



## Frequently Asked Questions

### **State Water Board Per- and Polyfluoroalkyl Substances (PFAS) 13267 and 13383 Investigatory Order WQ 2020-0015-DWQ for Publicly Owned Treatment Works (POTWs) (Order) (November 5, 2020)**

#### **GENERAL**

#### **Why aren't any SF Bay Regional Water Board (Region 2) POTWs listed in Attachment 2 of the Order?**

POTWs located in Region 2 performed a PFAS study in 2018 and will be updating that study per a Regional Monitoring Program. Sampling will start in the 4<sup>th</sup> Quarter of 2020 to coincide with the State Water Board Order.

#### **Will the Water Boards make the scope of work and list of Region 2 POTWs that are required to perform monitoring publicly available?**

Since the study is being conducted through a Regional Monitoring Program, everything (scope, results, etc.) will be available to the public. Please contact [Region 2](#) for more information.

#### **What does the grey shading represent in Table 1 in the Order?**

The grey shading in Table 1 represents analytes that are optional for laboratory analysis. The POTW agency may consider sampling & analysis for these analytes, but they are not required.

#### **Is this Order intended for wastewater treatment facilities that have a National Pollutant Discharge Elimination System (NPDES) permit or discharge to surface water?**

The Order is directed to both waste discharge requirements (WDR) and NPDES permittees, including wastewater discharges to surface water and to land.

**Requirements are specific to wastewater treatment plant sampling on a quarterly basis beginning October 2020. However, the Order's cover letter is addressed to POTW agencies responsible for a recycle water plants, too. Is the intent of this**

**sampling solely for the wastewater treatment plant, or both the recycle plant and the wastewater treatment plant?**

The Order is intended for the wastewater treatment plant only.

**Do reports need to be prepared by a registered professional?**

The Order does not require a registered professional to sign or stamp reports.

**Can the labs upload the data instead of the POTW?**

Yes, the electronic submittal of information (ESI) can be done by the responsible party (i.e. the POTW) or by an authorized agent (a contractor or the analytical laboratory). The POTW must upload a completed "Authorized RP Agent Authorization Form" before the authorized agent can upload data. A [Beginner's Guide](#) on how to access GeoTracker and how to upload data is provided on the Water Board's GeoTracker ESI [website](#). This guide also includes instructions and a link to this form. Lastly, GeoTracker has a Help Desk, please contact the Help Desk if you need further clarification or have questions on the data uploading process.

GeoTracker Help Desk - [Geotracker@waterboards.ca.gov](mailto:Geotracker@waterboards.ca.gov) - 1 (866) 480-1028

**What labs are performing the PFAS analyses for the PFAS POTW Order?**

The latest list of accredited labs is located on the Water Board's PFAS website at: <https://www.waterboards.ca.gov/pfas/>. Look in the **What's New!** panel on the right side. This list is updated as new labs for the Department of Defense (DoD) Quality Systems Manual (QSM) are accredited for the analytes listed in the Order.

**How long is the process for a lab to become accredited for the analytes listed in the Order?**

The Water Board's [Environmental Laboratory Accreditation Program](#) (ELAP) application process time is dependent on the condition of the laboratory's application package and the laboratory's on-site assessment needs. To expedite the process and provide a quick turnaround (two weeks to one month) it is recommended that the laboratory submit a complete application package including an on-site assessment report (with a corresponding corrective action plan) from an [approved third-party laboratory assessment agency](#) demonstrating compliance with DoD Table B-15 of the QSM version 5.1 (or latest version) for each of the required PFAS analytes. Additionally, the application package must include a proficiency testing report with acceptable scores for all required PFAS analytes.

**If a lab is certified for DoD QSM, Table B-15 and meets the required QC, limits, and analyte list, is California ELAP offering reciprocal accreditation?**

Yes, California ELAP will offer reciprocal accreditation in this scenario.

