**	**J**	1.7	0.24	ng/L		10/19/23 12:32	11/01/23 05:23	1
PFEESA	0.86	U M	1.7	0.25	ng/L		10/19/23 12:32	11/01/23 05:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*88*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*
13C4 PFBA	*95*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*
13C5 PFPeA	*97*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*
13C2 PFHxA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*
13C4 PFHpA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*
13C4 PFOA	*101*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*
13C5 PFNA	*97*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*
13C2 PFDA	*91*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:23*	*1*

Client Sample ID: 2310374-006C LCLC-6
Lab Sample ID: 320-105783-6
Date Collected: 10/05/23 10:50
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	93		50 - 150	10/19/23 12:32	11/01/23 05:23	1
13C2 PFDoA	83		50 - 150	10/19/23 12:32	11/01/23 05:23	1
13C2 PFTeDA	82		50 - 150	10/19/23 12:32	11/01/23 05:23	1
13C3 PFBS	96		50 - 150	10/19/23 12:32	11/01/23 05:23	1
18O2 PFHxS	96		50 - 150	10/19/23 12:32	11/01/23 05:23	1
13C4 PFOS	89		50 - 150	10/19/23 12:32	11/01/23 05:23	1
d3-NMeFOSAA	85		50 - 150	10/19/23 12:32	11/01/23 05:23	1
d5-NEtFOSAA	94		50 - 150	10/19/23 12:32	11/01/23 05:23	1
M2-4:2 FTS	95		50 - 150	10/19/23 12:32	11/01/23 05:23	1
M2-6:2 FTS	94		50 - 150	10/19/23 12:32	11/01/23 05:23	1
M2-8:2 FTS	82		50 - 150	10/19/23 12:32	11/01/23 05:23	1
d-N-MeFOSA-M	66		50 - 150	10/19/23 12:32	11/01/23 05:23	1
d-N-EtFOSA-M	72		50 - 150	10/19/23 12:32	11/01/23 05:23	1
d7-N-MeFOSE-M	79		50 - 150	10/19/23 12:32	11/01/23 05:23	1
d9-N-EtFOSE-M	77		50 - 150	10/19/23 12:32	11/01/23 05:23	1
13C3 HFPO-DA	93		50 - 150	10/19/23 12:32	11/01/23 05:23	1
13C-6:2 FTCA	97		50 - 150	10/19/23 12:32	11/01/23 05:23	1
13C-8:2 FTCA	91		50 - 150	10/19/23 12:32	11/01/23 05:23	1

Client Sample ID: 2310374-007C LCLC-7
Lab Sample ID: 320-105783-7
Date Collected: 10/05/23 12:20
Matrix: Water
Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.0**	**J M**	1.8	0.22	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluoropentanoic acid (PFPeA)	**2.8**		1.8	0.22	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorohexanoic acid (PFHxA)	**2.3**		1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluoroheptanoic acid (PFHpA)	0.90	U	1.8	0.43	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorooctanoic acid (PFOA)	**2.1**	**M**	1.8	0.51	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorononanoic acid (PFNA)	1.4	U	1.8	0.51	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorodecanoic acid (PFDA)	0.90	U M	1.8	0.30	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluoroundecanoic acid (PFUnA)	1.4	U M	1.8	0.66	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorododecanoic acid (PFDoA)	0.90	U	1.8	0.38	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorotridecanoic acid (PFTrDA)	1.4	U	1.8	0.62	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorotetradecanoic acid (PFTeA)	1.4	U	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorobutanesulfonic acid (PFBS)	**0.54**	**J**	1.8	0.31	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluoropentanesulfonic acid (PFPeS)	1.4	U	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorohexanesulfonic acid (PFHxS)	**0.52**	**J M**	1.8	0.34	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluoroheptanesulfonic acid (PFHpS)	1.4	U	1.8	0.64	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorooctanesulfonic acid (PFOS)	1.4	U	1.8	0.52	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorononanesulfonic acid (PFNS)	1.4	U	1.8	0.60	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorodecanesulfonic acid (PFDS)	1.4	U	1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorododecanesulfonic acid (PFDoS)	2.7	U	3.6	0.77	ng/L		10/19/23 12:32	11/01/23 05:34	1
Perfluorooctanesulfonamide (FOSA)	1.4	U	1.8	0.47	ng/L		10/19/23 12:32	11/01/23 05:34	1
NMeFOSAA	0.90	U	4.5	0.42	ng/L		10/19/23 12:32	11/01/23 05:34	1

