



Biosolids PFAS Sampling and Analysis Plan (SAP) for Colorado

February 2023

Based on Draft EPA Method 1633, Version 3

DISCLAIMER: This Sampling and Analysis Plan (SAP) was developed by the Colorado Monitoring Framework (CMF) to support entities as they meet the requirements for biosolids PFAS sampling detailed in the Water Quality Control Division's (WQCD) Interim Strategy dated 12/22/2023. Through CMF's process, multiple entities developed the content collaboratively using some material from the Division and from other states and programs that have already begun to sample biosolids for PFAS. The SAP was then reviewed by the CMF membership and the Division and revised to reflect comments.

This example SAP will need to be modified to meet the specific requirements of each individual facility. It was based on Version 3 of Draft EPA Method 1633. CMF does not assume any legal liability or responsibility for the accuracy, completeness, or usefulness of the information contained in this example SAP.



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1. Overview

The Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (WQCD) held four Per- and Polyfluoroalkyl Substances (PFAS) in Biosolids workgroup meetings from June through October 2022. During these meetings, the WQCD laid out and refined their initial approach to PFAS in biosolids, which includes biosolids sampling. Information about Colorado’s biosolids approach and sampling requirements can be found on the WQCD website: [Biosolids and PFAS | Department of Public Health & Environment \(colorado.gov\)](https://www.colorado.gov/department-of-public-health-and-environment)

This Sampling and Analysis Plan (SAP) was developed by the Colorado Monitoring Framework (CMF) to support entities as they meet the requirements for biosolids PFAS sampling detailed in the Water Quality Control Division’s (Division) Interim Strategy dated 12/22/2023. This guidance document contains information related to the process of sampling, analysis, and reporting of PFAS in biosolids. The intention is that this document will be updated as new information becomes available. Users of this guidance document are encouraged to visit the CMF website ([LINK](#)) to access the most current version.

- For questions on the biosolids PFAS requirements, please contact the WQCD by email at Biosolids+PFAS@state.co.us
- For questions about the activities of the Colorado Monitoring Framework, please contact Sarah Reeves, Coordinator at (303) 239-5411 or sreeves@brwncald.com.

1.1. Applicability

In accordance with Regulation 64, Parts 64.16.C and 64.17.A.(1)(d), the WQCD is implementing biosolids PFAS sampling as detailed in the document titled “[New Requirement - Interim Strategy: Sample and Analyze Biosolids for PFAS](#)” (Biosolids Interim Strategy). This requirement is applicable to entities that meet the criteria listed in TABLE 1. The requirement is effective January 1, 2023 for the 2023 calendar year. Sampling frequencies are described in Section 3, Sampling.

TABLE 1. Applicability Criteria (taken directly from the Biosolids Interim Strategy)

If your entity meets Criteria 1 <u>and</u> one or more of the criteria in 2 a-d, this is applicable to you.	
Criteria 1) Your entity is a biosolids preparer. “ Preparer ” means either the person (entity) generates biosolids during the treatment of domestic sewage in a domestic wastewater treatment works (including from lagoon cleanouts) or the person (entity) derives a final product material from biosolids.	
AND	
Criteria 2) your entity meets any of the following criteria a, b, c, or d:	a) Generate 30 dry ton (DT) or greater biosolids in 2023 AND : o Any of the biosolids are land applied for beneficial use, or o Any of the biosolids are sent to someone else for further processing, or o Any of the biosolids are distributed as Class A biosolids
	b) Generate less than 30 DT biosolids in 2023 AND : o Biosolids are land applied to its own site or sites for beneficial use, or o Produce Class A biosolids

	c) Are a third-party preparer of Class A biosolids (such as composters) distributing a final product material derived from biosolids
	d) Are land applying biosolids from another state or distributing a final product material derived from biosolids from another state, in Colorado

2. Data Quality Objectives

The WQCD is requiring PFAS biosolids sampling to better understand the occurrence and magnitude of PFAS in biosolids in Colorado. Data and information continue to be collected across the country that indicate that certain industrial sources of waste contain significant levels of PFAS and that source control is the most effective first step in reducing PFAS levels in waste streams, including biosolids. However, Colorado has its own distinctive industrial base and sources; therefore, it is important to gather Colorado-specific information to inform the future implementation of control measures to reduce PFAS in our environment.