## **What are the Data Quality Objectives for the Statewide Investigative Order WQ-2020-0015-DWQ Order (Order)?**

*State the Problem* - The Water Boards have the authority to protect the beneficial uses of water in California, including drinking water sources. Therefore, as part of a statewide effort to understand the impacts of PFAS to beneficial uses, the State Water Board required publicly owned treatment works (POTWs) to submit; 1) a technical report that includes the preliminary evaluation of PFAS sampling in influent, effluent, and groundwater (if applicable) over a one-year period, and 2) an informational questionnaire about the POTW's influent and effluent waste streams. The data reported will be used by the Water Boards to inform implementation of additional regulatory actions.

*Identify the Goals* - What is the range and occurrence of PFAS being reported in wastewater (influent and effluent), biosolids, reverse osmosis concentrate, and groundwater at the POTWs? What is the distribution (mass loading) of PFAS being reported in effluent waste streams versus influent waste streams? What is the range and occurrence of PFAS being reported in groundwater at POTWs discharging wastewater to land?

If sampling data indicate that PFAS mass loading is significant at a POTW, then the State Water Board may consider enhancements to the NPDES Pretreatment Program to identify and eliminate PFAS sources.

If PFAS is found in groundwater or has the potential to affect surface water quality, the Water Boards will evaluate the data collected to inform additional watershed investigative efforts to define the extent of impacts.

*Identify Informational Inputs* - Data will consist of the occurrence of PFAS compounds and their concentrations over a one-year period for:

- Influent (untreated) wastewater
- Effluent (treated) wastewater (secondary and advanced (tertiary) treated wastewater; tertiary treated wastewater is sampled only at POTWs that have primary, secondary and tertiary treatment)
- Sludge, if it leaves the POTW for direct land application
- Biosolids, if applicable

Sampling will occur over a one-year period starting October 1, 2020 at the frequency described in the Order.

Information gathered from the questionnaires will provide an understanding of the distribution of the potential sources of PFAS in influent versus effluent waste streams, such as, 1) relative contributions of influent sources (e.g. residential/commercial vs. industrial), 2) classification and volume estimates for the types of industrial sources, 3) volume estimates for landfill leachate (if applicable), and 4) volume estimates of effluent waste streams comprised of as sewage sludge and biosolids.

Define the boundaries - POTWs with an average dry weather design flow rate at or exceeding one million gallons per day. POTWs that receive untreated wastewater.

Sampling starts Fourth Quarter 2020 (October-December 2020) and ends Third Quarter 2021 (July-September 2021), unless otherwise authorized by the Water Boards.

Locations of treatment system sampling points are determined by the POTW with the goal to collect representable samples that complies with the Order and are intended to be consistent with existing NPDES and/or WDR permits, including Monitoring and Reporting Programs.

A minimum of three groundwater monitoring wells will be sampled (only POTWs with an existing Monitoring and Reporting Program approved by the Regional Water Board). However, if the POTW has less than three groundwater monitoring wells, the POTW can sample those wells and still comply with the Order.

Develop the analytical approach – Thirty-one (31) PFAS analytes listed in Attachment 3 of the Order serves as a minimum analytical laboratory requirement for each sample collected. These 31 analytes (and the optional analytes listed) are expected to be in wastewater because they represent indicators of the degradation of PFAS-containing products used in various industrial and domestic/commercial applications. These are not the only PFAS analytes expected in wastewater but are the analytes that can be tested using current analytical methods.

Laboratories used for analytical testing must be accredited by the State Water Board's Environmental Laboratory Accreditation Program (ELAP). ELAP will accredit the analytical laboratory to perform the methods and procedures in the Department of Defense (DoD) Quality Systems Manual, *Table B-15 - Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water*, version 5.1 or later.

Apply the performance or acceptance criteria - Performance and acceptance criteria include the [target analytical reporting limits](#) (provided on the Water Board's PFAS website) and DoD Table B-15 of QSM version 5.1 (or latest version).

Develop the plan for obtaining the data - Refer to Attachment 3 in the Order for specific sampling rationale.

## **ATTACHMENT 3 – TECHNICAL SAMPLING AND REPORTING REQUIREMENTS**

### **SECTION B. SAMPLING AND ANALYSIS REQUIREMENTS**

#### **B.1 - General Sampling and Analysis Requirements**

**Is this a one-time sampling program or an ongoing monthly/quarterly/annual sample to be added to our sampling program/permit?**

This Order is for a one-time sampling program that will consist of four quarters of sampling.