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-007C LCLC-7

Lab Sample ID: 320-105783-7

Date Collected: 10/05/23 12:20

Matrix: Water

Date Received: 10/10/23 09:10

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	0.90	U	4.5	0.31	ng/L		10/19/23 12:32	11/01/23 05:34	1
4:2 FTS	0.90	U	1.8	0.33	ng/L		10/19/23 12:32	11/01/23 05:34	1
6:2 FTS	0.90	U	4.5	0.34	ng/L		10/19/23 12:32	11/01/23 05:34	1
8:2 FTS	1.4	U	1.8	0.56	ng/L		10/19/23 12:32	11/01/23 05:34	1
NEtFOSA	1.4	U M	1.8	0.67	ng/L		10/19/23 12:32	11/01/23 05:34	1
NMeFOSA	1.4	U	1.8	0.67	ng/L		10/19/23 12:32	11/01/23 05:34	1
NMeFOSE	0.90	U	3.6	0.43	ng/L		10/19/23 12:32	11/01/23 05:34	1
NEtFOSE	1.4	U	1.8	0.65	ng/L		10/19/23 12:32	11/01/23 05:34	1
9Cl-PF3ONS	0.90	U	1.8	0.38	ng/L		10/19/23 12:32	11/01/23 05:34	1
HFPO-DA (GenX)	1.4	U	3.6	0.62	ng/L		10/19/23 12:32	11/01/23 05:34	1
11Cl-PF3OUdS	0.90	U	1.8	0.43	ng/L		10/19/23 12:32	11/01/23 05:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.4	U M	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 05:34	1
3:3 FTCA	0.90	U	1.8	0.39	ng/L		10/19/23 12:32	11/01/23 05:34	1
5:3 FTCA	0.90	U	1.8	0.30	ng/L		10/19/23 12:32	11/01/23 05:34	1
7:3 FTCA	1.4	U	1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:34	1
NFDHA	1.4	U	1.8	0.56	ng/L		10/19/23 12:32	11/01/23 05:34	1
PFMBA	0.90	U	1.8	0.24	ng/L		10/19/23 12:32	11/01/23 05:34	1
PFMPA	0.90	U	1.8	0.25	ng/L		10/19/23 12:32	11/01/23 05:34	1
PFEESA	0.90	U M	1.8	0.26	ng/L		10/19/23 12:32	11/01/23 05:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*87*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C4 PFBA	*97*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C5 PFPeA	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C2 PFHxA	*103*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C4 PFHpA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C4 PFOA	*102*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C5 PFNA	*99*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C2 PFDA	*101*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C2 PFUnA	*95*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C2 PFDoA	*87*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C3 PFBS	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
18O2 PFHxS	*96*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C4 PFOS	*91*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
d3-NMeFOSAA	*93*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
d5-NEtFOSAA	*95*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
M2-4:2 FTS	*92*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
M2-6:2 FTS	*101*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
M2-8:2 FTS	*83*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
d-N-MeFOSA-M	*68*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
d-N-EtFOSA-M	*68*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
d7-N-MeFOSE-M	*71*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
d9-N-EtFOSE-M	*73*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C3 HFPO-DA	*94*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C-6:2 FTCA	*103*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*
13C-8:2 FTCA	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:34*	*1*

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-008C LCLC-8

Date Collected: 10/05/23 12:35
Date Received: 10/10/23 09:10

Lab Sample ID: 320-105783-8

Matrix: Water

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.31**	**J M**	1.8	0.21	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluoropentanoic acid (PFPeA)	**0.60**	**J M**	1.8	0.21	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorohexanoic acid (PFHxA)	**0.70**	**J M**	1.8	0.49	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluoroheptanoic acid (PFHpA)	0.89	U	1.8	0.43	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorooctanoic acid (PFOA)	**1.9**	**M**	1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorononanoic acid (PFNA)	1.3	U	1.8	0.50	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorodecanoic acid (PFDA)	0.89	U M	1.8	0.29	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluoroundecanoic acid (PFUnA)	1.3	U	1.8	0.65	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorododecanoic acid (PFDoA)	0.89	U	1.8	0.37	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorotridecanoic acid (PFTrDA)	1.3	U M	1.8	0.61	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorotetradecanoic acid (PFTeA)	1.3	U	1.8	0.45	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorobutanesulfonic acid (PFBS)	**0.42**	**J M**	1.8	0.30	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluoropentanesulfonic acid (PFPeS)	1.3	U	1.8	0.45	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorohexanesulfonic acid (PFHxS)	**0.39**	**J M**	1.8	0.34	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluoroheptanesulfonic acid (PFHpS)	1.3	U	1.8	0.63	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorooctanesulfonic acid (PFOS)	1.3	U	1.8	0.51	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorononanesulfonic acid (PFNS)	1.3	U	1.8	0.59	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorodecanesulfonic acid (PFDS)	1.3	U	1.8	0.49	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorododecanesulfonic acid (PFDoS)	2.7	U	3.5	0.75	ng/L		10/19/23 12:32	11/01/23 05:56	1
Perfluorooctanesulfonamide (FOSA)	1.3	U	1.8	0.46	ng/L		10/19/23 12:32	11/01/23 05:56	1
NMeFOSAA	0.89	U	4.4	0.41	ng/L		10/19/23 12:32	11/01/23 05:56	1
NEtFOSAA	0.89	U	4.4	0.30	ng/L		10/19/23 12:32	11/01/23 05:56	1
4:2 FTS	0.89	U	1.8	0.32	ng/L		10/19/23 12:32	11/01/23 05:56	1
6:2 FTS	0.89	U	4.4	0.34	ng/L		10/19/23 12:32	11/01/23 05:56	1
8:2 FTS	1.3	U	1.8	0.55	ng/L		10/19/23 12:32	11/01/23 05:56	1
NEtFOSA	1.3	U M	1.8	0.66	ng/L		10/19/23 12:32	11/01/23 05:56	1
NMeFOSA	1.3	U	1.8	0.66	ng/L		10/19/23 12:32	11/01/23 05:56	1
NMeFOSE	0.89	U	3.5	0.43	ng/L		10/19/23 12:32	11/01/23 05:56	1
NEtFOSE	1.3	U	1.8	0.64	ng/L		10/19/23 12:32	11/01/23 05:56	1
9Cl-PF3ONS	0.89	U	1.8	0.37	ng/L		10/19/23 12:32	11/01/23 05:56	1
HFPO-DA (GenX)	1.3	U	3.5	0.61	ng/L		10/19/23 12:32	11/01/23 05:56	1
11Cl-PF3OUdS	0.89	U	1.8	0.43	ng/L		10/19/23 12:32	11/01/23 05:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.3	U M	1.8	0.45	ng/L		10/19/23 12:32	11/01/23 05:56	1
3:3 FTCA	0.89	U	1.8	0.38	ng/L		10/19/23 12:32	11/01/23 05:56	1
5:3 FTCA	0.89	U	1.8	0.29	ng/L		10/19/23 12:32	11/01/23 05:56	1
7:3 FTCA	1.3	U	1.8	0.49	ng/L		10/19/23 12:32	11/01/23 05:56	1
NFDHA	1.3	U	1.8	0.55	ng/L		10/19/23 12:32	11/01/23 05:56	1
PFMBA	0.89	U M	1.8	0.23	ng/L		10/19/23 12:32	11/01/23 05:56	1
PFMPA	0.89	U	1.8	0.25	ng/L		10/19/23 12:32	11/01/23 05:56	1
PFEESA	0.89	U	1.8	0.26	ng/L		10/19/23 12:32	11/01/23 05:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*87*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:56*	*1*
13C4 PFBA	*100*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:56*	*1*
13C5 PFPeA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:56*	*1*
13C2 PFHxA	*98*		*50 - 150*	*10/19/23 12:32*	*11/01/23 05:56*	*1*