Data collected and reported through the Biosolids Interim Strategy will be shared directly with the public through the WQCD website, which will also be a component of the WQCD's efforts to communicate with landowners and farmers where biosolids are applied. At this point, the WQCD intends to use the results from the 2023 monitoring effort to drive source control investigations where perfluorooctanesulfonic acid (PFOS) levels meet or exceed a trigger level of 50 ug/kg. Beyond 2023, the WQCD and will determine if the current trigger levels and approach need to be modified and will likely set trigger levels for notification of the landowner or farmer where biosolids are applied.

For biosolids "preparers," the data collected as a result of the Biosolids Interim Strategy will help inform and improve sample collection techniques, expected analytical variability and sensitivity, data quality, laboratory availability, and laboratory response. Although quality assurance and quality control samples are not required to be collected in the Biosolids Interim Strategy, these samples are indicated in this SAP. Each individual facility should consider their own approach to biosolids sampling and weigh the costs and the benefits of including such samples.

3. Sampling

The WQCD requires that biosolids samples be collected and analyzed in accordance with draft EPA Method 1633 (or final method, once approved). Although this method is currently in draft form, the WQCD is requiring use of draft EPA Method 1633 because EPA recommends this method for biosolids sampling and because it is already required in liquid stream sampling as part of WQCD Policy 20-1. Sampling and analysis should be done in alignment with the most current version of the 1633 method. Please note the revision date of this SAP and the latest revision dates for method 1633 to make sure that appropriate updates are included. ***Entities should coordinate with their analytical laboratory to confirm required sample volumes and collection and preservation techniques, as laboratories may adjust their sampling and analysis protocols to meet this performance-based method.***

3.1 Location

Entity Specific Information (see the remainder of Section 3 for guidance)

Facility Name: _____

Facility Address: _____

Sample Location(s): _____

Sampling Frequency/Planned Sampling Dates: _____

Sampling Procedure (indicate process for where and how the grab or composite sample is collected to support consistent sampling from one event to the next):

Sample Labeling Protocol:

Analytical Laboratory (name, physical address for shipping, and contact information):

Shipping requirements (holding times, packing and handling requirements, cooling):

The sample location(s) within your facility must be representative of the volume and nature of the biosolids at the facility. Ideally, biosolids should be sampled after the end of the preparer's treatment process.

3.2 Sample Type and Frequency

According to the third draft of Method 1633, grab samples are preferred for analysis of PFAS in biosolids in order to minimize potential contamination. However, composite samples may be appropriate when biosolids have been stored after the final treatment processes, such as drying beds, storage tanks, or compost piles. A composite sample can be obtained by collecting equal amounts of biosolids or sludge from multiple locations and depths across the stored biosolids area. The sample should be thoroughly mixed to create a homogeneous sample. As noted in Section 3.4, the sampler must take great care to minimize the likelihood of cross-contamination during sampling and mixing.

The required frequency of sampling biosolids, as required by the WQCD, is determined by the annual quantity of biosolids generated and/or the annual quantity of the final product material derived from biosolids as described in TABLE 2. Entities are required to identify their sampling frequency based on the highest potential quantity of biosolids generated. The WQCD highly encourages preparers to sample as early in the sampling period as possible to avoid potential issues caused by sampling contamination, sampling errors, analytical issues, turnaround times, etc.

TABLE 2. Sample Frequency (taken directly from the Biosolids Interim Strategy)

Annual Biosolids Production	PFAS Sampling Frequency
Dry short tons/year Includes Lagoon cleanouts	Sampling must occur before the end of each sampling period (e.g., if the required frequency is quarterly, the first sample must be collected on or before March 31, 2023)
less than 319	Once per year
319 to less than 1,650	Once per quarter
1,650 to less than 16,500	Once per two months
16,500 and greater	Three samples per quarter

3.3 Sample Containers and Hold Times

The draft EPA Method 1633 provides recommendations for sample containers, hold times, and preservatives (soil, sediment, biosolids, excluding tissue), as outlined in TABLE 3. ***Coordinate with your analytical laboratory for specific sampling and shipping requirements and update your entity-specific SAP to reflect these requirements.***

TABLE 3. Sample Containers and Hold Times

	Requirement	Notes
Sample Container	For each sample - One 500-mL wide-mouth high-density polyethylene (HDPE) container with	<ul style="list-style-type: none"> Sample containers should be lot-certified to be PFAS-free.