**Are all POTWs required to develop a QAPP plan before the sampling quarter?**

The PFAS POTW Order does not require a QAPP. A requirement for a QAPP is mentioned in the latest version of the [PFAS Sampling Guidelines for Non-Drinking Water](#) in reference to compliance of the sampling requirements in the [Recycled Water Policy](#). The Recycled Water Policy includes monitoring for PFOA and PFOS. POTWs complying with the Recycled Water Policy must submit a QAPP to be approved by their local Regional Water Board.

**What does the State Water Board intend to do with all the sampling data?**

Data collected under this Order are part of a statewide effort to 1) evaluate PFAS groundwater and surface water impacts and 2) conduct a preliminary investigation of the mass loading of PFAS into the POTW and leaving the POTW in different media (treated wastewater, brine, biosolids). The State Water Board and the Regional Water Boards will evaluate the data collected to make informed decisions in implementing appropriate regulatory action.

**The latest guidance recommends POTWs consult with their lab regarding representative composite sampling. How should labs respond?**

Analytical laboratories are an important resource to consult. Examples of the resources labs can offer include, information about the types of containers to use for composite sampling, how to collect the samples to minimize PFAS cross-contamination, and the number of samples and volume of sample required to meet the analytical requirements.

**Would bar screens be considered "treatment" when defining influent sample points for PFAS?**

Bar screens are not considered "treatment".

**Do screenings and grit removed from the facility need to be tested?**

Screening and grit removed from the facility does not need to be tested.

**B.2 – Treatment System Sampling Locations and Frequencies**

*Influent and Effluent Wastewater Sampling*

**Where should I sample? What if I discharge to multiple locations, for example secondary effluent to the ocean and to a tertiary source?**

If there are separate effluent lines leaving the POTW feeding multiple discharge points (to land, surface water, groundwater injection), samples should be taken from each of those flows before leaving the POTW.

**Should the sampling of the domestic influent and effluent come from a 24-hour composite or is a grab sample acceptable? What if we use autosamplers for all other NPDES permit monitoring compliance?**

Grab samples are acceptable. Continue to use the autosampler for the other NPDES permit monitoring compliance.

**Does the influent sampling location need to be upstream from headworks activities, such as grit separation, or can we sample at any location prior to primary settling?**

Sample at a location that makes sense for the layout of the treatment plant. This can be upstream from the headworks or any point prior to primary settling, as long as the sample is collected prior to treatment.

*Advanced/Tertiary Treated Wastewater Sampling*

**The Order does not mention testing of recycled water/tertiary treated effluent. Is this not required?**

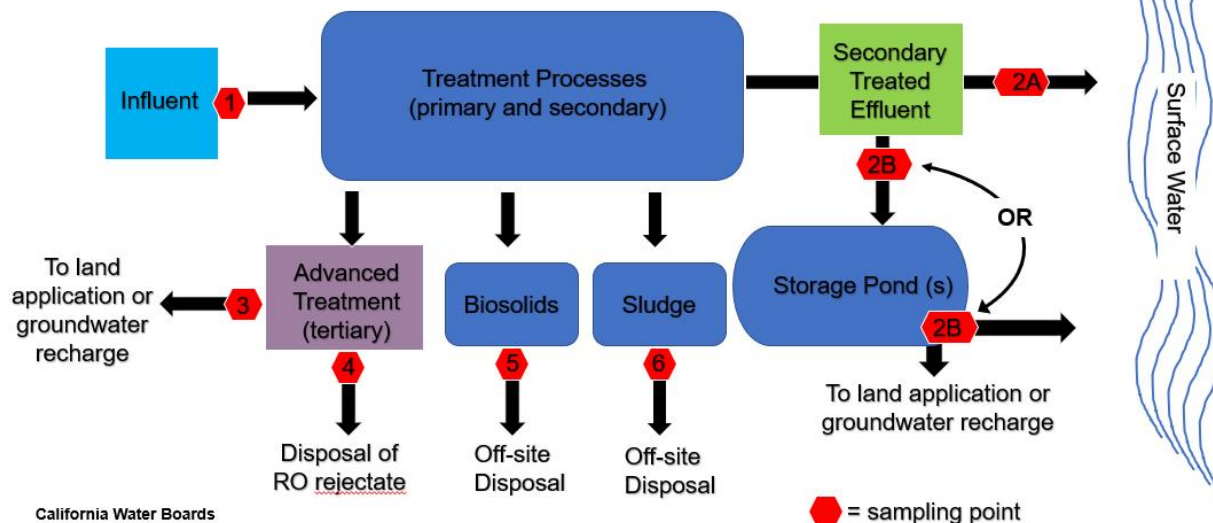
The Order requires the facility to test for PFAS in effluent (all destinations) for a one-year period. If your facility treats wastewater by tertiary treatment and the effluent is discharged to surface water, land, or is delivered for recycling uses, then tertiary treated effluent should be collected and tested for PFAS.