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-008C LCLC-8
Date Collected: 10/05/23 12:35
Date Received: 10/10/23 09:10

Lab Sample ID: 320-105783-8
Matrix: Water

Method: DOD 5.3 QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	104		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C4 PFOA	94		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C5 PFNA	101		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C2 PFDA	98		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C2 PFUnA	96		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C2 PFDoA	91		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C2 PFTeDA	85		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C3 PFBS	98		50 - 150	10/19/23 12:32	11/01/23 05:56	1
18O2 PFHxS	100		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C4 PFOS	96		50 - 150	10/19/23 12:32	11/01/23 05:56	1
d3-NMeFOSAA	95		50 - 150	10/19/23 12:32	11/01/23 05:56	1
d5-NEtFOSAA	94		50 - 150	10/19/23 12:32	11/01/23 05:56	1
M2-4:2 FTS	101		50 - 150	10/19/23 12:32	11/01/23 05:56	1
M2-6:2 FTS	81		50 - 150	10/19/23 12:32	11/01/23 05:56	1
M2-8:2 FTS	84		50 - 150	10/19/23 12:32	11/01/23 05:56	1
d-N-MeFOSA-M	69		50 - 150	10/19/23 12:32	11/01/23 05:56	1
d-N-EtFOSA-M	67		50 - 150	10/19/23 12:32	11/01/23 05:56	1
d7-N-MeFOSE-M	72		50 - 150	10/19/23 12:32	11/01/23 05:56	1
d9-N-EtFOSE-M	76		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C3 HFPO-DA	94		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C-6:2 FTCA	98		50 - 150	10/19/23 12:32	11/01/23 05:56	1
13C-8:2 FTCA	95		50 - 150	10/19/23 12:32	11/01/23 05:56	1

Isotope Dilution Summary

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Method: QSM B15 - PFAS for QSM 5.3, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-105783-1	2310374-001C LCLC-1	89	97	99	100	107	101	108	98
320-105783-2	2310374-002C LCLC-2	83	98	100	101	102	94	94	91
320-105783-3	2310374-003C LCLC-3	81	94	92	94	104	99	94	98
320-105783-4	2310374-004C LCLC-4	90	103	105	105	106	102	98	96
320-105783-5	2310374-005C LCLC-5	90	100	95	102	102	103	96	101
320-105783-6	2310374-006C LCLC-6	88	95	97	98	98	101	97	91
320-105783-7	2310374-007C LCLC-7	87	97	100	103	98	102	99	101
320-105783-8	2310374-008C LCLC-8	87	100	98	98	104	94	101	98
LCS 320-714316/2-A	Lab Control Sample	88	101	101	102	108	98	103	94
LCSD 320-714316/3-A	Lab Control Sample Dup	85	100	101	99	103	96	100	91
MB 320-714316/1-A	Method Blank	82	93	96	94	98	97	88	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFUnA	PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-105783-1	2310374-001C LCLC-1	89	86	82	98	98	101	88	97
320-105783-2	2310374-002C LCLC-2	82	80	82	99	98	90	86	90
320-105783-3	2310374-003C LCLC-3	84	84	78	93	91	86	86	97
320-105783-4	2310374-004C LCLC-4	102	97	87	100	93	96	94	108
320-105783-5	2310374-005C LCLC-5	95	83	89	101	97	95	100	95
320-105783-6	2310374-006C LCLC-6	93	83	82	96	96	89	85	94
320-105783-7	2310374-007C LCLC-7	95	87	83	100	96	91	93	95
320-105783-8	2310374-008C LCLC-8	96	91	85	98	100	96	95	94
LCS 320-714316/2-A	Lab Control Sample	93	90	86	102	101	99	95	99
LCSD 320-714316/3-A	Lab Control Sample Dup	94	92	85	103	100	95	97	92
MB 320-714316/1-A	Method Blank	91	84	80	96	91	93	90	102

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	dMeFOSA	dEtFOSA	NMFM	NEFM	HFPODA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-105783-1	2310374-001C LCLC-1	91	101	91	63	60	71	68	95
320-105783-2	2310374-002C LCLC-2	90	93	80	65	64	79	73	95
320-105783-3	2310374-003C LCLC-3	94	91	89	66	66	74	78	90
320-105783-4	2310374-004C LCLC-4	95	104	93	69	66	79	81	100
320-105783-5	2310374-005C LCLC-5	98	105	88	70	67	79	85	98
320-105783-6	2310374-006C LCLC-6	95	94	82	66	72	79	77	93
320-105783-7	2310374-007C LCLC-7	92	101	83	68	68	71	73	94
320-105783-8	2310374-008C LCLC-8	101	81	84	69	67	72	76	94
LCS 320-714316/2-A	Lab Control Sample	99	91	84	58	60	84	83	96
LCSD 320-714316/3-A	Lab Control Sample Dup	95	86	81	68	64	80	80	99
MB 320-714316/1-A	Method Blank	94	91	80	60	60	75	73	90

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		MFHEA	MFOEA						
Lab Sample ID	Client Sample ID	(50-150)	(50-150)						
320-105783-1	2310374-001C LCLC-1	89	89						
320-105783-2	2310374-002C LCLC-2	97	71						
320-105783-3	2310374-003C LCLC-3	94	90						
320-105783-4	2310374-004C LCLC-4	97	94						
320-105783-5	2310374-005C LCLC-5	99	92						
320-105783-6	2310374-006C LCLC-6	97	91						
320-105783-7	2310374-007C LCLC-7	103	100						

Isotope Dilution Summary

Client: Hall Environmental Analysis Laboratory
Job ID: 320-105783-1
Project/Site: 2310374

Method: QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	MFHEA (50-150)	MFOEA (50-150)								
320-105783-8	2310374-008C LCLC-8	98	95								
LCS 320-714316/2-A	Lab Control Sample	99	99								
LCSD 320-714316/3-A	Lab Control Sample Dup	96	95								
MB 320-714316/1-A	Method Blank	92	76								

