SDWARS4 Instructions for Public Water Systems and Laboratories

Office of Water (MS-140)
EPA 815-B-18-003
June 2018

Table of Contents

Acronyms

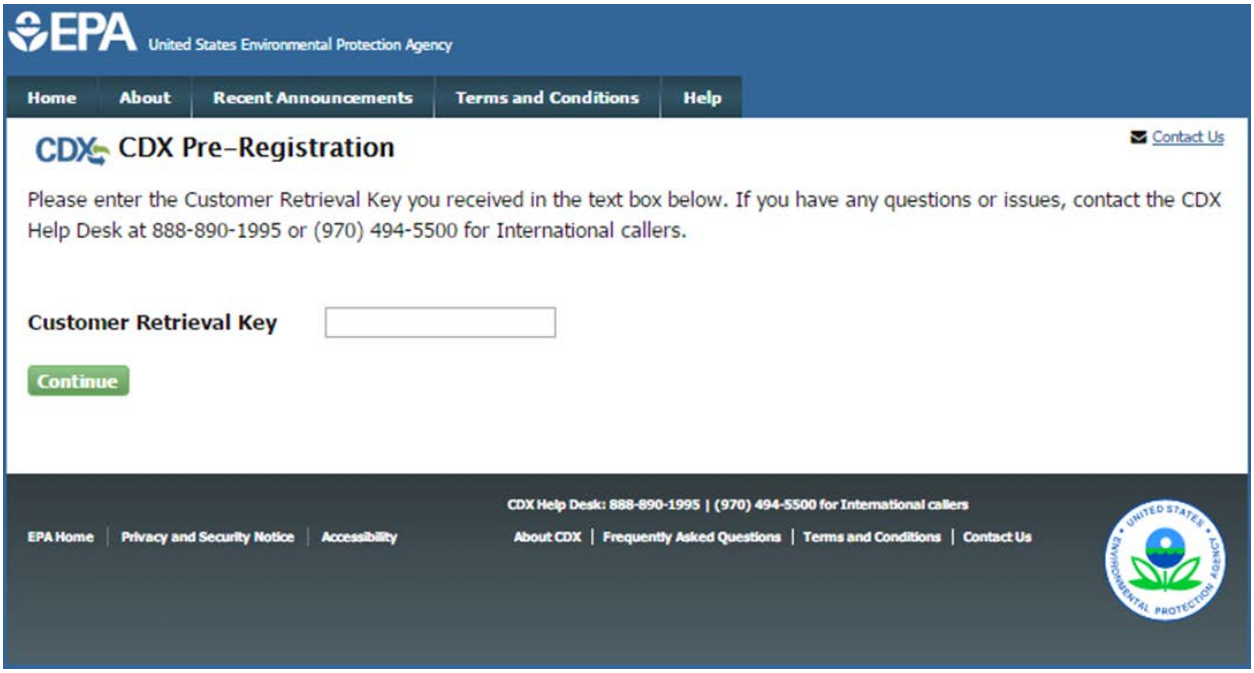
AM	Assessment Monitoring
Br^-	Bromide
CDX	Central Data Exchange
CRK	Customer Retrieval Key
D/DBPR	Disinfectants and Disinfection Byproducts Rules
DS	Distribution System
EP	Entry Point
EPA	Environmental Protection Agency
HAA	Haloacetic Acids
ID	Identification
MRL	Minimum Reporting Limit
MRS	Monitoring Review Sheet
NDR	No Data Reportable
PWS	Public Water System
QC	Quality Control
QHS	Quality HAA sample
SDWARS	Safe Drinking Water Accession and Review System
SEA	Sampling Event for Additional Contaminants
SEC	Sampling Event for the Cyanotoxins
SEH	Sampling Event for the HAAs
SR	Source Water
SVOCs	Semi Volatile Organic Compounds
TOC	Total Organic Carbon
UCMR 4	Unregulated Contaminant Monitoring Rule 4

1. General Log-In Information

1.1 How to Register for a Central Data Exchange (CDX) Account

Access the Safe Drinking Water Accession and Review System (SDWARS4). To register to use CDX/SDWARS4, follow the link and enter your customer retrieval key (CRK) that you received in the mail or the CDX Help Desk:

1. Go to CDX Pre-Registration (http://cdx.epa.gov/preregistration/).
2. Enter the CRK that you received by mail or the CDX Help Desk.
    a. All large public water systems (PWSs) that did not pre-register for SDWARS4 in 2016 and all randomly selected small PWSs should have received a CRK; if you lost or did not receive a CRK, please contact the CDX Help Desk at (888) 890-1995 or helpdesk@epacdx.net.
    b. Labs received CRKs upon meeting the application and Proficiency Testing criteria for the fourth Unregulated Contaminant Monitoring Rule (UCMR 4) Laboratory Approval Program.