**How are sample points of treated effluent wastewater different at sample points 2A, 2B and sample point 3, in the diagram below?**

If there is direct discharge of secondary treated wastewater (without being stored in a pond before discharge), then a sample (sample point 2A) must be collected before the treated wastewater enters surface water. Sample points 2B are also possible effluent sample locations for secondary treated wastewater. There is a choice to collect this effluent sample at either before entering storage pond(s) or after the storage pond(s) but before entering surface water. Sample point 3 is provided for the possibility of tertiary treatment at the same POTW facility. This sample must be collected after

tertiary treatment and before the wastewater enters surface water.

## Possible Treatment System Sample Locations for a POTW Facility



### Are samples collected on tertiary treated wastewater for recycled water use, as well as for primary and secondary wastewater?

Treated wastewater leaving the facility for recycled water use must be sampled unless it is being further treated at the facility. Effluent wastewater sampling mentioned in the Order is for those waste streams that are leaving the facility. Therefore, the primary wastewater being further treated within the facility does not need to be sampled. However, if secondary and tertiary treated wastewater is leaving the facility – it would need to be sampled for PFAS.

### Are QC results (field blanks and equipment blanks) required, and if so, how should they be collected? How do you collect blanks for composite samples? Do we need to upload QC results into Geotracker?

Blanks are required in the updated PFAS Sampling Guide. Field blanks assess ambient field conditions during sampling and laboratory sources of contamination. Equipment blanks are necessary to assess decontamination process of the field sampling equipment.

For a composite sampling approach, collect a field blank on a day when a composite sample is being collected – allow that blank to travel with the samples during collection.

QC results (equivalent to the QC results included in a Level II data package produced by the analytical laboratory) are uploaded into GeoTracker. Instructions on how to upload Electronic submittal information (ESI), including guides, are located on the Water Board's ESI webpage at

[https://www.waterboards.ca.gov/ust/electronic\\_submittal/index.html](https://www.waterboards.ca.gov/ust/electronic_submittal/index.html).

**How are labs accounting for potential PFAS (e.g. C4-C6 PFCAs and C4-C6 FTSs) air contamination in open water treatment system samples? How should we differentiate field blanks in the staging area between sampler and air contamination?**

Field blanks (prepared by using lab-verified PFAS-free water and filling an empty sample container in the field during a field sample collection event at the POTW) can indicate whether or not PFAS was introduced during sample collection/handling. The ability to differentiate PFAS contamination in field blanks due to ambient air (either during sampling or just being near areas of treated wastewater) is not necessary to understand for this Order. The objective of this Order is to get a holistic understanding on the PFAS impact at the POTW. If there is blank contamination present, then further analysis maybe necessary as part of any follow-up investigations after the completion of the Order.

*Reverse Osmosis Concentrate Sampling*

**Is a POTW using reverse osmosis (RO) required to sample the RO concentrate (ROC) waste stream? Which method should they analyze their influent and ROC, 537.1 and/or 533?**

Sampling is only required if the ROC leaves the facility. If it is recirculated back through the POTW for treatment, then sampling is not required. All samples collected in the Order must follow DoD Table B-15 of the QSM, version 5.1 (or latest version).