	linerless HDPE or polypropylene cap	
Fill Volume	Fill to no more than 3/4 of the volume of the container	
Preservative	none	
Shipping	Protected from light 0 - 6 °C	<ul style="list-style-type: none"> • Maintain biosolid samples in HDPE containers so that they are protected from exposure to light from the time of collection until receipt at the laboratory. • Samples must be shipped with sufficient ice to maintain the sample temperature below 6 °C for a period of at least 48 hours to allow for shipping delays. • The receiving laboratory must confirm that the sample temperature is between 0 - 6 °C upon receipt. • Samples should be shipped to the laboratory as soon as practical or stored away from light at the required 0-6 °C temperature until they can be shipped for analysis. Note the hold time listed below and ensure that samples are shipped such that analysis can be completed within the hold time required by your laboratory.
Extraction		<ul style="list-style-type: none"> • Samples may need to be extracted as soon as possible if Nonfluoro-3,6-dioxaheptanoic acid (NFDHA) is an important analyte.
Hold Times – for samples once received by the laboratory	90 days at 0 - 6 °C	<ul style="list-style-type: none"> • EPA recommends that biosolid samples be frozen if they need to be stored for more than a few days before extraction because microbial activity can build up gases in the container over time.
	90 days at ≤ -20 °C	
Hold Times - Extracts	0 - 6 °C	<ul style="list-style-type: none"> • Store sample extracts in the dark at 0 - 6 °C until analyzed.
	90 days at ≤ 0 °C	<ul style="list-style-type: none"> • If stored in the dark at ≤ 0 °C, sample extracts may be stored for up to 90 days.

3.4 Potential for Cross-Contamination

Special handling and care must be taken when collecting samples for PFAS analysis to avoid sample cross-contamination from the potential presence of PFAS in common consumer products and sampling equipment. TABLE 4 provides high-level guidance on best practices for sample collection.

TABLE 4. Materials to Use and Avoid During PFAS Sampling (*General PFAS Sampling Guidance, Michigan Department of Environmental Quality, October 2018*)

BEST PRACTICE	AVOID
Sample Container	
<ul style="list-style-type: none"> ✓ HDPE or Polypropylene (PP) ✓ Lined or unlined HDPE or PP caps 	<ul style="list-style-type: none"> ✗ No low density polyethylene (LDPE) or glass ✗ No Teflon™ or PTFE lined caps
Field Equipment	
<ul style="list-style-type: none"> ✓ HDPE or PP materials ✓ Stainless steel, nylon ✓ Stainless steel trowels and spoons, as well as glass, HDPE, or stainless-steel bowls, could be used to collect and homogenize biosolids samples ✓ Silicon tubing ✓ Loose paper (non-water resistant) ✓ Aluminum field clipboards or Masonite ✓ Pencils, ball point pens ✓ Fine and Ultra-Fine Point Sharpie® markers are acceptable for labels. ✓ Regular Ice 	<ul style="list-style-type: none"> ✗ No Teflon™ containing materials ✗ No Teflon™ tubing ✗ No waterproof field books ✗ No plastic clipboards, binders, or spiral notebooks ✗ No Post-It® Notes ✗ No chemical (blue) ice packs ✗ No regular/thick size markers (Sharpie® or otherwise)
Field Clothing and Personal Protection Equipment	
<ul style="list-style-type: none"> ✓ Well-laundered clothing, defined as clothing that has been washed six or more times after purchase, made of synthetic or natural fibers (preferable cotton) ✓ Cotton Clothing ✓ Powderless nitrile gloves ✓ Boots made with polyurethane and polyvinyl chloride (PVC) ✓ Sunscreens* – various, all organic natural ones; Apply away from sampling areas ✓ Insect Repellents* – Various natural ones, DEET; Apply away from sampling areas 	<ul style="list-style-type: none"> ✗ No new clothing ✗ No water resistant, waterproof, or stain-resistant clothing, materials, or equipment ✗ No clothing laundered using fabric softener ✗ No Tyvek®, Gore-Tex™, Hostafalon®, Tefzel®, Neoflon® ✗ No boots containing Gore-Tex™ ✗ No cosmetics, moisturizers, hand cream, or other related products as part of personal cleaning/showering routine on the morning of sampling
Field Equipment Decontamination Items	
<ul style="list-style-type: none"> ✓ Laboratory supplied PFAS-free deionized water is preferred for decontamination ✓ Alconox®, Liquinox®, and/or Citranox® ✓ Methanol for automatic sampler tubing cleaning 	<ul style="list-style-type: none"> ✗ No Decon 90
Food	
<ul style="list-style-type: none"> ✓ Bottled water and hydration drinks to be brought and consumed only in the staging area 	<ul style="list-style-type: none"> ✗ No food and drink, with exceptions hydrating items listed on the left