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA
MFHEA = 13C-6:2 FTCA
MFOEA = 13C-8:2 FTCA

Method: QSM B15 - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-714316/1-A
Matrix: Water
Analysis Batch: 717082

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 714316

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.50	U M	2.0	0.24	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluoropentanoic acid (PFPeA)	0.50	U	2.0	0.24	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorohexanoic acid (PFHxA)	1.5	U	2.0	0.55	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluoroheptanoic acid (PFHpA)	1.0	U	2.0	0.48	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorooctanoic acid (PFOA)	1.5	U M	2.0	0.56	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorononanoic acid (PFNA)	1.5	U	2.0	0.56	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorodecanoic acid (PFDA)	1.0	U	2.0	0.33	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluoroundecanoic acid (PFUnA)	1.5	U	2.0	0.73	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorododecanoic acid (PFDoA)	1.0	U	2.0	0.42	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorotridecanoic acid (PFTrDA)	1.5	U M	2.0	0.69	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorotetradecanoic acid (PFTeA)	1.5	U	2.0	0.51	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorobutanesulfonic acid (PFBS)	1.0	U	2.0	0.34	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluoropentanesulfonic acid (PFPeS)	1.5	U	2.0	0.51	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	U	2.0	0.38	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluoroheptanesulfonic acid (PFHpS)	1.5	U	2.0	0.71	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorooctanesulfonic acid (PFOS)	1.5	U	2.0	0.58	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorononanesulfonic acid (PFNS)	1.5	U	2.0	0.66	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorodecanesulfonic acid (PFDS)	1.5	U	2.0	0.55	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorododecanesulfonic acid (PFDoS)	3.0	U	4.0	0.85	ng/L		10/19/23 12:32	11/01/23 03:52	1
Perfluorooctanesulfonamide (FOSA)	1.5	U M	2.0	0.52	ng/L		10/19/23 12:32	11/01/23 03:52	1
NMeFOSAA	1.0	U	5.0	0.46	ng/L		10/19/23 12:32	11/01/23 03:52	1
NEtFOSAA	1.0	U	5.0	0.34	ng/L		10/19/23 12:32	11/01/23 03:52	1
4:2 FTS	1.0	U	2.0	0.36	ng/L		10/19/23 12:32	11/01/23 03:52	1
6:2 FTS	1.0	U	5.0	0.38	ng/L		10/19/23 12:32	11/01/23 03:52	1
8:2 FTS	1.5	U	2.0	0.62	ng/L		10/19/23 12:32	11/01/23 03:52	1
NEtFOSA	1.5	U M	2.0	0.74	ng/L		10/19/23 12:32	11/01/23 03:52	1
NMeFOSA	1.5	U	2.0	0.74	ng/L		10/19/23 12:32	11/01/23 03:52	1
NMeFOSE	1.0	U	4.0	0.48	ng/L		10/19/23 12:32	11/01/23 03:52	1
NEtFOSE	1.5	U	2.0	0.72	ng/L		10/19/23 12:32	11/01/23 03:52	1
9Cl-PF3ONS	1.0	U	2.0	0.42	ng/L		10/19/23 12:32	11/01/23 03:52	1
HFPO-DA (GenX)	1.5	U	4.0	0.69	ng/L		10/19/23 12:32	11/01/23 03:52	1
11Cl-PF3OUdS	1.0	U M	2.0	0.48	ng/L		10/19/23 12:32	11/01/23 03:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.5	U M	2.0	0.51	ng/L		10/19/23 12:32	11/01/23 03:52	1
3:3 FTCA	1.0	U	2.0	0.43	ng/L		10/19/23 12:32	11/01/23 03:52	1
5:3 FTCA	1.0	U	2.0	0.33	ng/L		10/19/23 12:32	11/01/23 03:52	1
7:3 FTCA	1.5	U	2.0	0.55	ng/L		10/19/23 12:32	11/01/23 03:52	1
NFDHA	1.5	U	2.0	0.62	ng/L		10/19/23 12:32	11/01/23 03:52	1
PFMBA	1.0	U	2.0	0.26	ng/L		10/19/23 12:32	11/01/23 03:52	1
PFMPA	1.0	U	2.0	0.28	ng/L		10/19/23 12:32	11/01/23 03:52	1
PFEESA	1.0	U M	2.0	0.29	ng/L		10/19/23 12:32	11/01/23 03:52	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*82*		*50 - 150*	*10/19/23 12:32*	*11/01/23 03:52*	*1*
13C4 PFBA	*93*		*50 - 150*	*10/19/23 12:32*	*11/01/23 03:52*	*1*
13C5 PFPeA	*96*		*50 - 150*	*10/19/23 12:32*	*11/01/23 03:52*	*1*

Method: QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: MB 320-714316/1-A
Matrix: Water
Analysis Batch: 717082

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 714316

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	94		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C4 PFHpA	98		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C4 PFOA	97		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C5 PFNA	88		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C2 PFDA	93		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C2 PFUnA	91		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C2 PFDoA	84		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C2 PFTeDA	80		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C3 PFBS	96		50 - 150	10/19/23 12:32	11/01/23 03:52	1
18O2 PFHxS	91		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C4 PFOS	93		50 - 150	10/19/23 12:32	11/01/23 03:52	1
d3-NMeFOSAA	90		50 - 150	10/19/23 12:32	11/01/23 03:52	1
d5-NEtFOSAA	102		50 - 150	10/19/23 12:32	11/01/23 03:52	1
M2-4:2 FTS	94		50 - 150	10/19/23 12:32	11/01/23 03:52	1
M2-6:2 FTS	91		50 - 150	10/19/23 12:32	11/01/23 03:52	1
M2-8:2 FTS	80		50 - 150	10/19/23 12:32	11/01/23 03:52	1
d-N-MeFOSA-M	60		50 - 150	10/19/23 12:32	11/01/23 03:52	1
d-N-EtFOSA-M	60		50 - 150	10/19/23 12:32	11/01/23 03:52	1
d7-N-MeFOSE-M	75		50 - 150	10/19/23 12:32	11/01/23 03:52	1
d9-N-EtFOSE-M	73		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C3 HFPO-DA	90		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C-6:2 FTCA	92		50 - 150	10/19/23 12:32	11/01/23 03:52	1
13C-8:2 FTCA	76		50 - 150	10/19/23 12:32	11/01/23 03:52	1