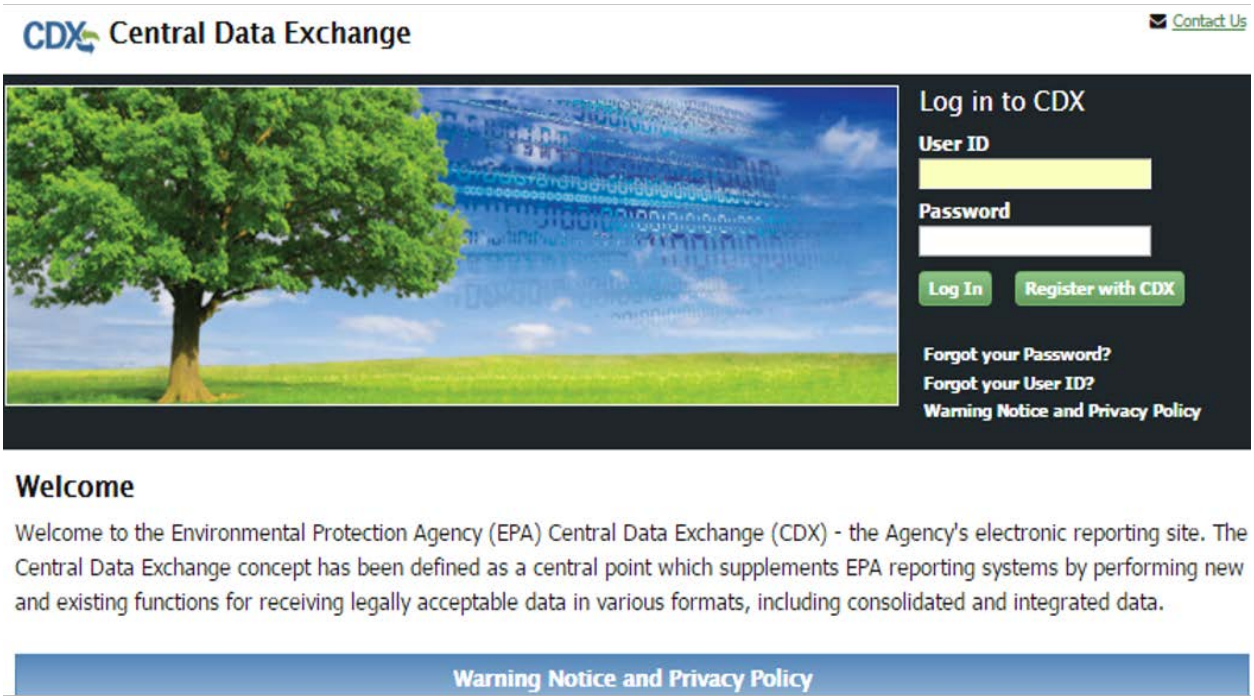
3. Click the green “Continue” button.
4. Follow the directions to complete registration (create your User Identification (ID) and Password).

1.2 How to Log in to CDX/SDWARS4 for UCMR 4

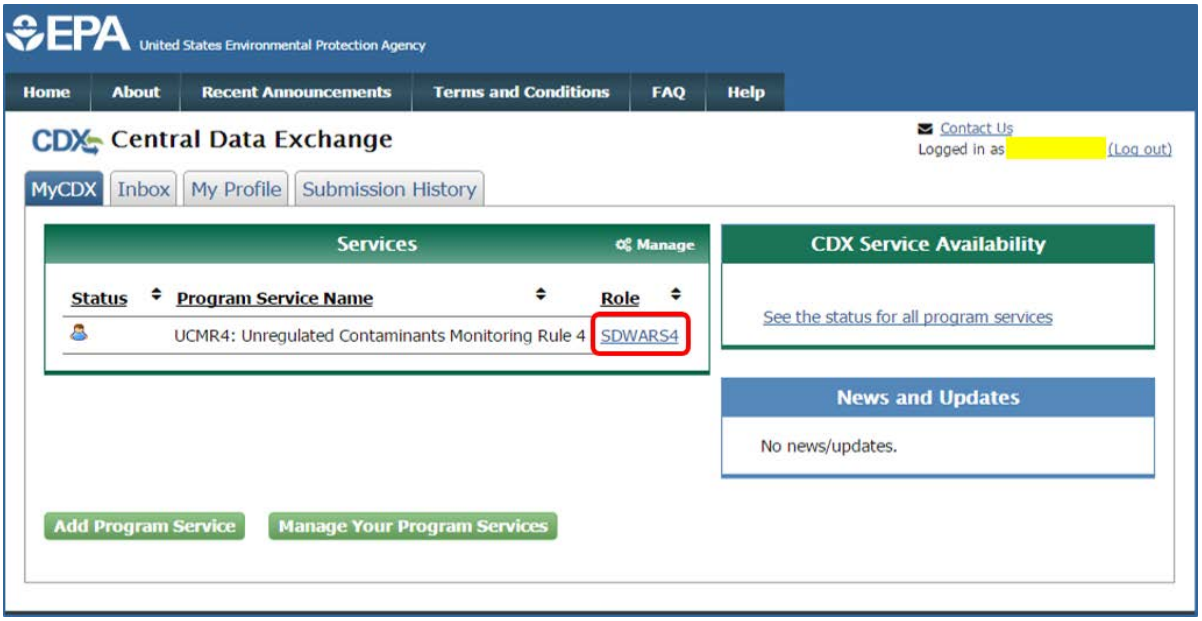
Proceed to the CDX homepage (https://cdx.epa.gov/CDX) and type in the User ID and Password that you created during registration and press the “Log In” button to gain access to CDX.

1. Under the “Log In” button, there are options to help you reset your Password or retrieve your User ID if you have forgotten them.