*Sunscreens and insect repellent determined acceptable by Michigan:

- OFF Deep Woods

- Sawyer Permethrin
- Banana Boat Sport Performance Sunscreen Lotion Broad Spectrum SPF 30
- Meijer Sunscreen Lotion Broad Spectrum SPF 30
- Neutrogena Ultra-Sheer Dry-Touch Sunscreen Broad Spectrum SPF 30
- Banana Boat for Men Triple Defense Continuous Spray Sunscreen SPF 30
- Banana Boat Sport Performance Coolzone Broad Spectrum SPF 30
- Banana Boat Sport Performance Sunscreen Lotion Broad Spectrum SPF 30
- Banana Boat Sport Performance Sunscreen Stick SPF 50
- Coppertone Sunscreen Lotion Ultra Guard Broad Spectrum SPF 50
- Coppertone Sport High-Performance AccuSpray Sunscreen SPF 30
- Coppertone Sunscreen Stick Kids SPF 55
- L'Oréal Silky Sheer Face Lotion 50+
- Meijer Clear Zinc Sunscreen Lotion Broad Spectrum SPF 15, 30, and 50
- Meijer Wet Skin Kids Sunscreen Continuous Spray Broad Spectrum SPF 70
- Neutrogena Beach Defense Water + Sun Barrier Lotion SPF 70
- Neutrogena Beach Defense Water + Sun Barrier Spray Broad Spectrum SPF 30
- Neutrogena Pure & Free Baby Sunscreen Broad Spectrum SPF 60+

3.5 Equipment

Sampling equipment can vary depending on the sampling location and type of sample. The list below provides commonly used items.

1. Sample containers
2. Sample labels
3. Chain of Custody (COC)
4. Powderless nitrile gloves
5. Reagent water for field blank
6. Individual sealed plastic bag
7. Cooler
8. Ice
9. Sampling tools or equipment (spade/shovel, scoop., trowel, corer, bucket auger etc.), as required

3.6 Sampling Protocol

1. Wash hands and use new powderless nitrile gloves for each sample location.
2. Collect the PFAS sample first, prior to collecting samples for any other parameters into any other containers; this avoids contact with any other type of sample container, bottles or package materials
3. Bottles should only be opened immediately prior to sample collection.
4. Do not place the sample bottle cap on any surface when collecting the sample, and avoid all contact with the inside of the sample bottle or its cap.
5. Fill container no more than $\frac{3}{4}$ full.
6. If possible, collect a grab sample directly into the sample container. Note that each grab sample collected should be representative of the total solid stream flow passing the sampling point. It is sufficient to collect a grab sample from a mechanical device and/or treatment process where the biosolids are expected to be well mixed. In general, thickened/dewatered biosolids or sludge may be

conveyed by mechanical means and require manual grab sampling. A grab sample could also be collected when biosolids with low solids content are used for land application.

7. If sampling equipment is needed, decontaminate the sampling equipment then triple rinse with PFAS-free water. Decontaminate sampling equipment after sampling at each location and at the end of the workday.
8. Composite samples might be appropriate when there are multiple pieces of equipment that do not combine into a single sampling location or if biosolids have been stored after the dewatering treatment processes, such as drying beds, storage tanks, or compost piles. Considering the treatment or storage process to determine how best to collect a representative sample, a composite could be obtained by collecting equal amounts of biosolids or sludge from multiple locations and/or depths. It is not recommended to collect a composite over time; however, if needed, only HDPE tubing may be used. If the sampler uses a peristaltic pump, a minimum length of compressible silicone rubber tubing may be used for the pump only. Before use, the tubing must be thoroughly rinsed with methanol, followed by repeated rinsing with reagent water to minimize sample contamination.
9. Bottles should be capped immediately after collecting the sample.
10. After sample is collected, double bag the sample container in individual low-density polyethylene (LDPE) (e.g., Ziploc®) resealable storage bags.
11. Within 15 minutes of sample collection, place samples in cooler with ice. Samples should be protected from light and must be chilled during shipment and should arrive at the lab at 0-6 °C.
12. Deliver to lab as soon as possible after sample collection or hold between 0-6 °C protected from light and ensure samples are analyzed within the required hold times.
13. Collect field blank and duplicates using same method.