Lab Sample ID: LCS 320-714316/2-A
Matrix: Water
Analysis Batch: 717082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 714316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	41.1		ng/L		103	73 - 129
Perfluoropentanoic acid (PFPeA)	40.0	39.6		ng/L		99	72 - 129
Perfluorohexanoic acid (PFHxA)	40.0	39.7		ng/L		99	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	37.9		ng/L		95	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	42.4		ng/L		106	71 - 133
Perfluorononanoic acid (PFNA)	40.0	40.8		ng/L		102	69 - 130
Perfluorodecanoic acid (PFDA)	40.0	41.7		ng/L		104	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	39.9		ng/L		100	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	43.8		ng/L		110	72 - 134
Perfluorotridecanoic acid (PFTrDA)	40.0	39.5		ng/L		99	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	41.6		ng/L		104	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	38.2		ng/L		107	72 - 130
Perfluoropentanesulfonic acid (PFPeS)	37.6	36.3		ng/L		96	71 - 127
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.2		ng/L		94	68 - 131

Method: QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-714316/2-A
Matrix: Water
Analysis Batch: 717082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 714316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.2		ng/L		100	69 - 134
Perfluorooctanesulfonic acid (PFOS)	37.2	37.4	M	ng/L		101	65 - 140
Perfluorononanesulfonic acid (PFNS)	38.5	37.8		ng/L		98	69 - 127
Perfluorodecanesulfonic acid (PFDS)	38.6	34.6		ng/L		90	53 - 142
Perfluorododecanesulfonic acid (PFDoS)	38.8	33.2		ng/L		86	73 - 125
Perfluorooctanesulfonamide (FOSA)	40.0	46.1		ng/L		115	67 - 137
NMeFOSAA	40.0	42.8		ng/L		107	65 - 136
NEtFOSAA	40.0	39.9		ng/L		100	61 - 135
4:2 FTS	37.5	34.6		ng/L		92	63 - 143
6:2 FTS	38.1	36.9		ng/L		97	64 - 140
8:2 FTS	38.4	45.6		ng/L		119	67 - 138
NEtFOSA	40.0	36.6		ng/L		92	83 - 110
NMeFOSA	40.0	42.0		ng/L		105	68 - 141
NMeFOSE	40.0	37.8		ng/L		95	60 - 137
NEtFOSE	40.0	40.8		ng/L		102	73 - 126
9Cl-PF3ONS	37.4	35.8		ng/L		96	86 - 129
HFPO-DA (GenX)	40.0	41.3		ng/L		103	84 - 121
11Cl-PF3OUdS	37.8	33.4		ng/L		88	80 - 131
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	41.3		ng/L		109	87 - 135
3:3 FTCA	40.0	40.5		ng/L		101	70 - 130
5:3 FTCA	40.0	41.2		ng/L		103	70 - 130
7:3 FTCA	40.0	39.5		ng/L		99	70 - 130
NFDHA	40.0	43.7		ng/L		109	70 - 130
PFMBA	40.0	42.6		ng/L		107	70 - 130
PFMPA	40.0	40.4		ng/L		101	70 - 130
PFEESA	35.7	36.0		ng/L		101	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*88*		*50 - 150*
13C4 PFBA	*101*		*50 - 150*
13C5 PFPeA	*101*		*50 - 150*
13C2 PFHxA	*102*		*50 - 150*
13C4 PFHpA	*108*		*50 - 150*
13C4 PFOA	*98*		*50 - 150*
13C5 PFNA	*103*		*50 - 150*
13C2 PFDA	*94*		*50 - 150*
13C2 PFUnA	*93*		*50 - 150*
13C2 PFDoA	*90*		*50 - 150*
13C2 PFTeDA	*86*		*50 - 150*
13C3 PFBS	*102*		*50 - 150*
18O2 PFHxS	*101*		*50 - 150*
13C4 PFOS	*99*		*50 - 150*
d3-NMeFOSAA	*95*		*50 - 150*

Method: QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-714316/2-A
Matrix: Water
Analysis Batch: 717082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 714316

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	99		50 - 150
M2-4:2 FTS	99		50 - 150
M2-6:2 FTS	91		50 - 150
M2-8:2 FTS	84		50 - 150
d-N-MeFOSA-M	58		50 - 150
d-N-EtFOSA-M	60		50 - 150
d7-N-MeFOSE-M	84		50 - 150
d9-N-EtFOSE-M	83		50 - 150
13C3 HFPO-DA	96		50 - 150
13C-6:2 FTCA	99		50 - 150
13C-8:2 FTCA	99		50 - 150

Lab Sample ID: LCSD 320-714316/3-A
Matrix: Water
Analysis Batch: 717082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 714316