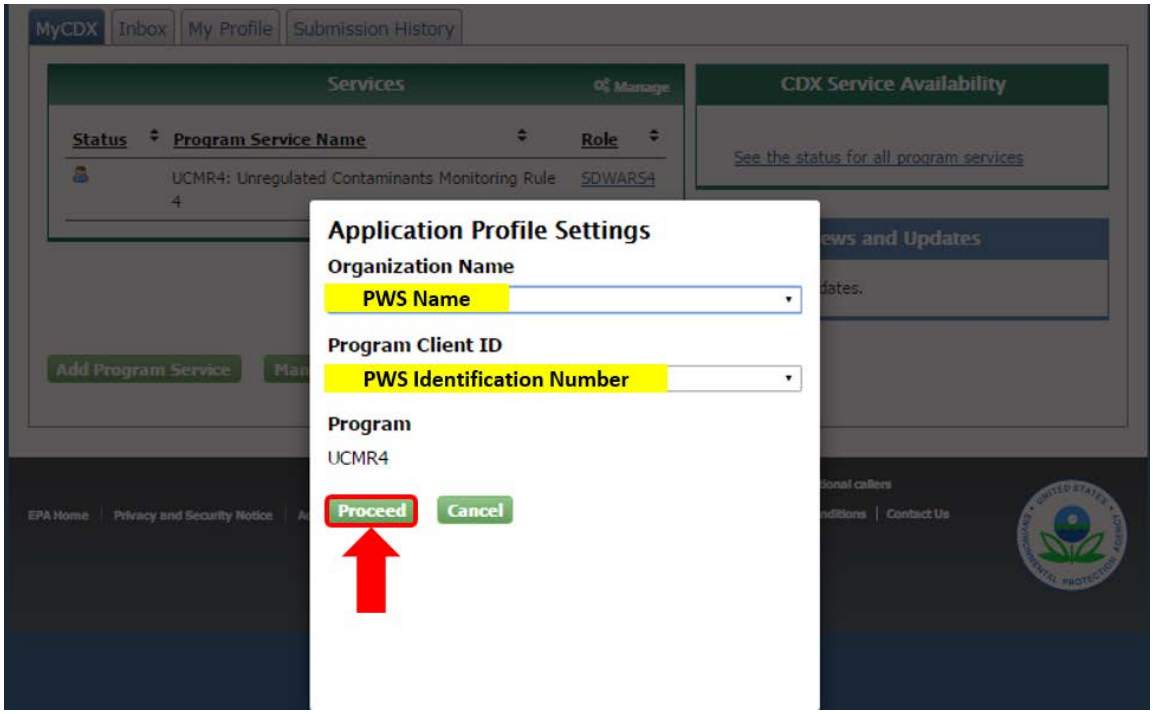
2. If you are having trouble logging in or have locked yourself out after too many failed login attempts, the screen will prompt you to contact the CDX Help Desk at (888) 890-1995 or helpdesk@epacdx.net.



3. Click on the SDWARS4 hyperlink (shown below) to access your account.



4. After selecting the SDWARS4 hyperlink, your application profile settings will pop up. You will see your organization name and ID number in the sections for Organization Name and Program Client ID. If the information is incorrect, contact CDX Help Desk at (888) 890-1995 or helpdesk@epacdx.net.
5. Click the "Proceed" button.