4. Analysis

Based on WQCD requirements, samples must be analyzed using EPA's most recent 1633 Method. See the cover page of this SAP to determine when this document was last updated and make sure that your entity is using sampling and analysis methods that support the most recent 1633 method. In addition, ***entities should check with their analytical laboratories to confirm required sample volumes and collection and preservation techniques, as laboratories may adjust their sampling and analysis protocols to meet this performance-based method.*** All biosolids and sludge samples, including those with low solids content, should be analyzed as solids and reported on a dry-weight basis. This dry-weight basis reporting requirement should be specified on the chain-of-custody sent to the laboratory.

4.1 Parameter List

WQCD requires that samples be analyzed for all the constituents that can be measured by the most current 1633 method (currently 40 constituents). TABLE 5 provides the most updated list of PFAS constituents. Method Detection Limits (MDLs) and Reporting Limits (RLs) will be provided by your laboratory and should be updated in this table. Note that biosolids samples may need to be diluted so MDLs/RLs may be higher as a result.

TABLE 5. Measurable PFAS Sampling Constituents in the Most Current draft EPA Method 1633

Name	Acronym or AKA	MDL	RL
Perfluorooctanoic Acid	PFOA		
Perfluorobutanoic Acid	PFBA		
Perfluorooctanesulfonamide	PFOSA or FOSA		
Perfluoropentanoic acid	PFPeA		
Perfluorohexanoic acid	PFHxA		
Perfluoroheptanoic acid	PFHpA		
Perfluorononanoic acid	PFNA		
Perfluorodecanoic acid	PFDA		
Perfluoroundecanoic acid	PFUnA or PFUdA		
Perfluorododecanoic acid	PFDoA		
Perfluorotridecanoic acid	PFTTrDA or RFTriA		
Perfluorotetradecanoic acid	PFTTeDA or PFTTA or PFTeA		
2-[N-ethylperfluorooctanesulfonamido] acetic acid	NEtFOSAA		
2-[N-methylperfluorooctanesulfonamido] acetic acid	NMeFOSAA		
Perfluorobutanesulfonic acid	PFBS		
Perfluorodecanesulfonic acid	PFDS		
Perfluoroheptanesulfonic acid	PFHpS		
Perfluorohexanesulfonic acid	PFHxS		
Perfluorooctanesulfonic acid	PFOS		
4:2 Fluorotelomer sulfonic acid	4:2 FTS		
6:2 Fluorotelomer sulfonic acid	6:2 FTS		
8:2 Fluorotelomer sulfonic acid	8:2 FTS		
Perfluoropentane sulfonic acid	PFPeS		
Perfluorononane sulfonic acid	PFNS		
Hexafluoropropylene oxide dimer acid	Gen-X or HFPO-DA or HPFA-DA		
N-ethyl perfluorooctanesulfonamidoethanol	NEtFOSE		
N-methyl perfluorooctanesulfonamidoethanol	NMeFOSE		
Perfluoro-3-methoxypropanoic acid	PFMPA		
Perfluoro(2-ethoxyethane)sulfonic acid	PFEESA		
Perfluorododecanesulfonic acid	PFDoS		
4,8-Dioxa-3H-perfluorononanoic acid	ADONA		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9CL-PF3ONS		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11CL-PF3OUDS		
N-methyl perfluorooctanesulfonamide	NMeFOSA		
N-ethyl perfluorooctanesulfonamide	NEtFOSA		
Nonafluoro-3,6-dioxaheptanoic acid	NFDHA		
Perfluoro-4-methoxybutanoic acid	PFMBA		
3-Perfluoropropyl propanoic acid	3:3 FTCA		
2H,2H,3H,3H-Perfluorooctanoic acid	5:3 FTCA		

4.2 Analytical Laboratory Requirements

When selecting an analytical laboratory for PFAS analysis there are several factors to consider. The following table provides example topics for consideration.