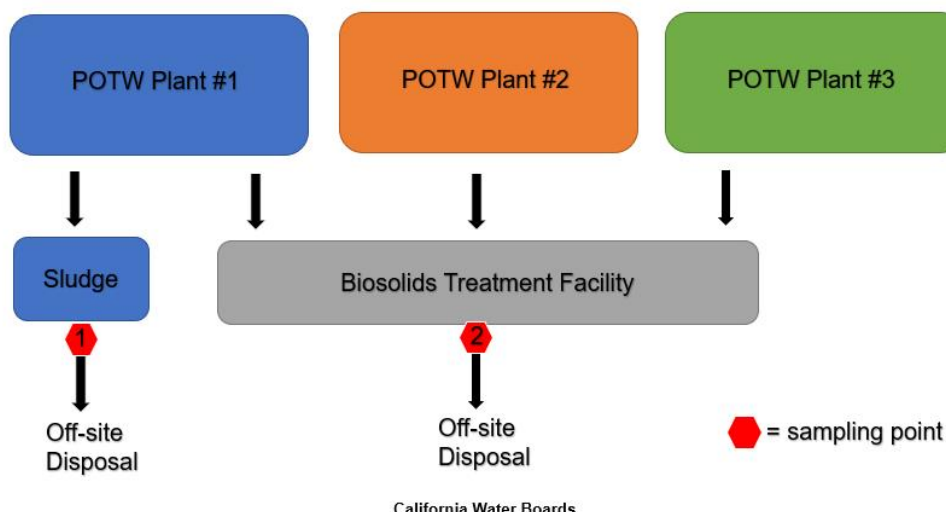
*Biosolids Sampling*

**What is meant by "the last point of control" in relation to the location of biosolids sampling?**

The "last point of control" is the location before the biosolids leave the POTW facility. However, in some cases, the last point of control maybe located at another facility. There are circumstances where sludge/biosolids from more than one POTW is being further processed at a central processing facility. In these cases, the biosolids sample should be collected when it leaves the processing facility. Refer to the example diagram below. If this example applies for your POTW, the analytical data should be uploaded to the GeoTracker Global ID for the POTW with the largest volume of sludge/biosolids being processed at this off-site processing facility during the timeframe of the POTW Order.



## Biosolid Sample Locations for Multiple POTWs sending sludge/biosolids for further treatment or disposal



**We produce both Class A and Class B biosolids. Should we sample both types of biosolids, or just the Class A biosolids which are the highest percentage solids?**

Only those biosolids that leave the facility for disposal or land application should be sampled. If Class A biosolids leave the facility, they should be sampled; if Class B biosolids leave the facility, they should be sampled. If both Class A and B biosolids leave the facility, both Class A and B biosolids should be sampled.

**Should samples of sludge that do not meet Class A or B biosolids be sampled as part of this Order? The sludge is transported to a local landfill to be used as daily cover.**

Any sludge or biosolids that leaves the facility needs to be sampled for PFAS. The intent of the Order is to understand PFAS concentrations from what is coming into the facility (i.e. influent wastewater) and what is leaving the facility (effluent wastewater (e.g. secondary, tertiary), sludge, and biosolids).

**Are we required under this Order to follow the biosolids sampling or is this designed specifically for POTWs that process their biosolids and reapply it?**

The Order pertains to all POTWs that process biosolids – no matter the destination of the biosolids when it leaves the facility or if it is applied onsite.

**Agencies utilizing Surface Disposal for their biosolids only discharge to the final disposal site once or twice a year. Can they conduct all samples and monitor during that period even if it means collecting four samples in one quarter?**

For facilities (> 5 million gallons per day that only discharge biosolids to a final disposal site once or twice a year (i.e. not quarterly), samples should be taken at those times the biosolids leave the facility.