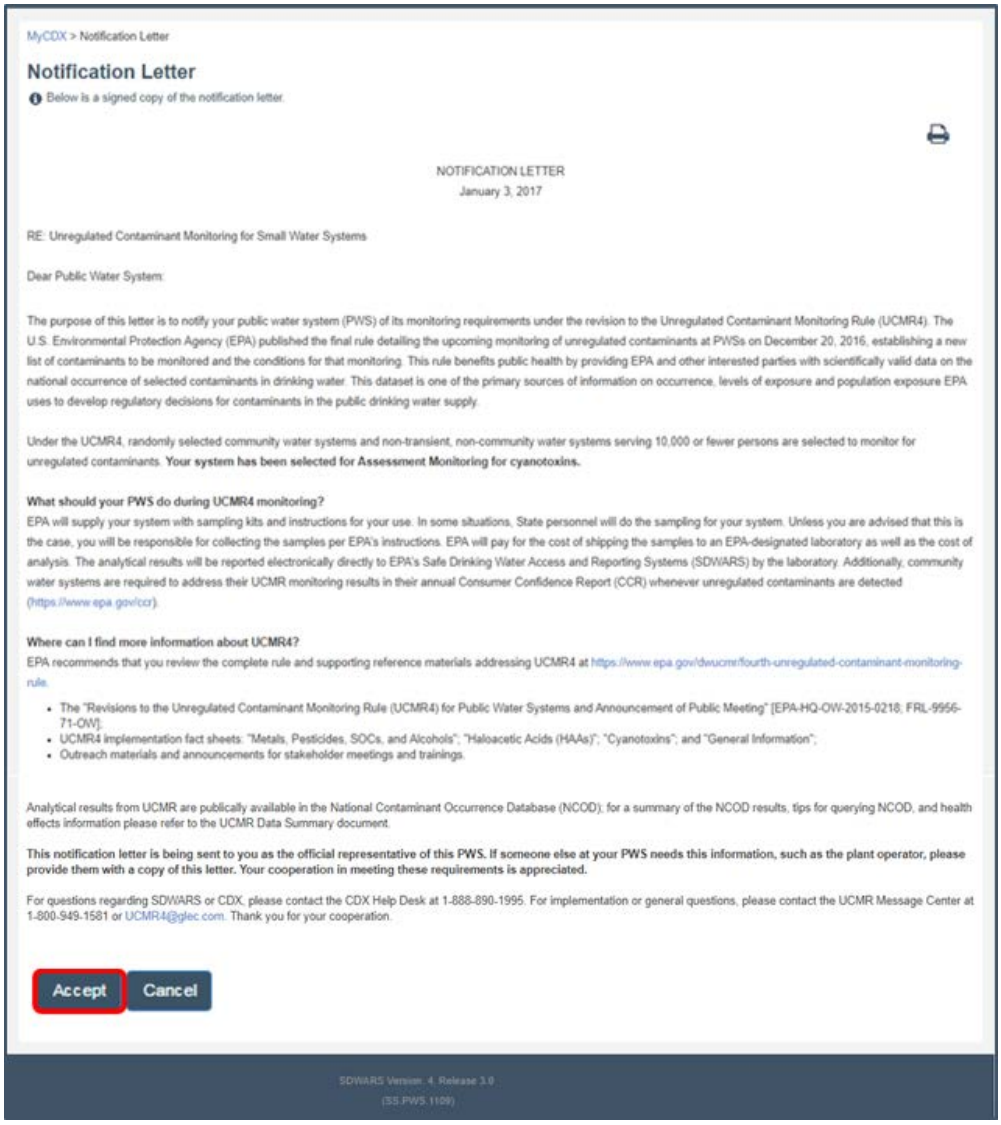


2. Small Public Water System (PWS) Account Information

2.1 How to Get Started with a Small PWS Account

1. Next you will see your notification letter. Please read it carefully and acknowledge the notification by clicking the "Accept" button at the bottom of the page. After accepting, you can again access your letter through clicking on the "Notification Letter" link on the navigation panel. From there you can print it.

2. Your notification letter will identify your PWS's specific sampling requirements for Assessment Monitoring contaminants based on your size category, water type and other characteristics. Below is an example notification letter for a small system selected for cyanotoxin assessment monitoring (AM3).


MyCDX > Notification Letter

Notification Letter

Below is a signed copy of the notification letter.

NOTIFICATION LETTER
January 3, 2017

RE: Unregulated Contaminant Monitoring for Small Water Systems

Dear Public Water System:

The purpose of this letter is to notify your public water system (PWS) of its monitoring requirements under the revision to the Unregulated Contaminant Monitoring Rule (UCMR4). The U.S. Environmental Protection Agency (EPA) published the final rule detailing the upcoming monitoring of unregulated contaminants at PWSs on December 20, 2016, establishing a new list of contaminants to be monitored and the conditions for that monitoring. This rule benefits public health by providing EPA and other interested parties with scientifically valid data on the national occurrence of selected contaminants in drinking water. This dataset is one of the primary sources of information on occurrence, levels of exposure and population exposure EPA uses to develop regulatory decisions for contaminants in the public drinking water supply.

Under the UCMR4, randomly selected community water systems and non-transient, non-community water systems serving 10,000 or fewer persons are selected to monitor for unregulated contaminants. **Your system has been selected for Assessment Monitoring for cyanotoxins.**

What should your PWS do during UCMR4 monitoring?
EPA will supply your system with sampling kits and instructions for your use. In some situations, State personnel will do the sampling for your system. Unless you are advised that this is the case, you will be responsible for collecting the samples per EPA's instructions. EPA will pay for the cost of shipping the samples to an EPA-designated laboratory as well as the cost of analysis. The analytical results will be reported electronically directly to EPA's Safe Drinking Water Access and Reporting Systems (SDWARS) by the laboratory. Additionally, community water systems are required to address their UCMR monitoring results in their annual Consumer Confidence Report (CCR) whenever unregulated contaminants are detected (https://www.epa.gov/ccr).

Where can I find more information about UCMR4?
EPA recommends that you review the complete rule and supporting reference materials addressing UCMR4 at https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule.

- The "Revisions to the Unregulated Contaminant Monitoring Rule (UCMR4) for Public Water Systems and Announcement of Public Meeting" [EPA-HQ-OW-2015-0218; FRL-9956-71-OW].
- UCMR4 implementation fact sheets: "Metals, Pesticides, SOCs, and Alcohols"; "Haloacetic Acids (HAAs)"; "Cyanotoxins"; and "General Information".
- Outreach materials and announcements for stakeholder meetings and trainings.

Analytical results from UCMR are publically available in the National Contaminant Occurrence Database (NCOD); for a summary of the NCOD results, tips for querying NCOD, and health effects information please refer to the UCMR Data Summary document.

This notification letter is being sent to you as the official representative of this PWS. If someone else at your PWS needs this information, such as the plant operator, please provide them with a copy of this letter. Your cooperation in meeting these requirements is appreciated.

For questions regarding SDWARS or CDX, please contact the CDX Help Desk at 1-888-890-1995. For implementation or general questions, please contact the UCMR Message Center at 1-800-949-1581 or UCMR4@glec.com. Thank you for your cooperation.

Accept Cancel

SDWARS Version: 4. Release 3.0
(SS.PWS.1109)

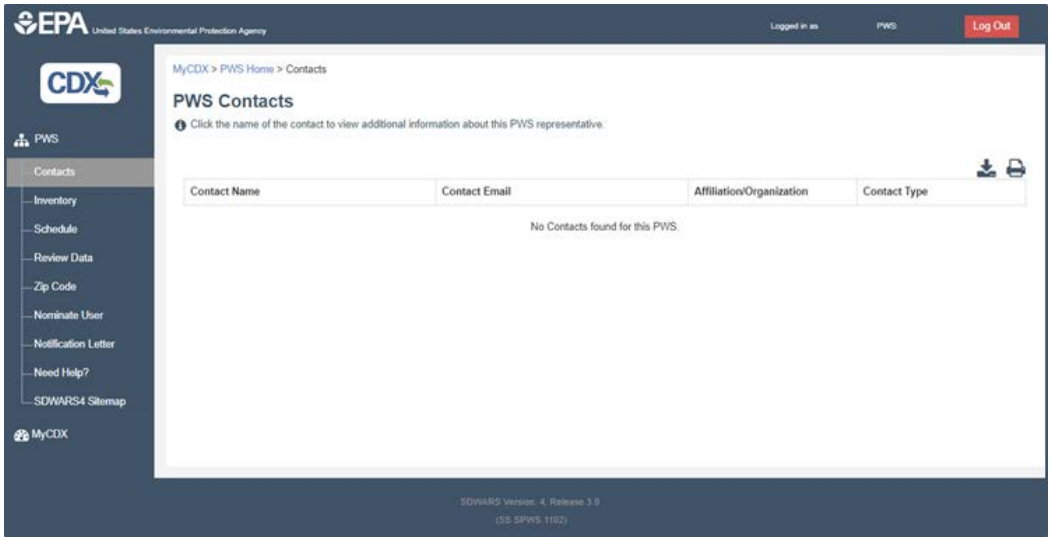
3. Having accepted the notification letter, you will be able to access your navigation panel on the left side of the screen which allows you to navigate to the different sections of SDWARS4.