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	41.1		ng/L		103	73 - 129	0	30
Perfluoropentanoic acid (PFPeA)			40.0	38.5		ng/L		96	72 - 129	3	30
Perfluorohexanoic acid (PFHxA)			40.0	40.9		ng/L		102	72 - 129	3	30
Perfluoroheptanoic acid (PFHpA)			40.0	38.8		ng/L		97	72 - 130	2	30
Perfluorooctanoic acid (PFOA)			40.0	43.0		ng/L		107	71 - 133	1	30
Perfluorononanoic acid (PFNA)			40.0	41.3		ng/L		103	69 - 130	1	30
Perfluorodecanoic acid (PFDA)			40.0	38.9		ng/L		97	71 - 129	7	30
Perfluoroundecanoic acid (PFUnA)			40.0	40.7		ng/L		102	69 - 133	2	30
Perfluorododecanoic acid (PFDoA)			40.0	42.6		ng/L		107	72 - 134	3	30
Perfluorotridecanoic acid (PFTrDA)			40.0	39.3		ng/L		98	65 - 144	0	30
Perfluorotetradecanoic acid (PFTeA)			40.0	43.8		ng/L		110	71 - 132	5	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.3		ng/L		105	72 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)			37.6	35.4		ng/L		94	71 - 127	2	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	35.3		ng/L		97	68 - 131	3	30
Perfluoroheptanesulfonic acid (PFHpS)			38.2	38.4		ng/L		101	69 - 134	0	30
Perfluorooctanesulfonic acid (PFOS)			37.2	37.3	M	ng/L		100	65 - 140	0	30
Perfluorononanesulfonic acid (PFNS)			38.5	36.6		ng/L		95	69 - 127	3	30
Perfluorodecanesulfonic acid (PFDS)			38.6	32.3		ng/L		84	53 - 142	7	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	35.1		ng/L		91	73 - 125	6	30
Perfluorooctanesulfonamide (FOSA)			40.0	46.4		ng/L		116	67 - 137	1	30
NMeFOSAA			40.0	40.1		ng/L		100	65 - 136	7	30
NEtFOSAA			40.0	41.7		ng/L		104	61 - 135	4	30

Method: QSM B15 - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-714316/3-A
Matrix: Water
Analysis Batch: 717082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 714316

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4:2 FTS			37.5	34.8		ng/L		93	63 - 143	1	30
6:2 FTS			38.1	35.8		ng/L		94	64 - 140	3	30
8:2 FTS			38.4	39.5		ng/L		103	67 - 138	15	30
NEtFOSA			40.0	38.4		ng/L		96	83 - 110	5	30
NMeFOSA			40.0	41.2		ng/L		103	68 - 141	2	30
NMeFOSE			40.0	39.4		ng/L		98	60 - 137	4	30
NEtFOSE			40.0	39.8		ng/L		99	73 - 126	3	30
9Cl-PF3ONS			37.4	34.4		ng/L		92	86 - 129	4	30
HFPO-DA (GenX)			40.0	39.6		ng/L		99	84 - 121	4	30
11Cl-PF3OUdS			37.8	33.4		ng/L		88	80 - 131	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	43.3		ng/L		114	87 - 135	5	30
3:3 FTCA			40.0	38.9		ng/L		97	70 - 130	4	30
5:3 FTCA			40.0	42.6		ng/L		106	70 - 130	3	30
7:3 FTCA			40.0	40.4		ng/L		101	70 - 130	2	30
NFDHA			40.0	42.9		ng/L		107	70 - 130	2	30
PFMBA			40.0	41.8		ng/L		105	70 - 130	2	30
PFMPA			40.0	41.8		ng/L		104	70 - 130	3	30
PFEESA			35.7	36.4		ng/L		102	70 - 130	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C8 FOSA	*85*		*50 - 150*
13C4 PFBA	*100*		*50 - 150*
13C5 PFPeA	*101*		*50 - 150*
13C2 PFHxA	*99*		*50 - 150*
13C4 PFHpA	*103*		*50 - 150*
13C4 PFOA	*96*		*50 - 150*
13C5 PFNA	*100*		*50 - 150*
13C2 PFDA	*91*		*50 - 150*
13C2 PFUnA	*94*		*50 - 150*
13C2 PFDoA	*92*		*50 - 150*
13C2 PFTeDA	*85*		*50 - 150*
13C3 PFBS	*103*		*50 - 150*
18O2 PFHxS	*100*		*50 - 150*
13C4 PFOS	*95*		*50 - 150*
d3-NMeFOSAA	*97*		*50 - 150*
d5-NEtFOSAA	*92*		*50 - 150*
M2-4:2 FTS	*95*		*50 - 150*
M2-6:2 FTS	*86*		*50 - 150*
M2-8:2 FTS	*81*		*50 - 150*
d-N-MeFOSA-M	*68*		*50 - 150*
d-N-EtFOSA-M	*64*		*50 - 150*
d7-N-MeFOSE-M	*80*		*50 - 150*
d9-N-EtFOSE-M	*80*		*50 - 150*
13C3 HFPO-DA	*99*		*50 - 150*
13C-6:2 FTCA	*96*		*50 - 150*
13C-8:2 FTCA	*95*		*50 - 150*

QC Association Summary

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

LCMS

Prep Batch: 714316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-105783-1	2310374-001C LCLC-1	Total/NA	Water	3535	
320-105783-2	2310374-002C LCLC-2	Total/NA	Water	3535	
320-105783-3	2310374-003C LCLC-3	Total/NA	Water	3535	
320-105783-4	2310374-004C LCLC-4	Total/NA	Water	3535	
320-105783-5	2310374-005C LCLC-5	Total/NA	Water	3535	
320-105783-6	2310374-006C LCLC-6	Total/NA	Water	3535	
320-105783-7	2310374-007C LCLC-7	Total/NA	Water	3535	
320-105783-8	2310374-008C LCLC-8	Total/NA	Water	3535	
MB 320-714316/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-714316/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-714316/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 717082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-105783-1	2310374-001C LCLC-1	Total/NA	Water	QSM B15	714316
320-105783-2	2310374-002C LCLC-2	Total/NA	Water	QSM B15	714316
320-105783-3	2310374-003C LCLC-3	Total/NA	Water	QSM B15	714316
320-105783-4	2310374-004C LCLC-4	Total/NA	Water	QSM B15	714316
320-105783-5	2310374-005C LCLC-5	Total/NA	Water	QSM B15	714316
320-105783-6	2310374-006C LCLC-6	Total/NA	Water	QSM B15	714316
320-105783-7	2310374-007C LCLC-7	Total/NA	Water	QSM B15	714316
320-105783-8	2310374-008C LCLC-8	Total/NA	Water	QSM B15	714316
MB 320-714316/1-A	Method Blank	Total/NA	Water	QSM B15	714316
LCS 320-714316/2-A	Lab Control Sample	Total/NA	Water	QSM B15	714316
LCSD 320-714316/3-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	714316