**What does a “representative whole sample aliquot (both fractions)” mean (p. 17 of the Order)? Should we sample the liquid fraction of biosolid samples in addition to the solid fraction? What percentage solids content is recommended for sampling?**

Whole sample aliquot (both fractions) means both water and solids. Because biosolids, or sewage sludge, typically contain both liquid and solid fractions, as a general rule, samples should be collected with the highest solids content possible. In order to achieve optimal analytical results, the laboratory performing the analysis may have guidelines for biosolids samples, such as solids content percentage thresholds. For this reason, the laboratory performing the analysis should be consulted prior to sampling.

**Is my facility required to sample biosolids if we use conventional aerated treatment ponds that don't generate biosolids or if we don't have haulage during the Order timeframe?**

If the biosolids are being held in a treatment pond under a water cap, sampling would be difficult, and the sample will be very wet. We want to avoid the POTW from having to incur additional laboratory analytical costs because of the biphasic (both water and solids) nature of the sample. If the biosolids are not harvested from the pond within the one-year timeframe of this Order, the POTW is not required to sample the biosolids. Document this variance from the Order requirements within the report required in the Order after the completion of both the treatment system and groundwater sampling (if applicable).

**Our biosolids are sent to sludge drying beds to be hauled off by another entity. Should we obtain a dry sample before it is hauled away, or a liquid sample when dispensed into the sludge drying bed?**

If possible, obtain a dry sample. Sampling wet sludge could incur additional analytical laboratory costs because of the biphasic (both water and solids) nature of the sample.

### **B.3 – Groundwater Monitoring Well Sampling and Analysis**

**Do I need to submit a sampling workplan separate from my existing groundwater monitoring plan?**

A POTW PFAS-specific groundwater sampling plan is required by the Order. However, the workplan is only required to include justification for the proposed sampling wells and a map of the well locations showing hydraulic gradient.

**Should we sample upgradient and/or downgradient wells?**

Selecting the locations of groundwater monitoring wells to sample for PFAS will depend on their location relative to the discharge of wastewater, the rationale for sampling included in the facility's Monitoring and Reporting Program (MRP), and any site-specific objectives that the POTW wants to include in the sampling plan. The State Water Board's objective is to understand the impact from PFAS to groundwater from the discharge of treated wastewater to land or injected into groundwater. Therefore, the selection of groundwater monitoring wells within the existing MRP are primary candidates and then other downgradient or upgradient wells may also provide useful information.

**If our groundwater monitoring proposal is approved during the 4th Quarter of 2020, can our program begin during the 1st quarter of 2021?**

Monitoring can commence in the next quarter or within the existing quarter if the facility is able to conduct monitoring.

**Does this Order pertain to existing groundwater monitoring wells installed to monitor where wastewater effluent is applied (reuse application) and where biosolids are stored and applied?**

If the monitoring is being performed to assess groundwater concentrations at the facility due to application of wastewater effluent, biosolids ponds/piles, or other types of ponds, then yes, sampling is required.

**Does the groundwater monitoring requirement apply to wells associated with surface disposal units?**

If the surface disposal units are located on the facility, then the groundwater monitoring requirement applies. If the surface disposal units are located off-site at another location (example, a farmer's field), that has monitoring wells as part of a Monitoring and Reporting Program (MRP), then the groundwater monitoring requirement in the Order does not apply.

**Section B.3.b.ii of Attachment 3 of the Order specifies sampling from a minimum of three wells. Do the Regional Boards have discretion to allow sampling from less wells? If so, what is the process to document this?**

If the facility has less than three groundwater monitoring wells, they should consult with the Regional Board, and submit their groundwater sampling proposal for the existing wells. The information required for this proposal is provided in Attachment 3, section 3 of the Order. Upload the proposal into GeoTracker under the Global ID for the POTW. Use the GeoTracker document type, "Groundwater Monitoring Plan".

**Does the PFAS Order apply to groundwater wells used for potable drinking water?**

The Order does not require sampling of potable water supply wells that may be at the facility.

**What should we do if our wells are dry or below sampling levels?**

The local Regional Board PFAS POTW contact identified on your Order cover letter can work with you on any necessary changes to the groundwater monitoring due to factors such as these.