2.2 How to View Contacts for Small PWS Accounts

There are two PWS contacts (official and technical):

a. An "official" contact refers to the person at your PWS who can function as the official spokesperson for the UCMR activities (i.e., administrative representative).

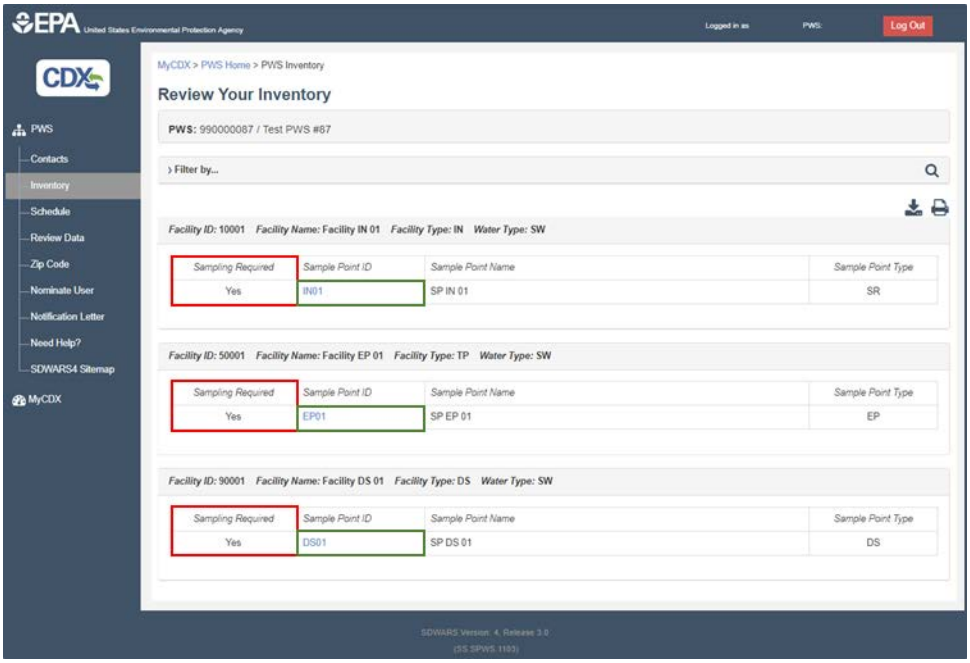
b. A "technical" contact refers to the person at your PWS who is responsible for technical aspects of your UCMR activities, such as sampling and reporting (i.e., alternate representative).



Contacts were entered on your behalf by EPA's UCMR implementation contractor based on the information you provided on the Monitoring Review Sheet (MRS). In some instances, this information was provided by your State. If you wish to add contacts or update contact information, contact the UCMR 4 Message Center at (800) 949-1581 or email UCMR Message Center (UCMR4@glec.com). You can download or print your contact information using the icons on the right ( ). Maintaining accurate contact information in SDWARS4 is critical to ensure timely notifications and correspondence are received by those key individuals responsible for UCMR compliance at the PWS.

2.3 How to Review Inventory for Small PWS Accounts

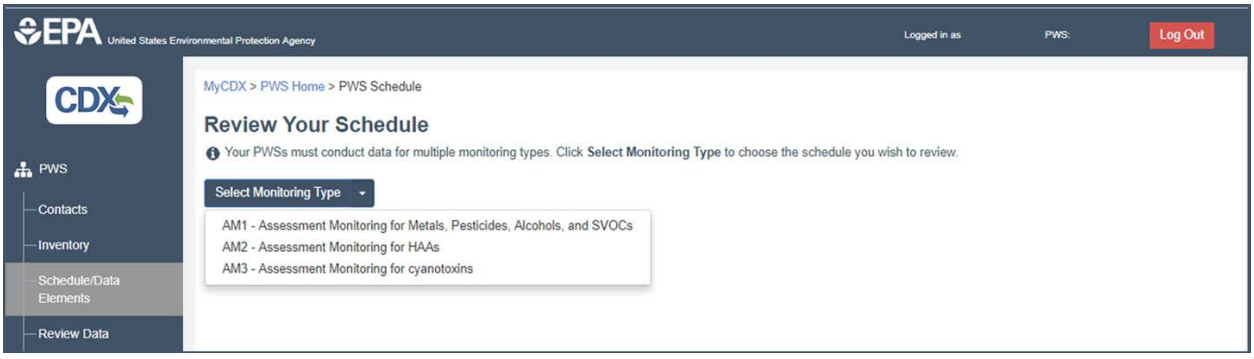
1. Inventory information was entered on your behalf by EPA's UCMR implementation contractor based on the information you provided on the MRS. In some instances, this information was provided by your State. Select "Inventory" from the navigation panel (on the left side of the page) to review your existing inventory. Ensure that all required sample locations for UCMR 4 are included; all entry points (EPs) to the distribution system for AM1 [metals, pesticides, alcohols and semi-volatile organic chemicals (SVOCs)] or AM3 (cyanotoxins), and for those PWSs monitoring UCMR 4 haloacetic acids (HAAs) and the indicators total organic carbon/bromide (TOC/Br^-) for AM2, your Disinfectants and Disinfection Byproducts Rule (D/DBPR) distribution system (DS) and source water (SR) locations. UCMR 4 HAA monitoring requires PWSs to collect HAA samples at the D/DBPR locations where HAA5 is sampled for compliance monitoring. Note that consecutive connections (purchased finished water) are not required to have SR locations for the HAA indicators.