Lab Chronicle

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-001C LCLC-1
Lab Sample ID: 320-105783-1
Date Collected: 10/05/23 09:20
Matrix: Water
Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			269.6 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 04:26	C1P	EET SAC

Client Sample ID: 2310374-002C LCLC-2
Lab Sample ID: 320-105783-2
Date Collected: 10/05/23 09:30
Matrix: Water
Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			284.9 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 04:37	C1P	EET SAC

Client Sample ID: 2310374-003C LCLC-3
Lab Sample ID: 320-105783-3
Date Collected: 10/05/23 09:55
Matrix: Water
Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			295.4 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 04:49	C1P	EET SAC

Client Sample ID: 2310374-004C LCLC-4
Lab Sample ID: 320-105783-4
Date Collected: 10/05/23 09:50
Matrix: Water
Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			289.4 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 05:00	C1P	EET SAC

Client Sample ID: 2310374-005C LCLC-5
Lab Sample ID: 320-105783-5
Date Collected: 10/05/23 10:25
Matrix: Water
Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			276.2 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 05:11	C1P	EET SAC

Client Sample ID: 2310374-006C LCLC-6
Lab Sample ID: 320-105783-6
Date Collected: 10/05/23 10:50
Matrix: Water
Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			290.2 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 05:23	C1P	EET SAC

Lab Chronicle

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Client Sample ID: 2310374-007C LCLC-7

Lab Sample ID: 320-105783-7

Date Collected: 10/05/23 12:20

Matrix: Water

Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			276.3 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 05:34	C1P	EET SAC

Client Sample ID: 2310374-008C LCLC-8

Lab Sample ID: 320-105783-8

Date Collected: 10/05/23 12:35

Matrix: Water

Date Received: 10/10/23 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			281.8 mL	10.0 mL	714316	10/19/23 12:32	JS	EET SAC
Total/NA	Analysis	QSM B15		1	1 mL	1 mL	717082	11/01/23 05:56	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Hall Environmental Analysis Laboratory
Job ID: 320-105783-1
Project/Site: 2310374

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA00044	08-31-24
Florida	NELAP	E87570	06-30-24
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-24
Louisiana (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-23-17	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442023-16	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Method	Method Description	Protocol	Laboratory
QSM B15	PFAS for QSM 5.3, Table B-15	DOD 5.3	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

DOD 5.3 = Department of Defense Quality Systems Manual V5.3

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Hall Environmental Analysis Laboratory
Project/Site: 2310374

Job ID: 320-105783-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-105783-1	2310374-001C LCLC-1	Water	10/05/23 09:20	10/10/23 09:10
320-105783-2	2310374-002C LCLC-2	Water	10/05/23 09:30	10/10/23 09:10
320-105783-3	2310374-003C LCLC-3	Water	10/05/23 09:55	10/10/23 09:10
320-105783-4	2310374-004C LCLC-4	Water	10/05/23 09:50	10/10/23 09:10
320-105783-5	2310374-005C LCLC-5	Water	10/05/23 10:25	10/10/23 09:10
320-105783-6	2310374-006C LCLC-6	Water	10/05/23 10:50	10/10/23 09:10
320-105783-7	2310374-007C LCLC-7	Water	10/05/23 12:20	10/10/23 09:10
320-105783-8	2310374-008C LCLC-8	Water	10/05/23 12:35	10/10/23 09:10

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

SUB CONTRATOR: TestAm -Sacramento	COMPANY: Eurofins TestAmerica	PHONE: (916) 373-5600	FAX:
ADDRESS: 880 Riverside Parkway		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: West Sacramento, CA 95605			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2310374-001C	LCLC-1	250HDPE	Groundwater	10/5/2023 9:20:00 AM	2	see attached note.
2	2310374-002C	LCLC-2	250HDPE	Groundwater	10/5/2023 9:30:00 AM	2	see attached note.
3	2310374-003C	LCLC-3	250HDPE	Groundwater	10/5/2023 9:55:00 AM	2	see attached note.
4	2310374-004C	LCLC-4	250HDPE	Groundwater	10/5/2023 9:50:00 AM	2	see attached note.
5	2310374-005C	LCLC-5	250HDPE	Groundwater	10/5/2023 10:25:00 AM	2	see attached note.
6	2310374-006C	LCLC-6	250HDPE	Groundwater	10/5/2023 10:50:00 AM	2	see attached note.
7	2310374-007C	LCLC-7	250HDPE	Groundwater	10/5/2023 12:20:00 PM	2	see attached note.
8	2310374-008C	LCLC-8	250HDPE	Groundwater	10/5/2023 12:35:00 PM	2	see attached note.

320-105783 Chain of Custody

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 10/6/2023	Time: 4:06 PM	Received By:	Date: 10/10/23	Time: 910
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☒ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples 3.9 °C Attempt to Cool ? _____
Comments: _____

eurofins | Environment Testing

Loc: 320
105783

Sacramento Sample Receiving Notes (SSRN)

Tracking # : 7736 5068 3457

Job:_____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: C10 Corr. Factor: (+ / -) _____°C

Ice ✓ Wet_____ Gel _____ Other _____

Cooler Custody Seal: ✓

Cooler ID: ✓

Temp Observed: 3.9 °C Corrected: 3.9 °C
From: Temp Blank ☐ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: JF Date: 10/10/23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: JF Date: 10/10/23

Notes:_____

Trizma Lot #(s): _____

Ammonium
Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☑	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☐	☐	☐

Initials: JF Date: 10/10/23 10/10/23 JF 10/10/23

PFAS *for isotope dilution liquid chromatography*/tandem mass spectrometry methods adhering to DOD's QSM Version 5.3 Table B-15

Desiree Dominguez
San e Con rol Manager
Hall Env onmen a
4°0 r a k ns NE
A buq er ue N M 8 09
Ph 505 345-39 5 (Ex 109

Login Sample Receipt Checklist

Client: Hall Environmental Analysis Laboratory

Job Number: 320-105783-1

Login Number: 105783
List Number: 1
Creator: Fisher, Jamyiah L

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Refer to srrn
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.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
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	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310374**

06-Nov-23

Client: Daniel B. Stephens & Assoc.