TABLE 6. Considerations for Analytical Laboratory Selection

Item	Requirements	Notes
Cost per sample	Unit price quoted should include: <ul style="list-style-type: none"> • Sample containers • PFAS-free reagent water • Return shipping 	
Method 1633 analytes	Must report the 40 analytes listed in TABLE 5 Should provide the laboratory-specific MDLs and RLs for each analyte	Eventually could have Practical Quantitation Limits (PQLs) from WQCD that laboratories must meet
Typical turn-around time (days)		
Guaranteed turn-around time (days)		
Dry weight basis	Provide result in dry weight basis	Need to add total solids and percentage moisture content to testing parameters
QC metrics	LCS – Low LCS – High LCS – RPD MS – Low MS – High MS – RPD Trip Blank (if analyzed) Field Blank (if analyzed)	
Method 1633 updates	Vendor will be responsible for monitoring and incorporating any changes to the EPA 1633 method	
EDD	Provide results via electronic data delivery (EDD) files per utility specifications	
Reports	Provide Level 2 laboratory report with associated QA/QC	

5. Quality Control

WQCD has made it clear that entities that are required to sample PFAS in biosolids are NOT required to collect any quality control (QC) samples. However, entities may want to consider other quality control measures in addition to internal laboratory QC, such as:

1. **Field blanks.** Field blanks are an indicator of potential contamination from sampling efforts. A field blank should be collected with each sample and shipped to the laboratory. Because of higher analytical costs and potential lab capacity issues, the field blank may not be analyzed each time. The entity may consider only analyzing the field blank based on the results from the sample itself. However, the entity should consider hold times when determining their process.
2. **Sample duplicates.** Sample duplicates measure the variability in results based on possible variations in sampling and analysis. Sample duplicates should be run with the first sample and for every 20 samples thereafter. However, similar to the discussion for field blanks, sample duplicates could be collected and held at the laboratory for analysis based on the results of the original sample.
3. **Confirmation Sample.** Anytime a sample result indicates a need for follow-up, the first step should be confirming the sample results. The lab reports and QC samples should be reviewed for anomalies and held field blanks and sample duplicates analyzed. As soon as possible, a confirmation sample should be collected and submitted to the laboratory.

6. Reporting

Within 45 days of obtaining the final laboratory report, email a pdf of the laboratory report and PFAS analytical data in electronic format to Biosolids+PFAS@state.co.us. Acceptable formats for data submission include Excel, CSV, or other method approved by the WQCD.

7. Potential Source Investigation

As directed in the WQCD's Biosolids Interim Strategy, the initial trigger for source investigation is a detection of **PFOS \geq 50 ug/kg**. It is recommended to contact the WQCD as soon as possible after identifying this threshold has been met to discuss next steps. Within three (3) months of receiving the final laboratory report that triggered a source investigation, a Source Control Program must be submitted to the WQCD with the goal of reducing or eliminating non-domestic sources. Within one year a report is due to the WQCD regarding the status and findings of the source identification and reduction program, although not all actions are required to be complete within that year.

This section is in this SAP in case there is additional sampling or analysis needed for the source investigation.

1. The first step in the investigation should be to ensure data value(s) have been confirmed.
 - Review the lab report for any anomalies.
 - Analyze any field blanks or sample duplicates that were taken at the time of sampling but not analyzed. It is important to note if these were analyzed within applicable holding times.
 - Review sampling protocol and process for any potential contamination issues.
 - Collect and analyze appropriate confirmation and QC samples.
2. Once data have been validated, a next reasonable step would be to review any findings from wastewater pretreatment PFAS source identification studies, if available. In all cases, it is best to collaborate with pretreatment staff or your source providers to plan a source identification and control program.

8. References and Resources

The following table is meant to compile useful references for reference. Most of these may also be found on the WQCD's PFAS biosolids website.

TABLE 7. References and Resources

Item	Description	Link
WQCD email	General email for all PFAS biosolids communications.	Biosolids+PFAS@state.co.us
WQCD Biosolids PFAS Webpage	Landing page for Biosolids PFAS information	https://cdphe.colorado.gov/water-Biosolids-PFAS
WQCD Data	Website used to share data publicly	tbd
EPA Method 1633	Landing page that has history and versions of the draft method	https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas
Analytical Laboratories	Can search Nelac to find labs that do draft Method 1633	https://lams.nelac-institute.org/
Michigan's PFAS Biosolids	Michigan has a variety of resources	https://www.michigan.gov/egle/about/organization/water-resources/biosolids/pfas-related
Interstate Technology Regulatory Council (ITRC)	ITRC PFAS website with training, guidance, and fact sheets	PFAS — Per- and Polyfluoroalkyl Substances (itrcweb.org)