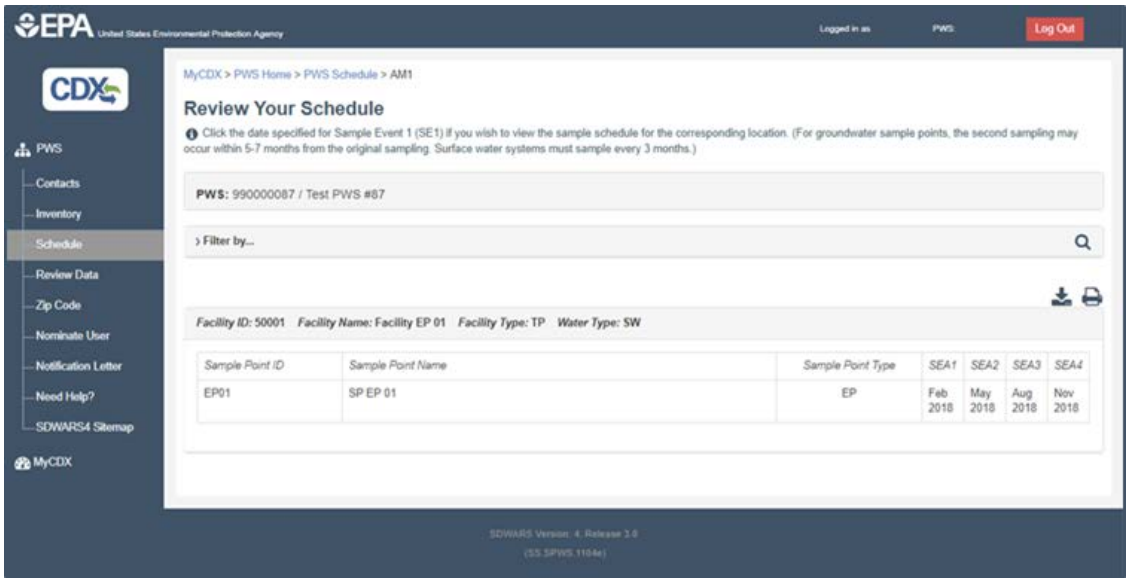
2. A "Yes" under "Sampling Required" signifies an applicable sample location for UCMR 4 monitoring (red box above). If you need to request a change in your inventory, please contact the UCMR 4 Message Center (UCMR4@glec.com). You will **NOT** be able to add, delete or edit your inventory yourself. You can view Sample Point information by clicking on the hyperlink (green box above). You can also print and/or download your inventory using the relevant icons on the top right corner ( ).

2.4 How to Review Sampling Schedules for Small PWS Accounts

1. Select "Schedule" from the navigation panel.
2. Click the "Select Monitoring Type" and choose from the drop-down menu.
   a. You can also download or print your schedules using the icons on the right.
   b. Depending on your system size, water type and other characteristics, you could see different Assessment Monitoring (AM) schedule options: AM1 applies to metals, pesticides, alcohols and SVOCs; AM2 applies to the HAAs and the indicators (TOC/Br^-); and AM3 applies to the cyanotoxins. Small PWSs can have the following schedules/monitoring requirements: AM1 and AM2, AM1 only, or AM3.



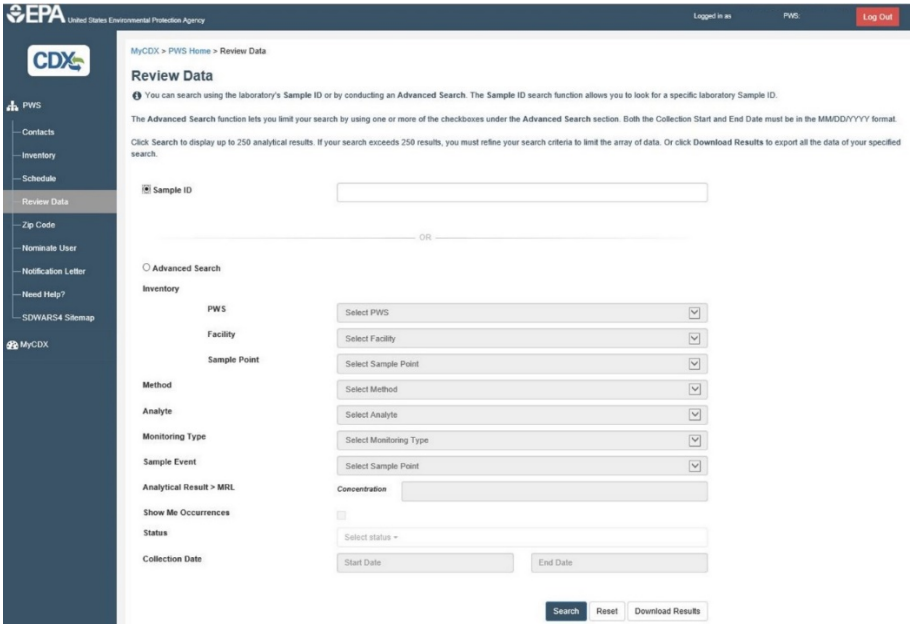
You will be able to view your inventory and all scheduled sampling events. Below is an example for the AM1 monitoring requirement and all scheduled sampling events.