Project: LCLC domestic Well Sampling

Sample ID: **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **B100429**	RunNo: **100429**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3678993** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **B100429**	RunNo: **100429**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3678994** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	104	50	150			
Magnesium	ND	1.0	0.5000	0	104	50	150			
Potassium	ND	1.0	0.5000	0	111	50	150			
Sodium	ND	1.0	0.5000	0	102	50	150			

Sample ID: **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **B100429**	RunNo: **100429**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3678995** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.1	85	115			
Magnesium	49	1.0	50.00	0	98.5	85	115			
Potassium	49	1.0	50.00	0	98.9	85	115			
Sodium	48	1.0	50.00	0	96.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310374**

06-Nov-23

Client: Daniel B. Stephens & Assoc.

Project: LCLC domestic Well Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A100294**	RunNo: **100294**
Prep Date:	Analysis Date: **10/6/2023**	SeqNo: **3672471** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A100294**	RunNo: **100294**
Prep Date:	Analysis Date: **10/6/2023**	SeqNo: **3672472** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.4	90	110			
Chloride	4.8	0.50	5.000	0	95.9	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	98.5	90	110			
Bromide	2.4	0.10	2.500	0	97.9	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.3	90	110			
Sulfate	9.8	0.50	10.00	0	98.4	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R100302**	RunNo: **100302**
Prep Date:	Analysis Date: **10/7/2023**	SeqNo: **3672932** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R100302**	RunNo: **100302**
Prep Date:	Analysis Date: **10/7/2023**	SeqNo: **3672933** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310374**

06-Nov-23

Client: Daniel B. Stephens & Assoc.

Project: LCLC domestic Well Sampling

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R100302**	RunNo: **100302**
Prep Date:	Analysis Date: **10/7/2023**	SeqNo: **3672933** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.4	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.7	90	110			
Bromide	2.4	0.10	2.500	0	96.4	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	93.1	90	110			
Sulfate	9.7	0.50	10.00	0	96.6	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A100500**	RunNo: **100500**
Prep Date:	Analysis Date: **10/16/2023**	SeqNo: **3683592** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A100500**	RunNo: **100500**
Prep Date:	Analysis Date: **10/16/2023**	SeqNo: **3683593** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.8	90	110			
Sulfate	9.7	0.50	10.00	0	97.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310374**

06-Nov-23

Client: Daniel B. Stephens & Assoc.

Project: LCLC domestic Well Sampling

Sample ID: **LCS-1 99.5uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R100435**	RunNo: **100435**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3679238** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	10	99.50	0	99.9	85	115			

Sample ID: **2310374-001A DUP**	SampType: **DUP**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCLC-1**	Batch ID: **R100435**	RunNo: **100435**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3679240** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	570	10						0.556	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310374**

06-Nov-23

Client: Daniel B. Stephens & Assoc.

Project: LCLC domestic Well Sampling

Sample ID: **MB-3 Alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**
Client ID: **PBW**	Batch ID: **B100435**	RunNo: **100435**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3679212** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **LCS-3 Alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW**	Batch ID: **B100435**	RunNo: **100435**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3679213** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.04	20.00	80.00	0	97.6	90	110			

Sample ID: **2310374-001A DUP**	SampType: **DUP**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCLC-1**	Batch ID: **B100435**	RunNo: **100435**
Prep Date:	Analysis Date: **10/12/2023**	SeqNo: **3679218** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	170.5	20.00						0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2310374**

06-Nov-23

Client: Daniel B. Stephens & Assoc.

Project: LCLC domestic Well Sampling

Sample ID: **MB-78055**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **78055**	RunNo: **100381**
Prep Date: **10/10/2023**	Analysis Date: **10/11/2023**	SeqNo: **3676775** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-78055**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **78055**	RunNo: **100381**
Prep Date: **10/10/2023**	Analysis Date: **10/11/2023**	SeqNo: **3676776** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	50.0	1000	0	101	80	120			

Sample ID: **2310374-004ADUP**	SampType: **DUP**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCLC-4**	Batch ID: **78055**	RunNo: **100381**
Prep Date: **10/10/2023**	Analysis Date: **10/11/2023**	SeqNo: **3676794** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0						0	10	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Daniel B. Stephens & Assoc. | Work Order Number: 2310374 | RcptNo: 1

Received By: Juan Rojas 10/6/2023 3:37:00 PM

Completed By: Desiree Dominguez 10/6/2023 3:55:43 PM

Reviewed By: JR 10/6/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)

Adjusted? NO

Checked by: SCM 10/6/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.7	Good	Not Present	Morty		

Chain-of-Custody Record

Client: DBS&A

Mailing Address: 6020 Academy NE Suite 100
Albuquerque, NM 87109

Phone #: 505-822-9400

email or Fax#: aewing@geo-logic.com

QA/QC Package:
☑ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: LCLC Domestic Well Sampling

Project #: DB23.1188.00 P2

Project Manager: Amy Ewing

Sampler: Jonas Fisher

On Ice: ☑ Yes ☐ No

# of Coolers: 1 (Metal)

Cooler Temp(Including CF): 5.7+0=5.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2310374	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Cation/Anion Balance	PFAS
10/5/23	0920	GW	LCLC-1	1-500mL Poly 3-250mL Poly	HNO3, TRIS	-001											X	X
	0930		LCLC-2			-002											X	X
	0955		LCLC-3			-003											X	X
	0950		LCLC-4			-004											X	X
	1025		LCLC-5			-005											X	X
	1050		LCLC-6			-006											X	X
	1220		LCLC-7			-007											X	X
	1235		LCLC-8			-008											X	X

Relinquished by: 10/5/23

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/6/23	1537	DBS&A				
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
				COC	10/6/23	15:37

Remarks: CAB-See Attachment
PFAS-Isotope Dilution Chromatography/Tandem Mass Spectroscopy (LC/MS/MS) Methods Analytes to DOD's Quality System Manual (QSM) Version 5.3 Table B-15
See Attachment

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.