## **SECTION C – REPORTING REQUIREMENTS**

**What reporting limits should we follow? Are facility diagrams (i.e. map of sampling points) required for each monitoring report or the final report? What is required for the final monitoring report?**

The reporting requirements associated with the Order are specified in Attachment 3, Section C, from pages 19 to 21. The site map is only required with the final report submission. The table for reporting limits to use is provided on the State Water Board's PFAS website at <https://www.waterboards.ca.gov/pfas/>. Select the reporting limits table referencing the "DoD QSM" in the title.

**Can the quarterly data be submitted at the end of the annual period along with the final report?**

The final report must include the quarterly data, including the analytical results. However, analytical results from the treatment system sampling and groundwater sampling event must also be uploaded within 30 days of receipt of the laboratory analytical report into GeoTracker's ESI portal.

**Is a GEO\_XY data file (longitude/latitude coordinates) required for influent, effluent, biosolids, and reverse osmosis concentrate sample sites?**

These coordinates must be uploaded as "non-surveyed" field points in the GEO\_XY data file.

Instructions on how to upload Electronic submittal information (ESI), including guides, are located on the [Water Board's ESI webpage](https://www.waterboards.ca.gov/ust/electronic_submittal/index.html) at [https://www.waterboards.ca.gov/ust/electronic\\_submittal/index.html](https://www.waterboards.ca.gov/ust/electronic_submittal/index.html). Additionally, the creation of "non-surveyed" field points and a GEO\_XY file for these points is provided in the [How Do I Upload? Electronic Submittal of Information \(ESI\) Guide](#).

GeoTracker Help Desk - [Geotracker@waterboards.ca.gov](mailto:Geotracker@waterboards.ca.gov) - 1 (866) 480-1028

**Note:** To determine the coordinate location for a sample type where individual samples are collected in several locations and those samples are composited into one sample for analysis (e.g. biosolids), select one representative sample location as the coordinate location for the composited samples.

**What is the GeoTracker "Report Type" to be used when uploading the groundwater monitoring proposal?**

Select the "Groundwater Monitoring Plan" report type in GeoTracker.

**TABLE 1 - PFAS ANALYTES SUBJECT TO ANALYSIS AND THEIR RESPECTIVE REPORTING LIMITS**

The Order references a listing of reporting limits on Table 1 in Attachment 3 and on the Water Board's PFAS webpage at <https://www.waterboards.ca.gov/pfas/>. The reporting limits for biosolids do not match between tables. Which table should I use?

There was a typo on Table 1 in the Order which incorrectly referenced the same reporting limits for both soil and biosolids that were only applicable to soil. An updated version of [Table 1](#) is located on the Water Board's PFAS webpage. Table 1 lists the reporting limits for biosolids, as well as the other matrices mentioned in the Order, and is the most current location for reporting levels for the ELAP accredited laboratories.

## **SECTION D – QUESTIONNAIRE**

**Question 1(a) and 1(b): Is the question asking for normal flow for the time period or the peak flow average?**

The questionnaire is asking for normal flow.

**Question 2(b), page 27: Under the column "2019-Estimated Industrial Total Volume by Percentage (>5% of the total volume)", are we supposed to report only the volume if it exceeds >5% of total volume? What does "total volume" mean?**

Report only the flows for each category that are > 5% based on the total industrial flow into the facility. If you would like to add the smaller volume percentages so that the total industrial flow equals 100%, that would be acceptable but is not required. Total volume in this context is the total amount of industrial influent flow for 2019.

**Question 3(a), page 28: Do man-made lakes/ponds, to which tertiary treated water is discharged prior to being discharged to a river, qualify as storage basins?**

If those lakes and ponds allow the treated wastewater to percolate down to groundwater, please consider them as storage basins for this question. Please add a comment in 3(d) to indicate so.

**Question 5(a), page 29: Does the term "Sewage Sludge" refer to the waste activated sludge that is discharged back into the sewer collection system into the terminal plant for further solid treatment?**

For this question, we are interested in the sewage sludge or biosolids that leave the facilities for other applications (e.g. land application, landfill disposal). Waste activated sludge that is returned into the system for treatment is not part of this question.

**Question 6(b), page 31: What does "Years Accepted" mean?**

Years accepted refers to the number of years since the plant has started receiving leachate.