If you need to request a change in your schedule, please contact the UCMR 4 Message Center (UCMR4@glec.com). The small PWSs with CDX/SDWARS4 accounts will receive a SDWARS generated email notification at the beginning of their scheduled sampling month (see Appendix A).

2.5 How to Review Laboratory Data for Small PWS Accounts

1. A laboratory contracted with EPA to analyze small PWS samples will upload analytical results to SDWARS4. After EPA reviews and approves the analytical results, they become viewable to the small PWS, State and EPA. All contacts with email addresses associated with the small PWS account will receive a SDWARS generated email notification when sampling results are available to view (see Appendix B).

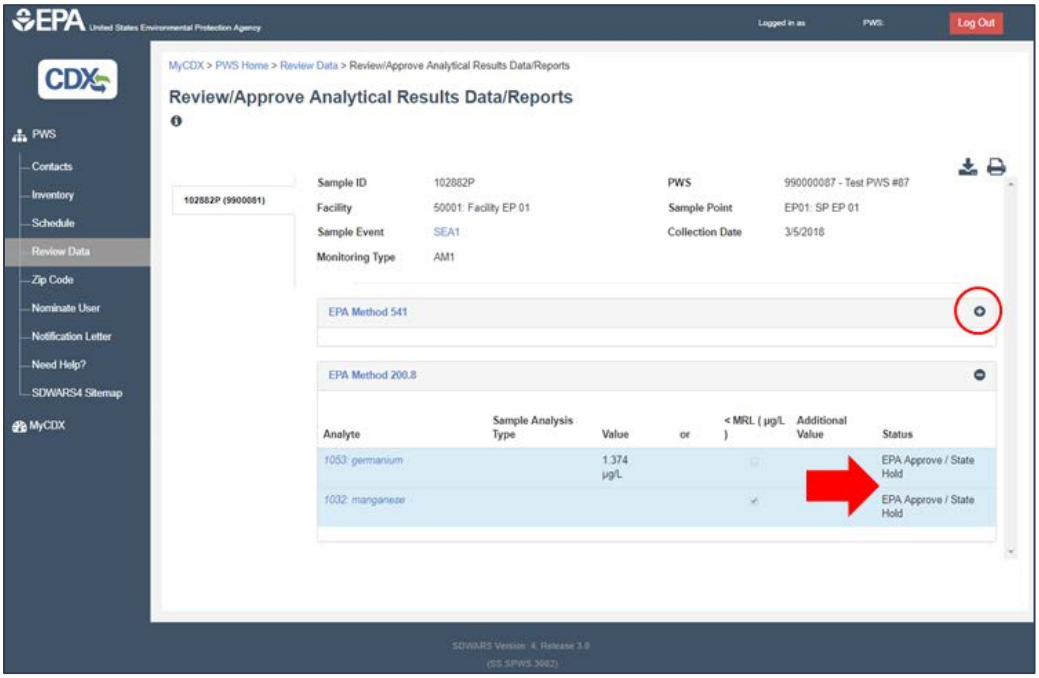


2. On the navigation panel select Review Data. To find any analyzed and submitted sample kit data, you can search by a specific Sample ID. A wildcard (%) can be used to search for all sample IDs for your system. Alternatively, you can use an advanced search by providing various pieces of information to narrow down the search.

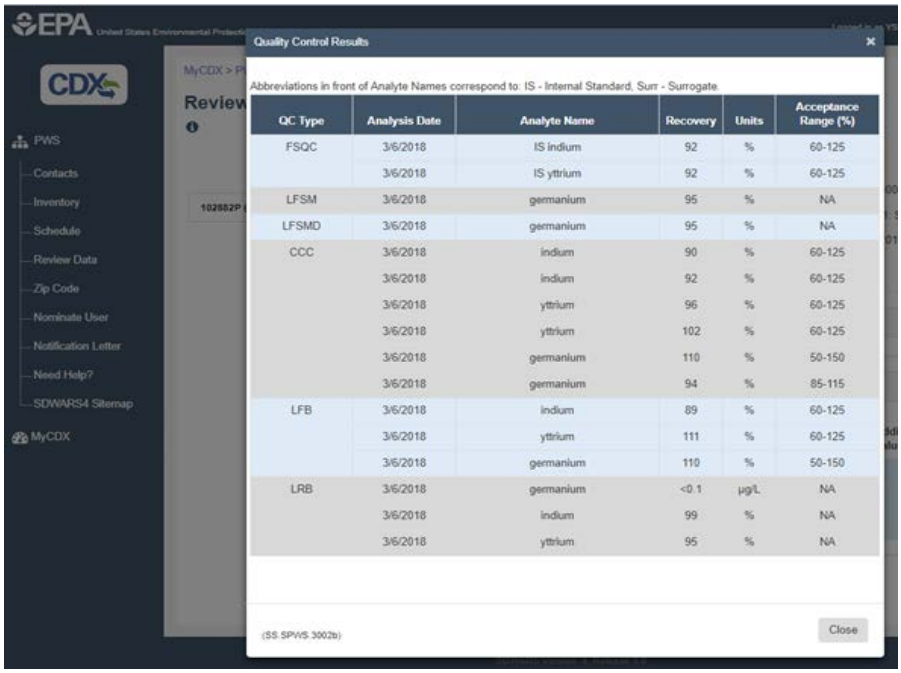
3. Once the Sample ID is found, you can view inventory information for the sampled location in the upper portion of the page followed by analytical results.

4. Select each sampling kit ID on the left-hand side of the screen. The analyte results can be viewed by clicking on each method. Reported values equal to or greater than the minimum reporting level (MRL) are displayed in µg/L. Results less than the MRL are denoted with a checked box under the "MRL (µg/L)" column. No data reportable (NDR) indicates that EPA could not obtain valid data for this contaminant during the scheduled sampling event. Note that you can collapse each method by clicking on the minus symbol in the upper right corner of each methods section or expand information using a plus sign (red circle below). If the data was not reviewed by the State (note: state review is not required, entirely at the discretion of the state), it will have a hold status of EPA Approved/State Hold (red arrow below). This screen requires no action from small PWSs. For more information about each "Status" see Appendix C.

5. Refer to the "Reference Concentrations for the Fourth Unregulated Contaminant Monitoring Rule (UCMR 4)" for health-based values that provide context for the detection of a UCMR 4 contaminant.



6. You can also view laboratory QC data for each analytical result by clicking on each individual analyte to generate a pop-up screen. An example below shows the QC for a test sample for the Germanium contaminant (Analyte 1053) under EPA method 200.8 for AM1 (see Appendix D).



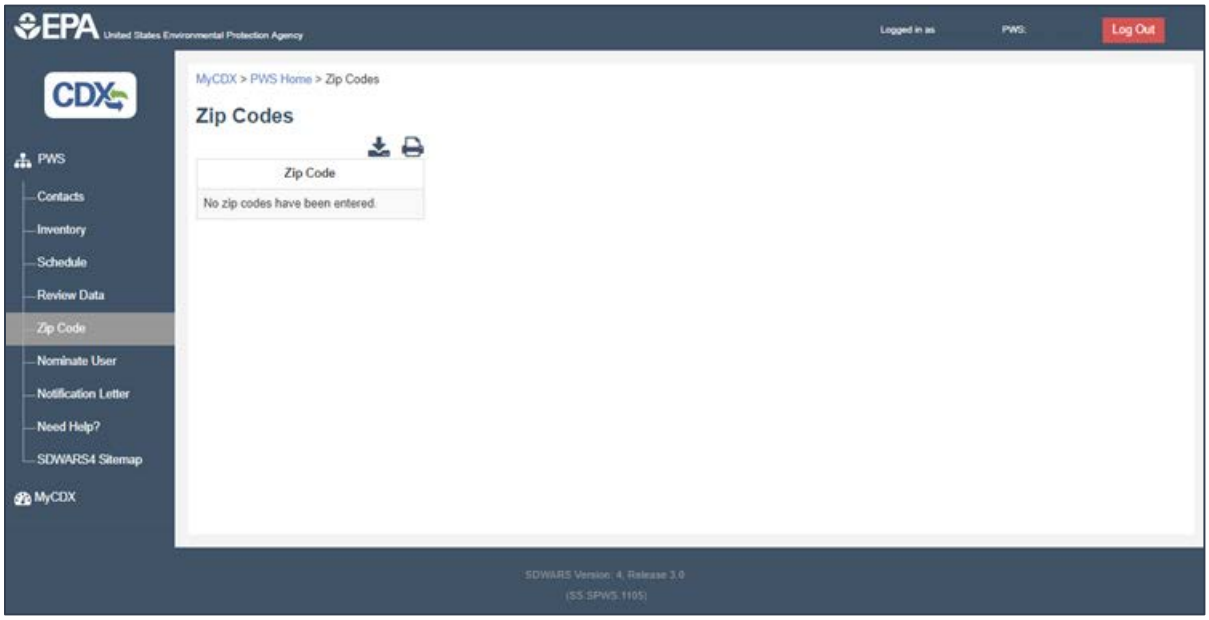
Below is a list of QC types and explanation of their properties:

- **CCC** = continuing calibration check; a calibration standard containing the contaminant, the internal standard, and the surrogate analyzed to verify the existing calibration for those contaminants.
- **FSQC** = field sample quality control; internal standards and/or surrogates in the field sample.
- **LFB** = laboratory fortified blank; an aliquot of reagent water fortified with known quantities of the contaminants and all preservation compounds.
- **LRB** = laboratory reagent blank; an aliquot of reagent water treated exactly as a field sample, including the addition of preservatives, internal standards, and surrogates to determine if interferences are present in the laboratory reagents, or to other equipment.
- **LFSM** = laboratory fortified sample matrix; a UCMR field sample with a known amount of the contaminant of interest and all preservation compounds added.
- **LFSMD** = laboratory fortified sample matrix duplicate; duplicate of laboratory fortified sample matrix.
- **QCS** = quality control sample; a sample prepared with a source external to the one used for initial calibration and CCC. The QCS is used to check calibration standard integrity.
- **QHS** = quality HAA; HAA sample collected and submitted for quality control purposes.
- **SUR** = surrogate standard; a standard that assesses method performance for each extraction.
- **IS** = internal standard; a standard that measures the relative response of contaminants.

2.6 How to Review Zip Codes for Small PWS Accounts

1. Zip codes were entered on your behalf by EPA's UCMR implementation contractor based on the information you provided on the MRS. In some instances, this information was provided by your State. Select "Zip Code" on the navigation panel (on the left side of the page).

2. If you need to add or edit zip codes for your account, please contact the UCMR 4 Message Center (UCMR4@glec.com).



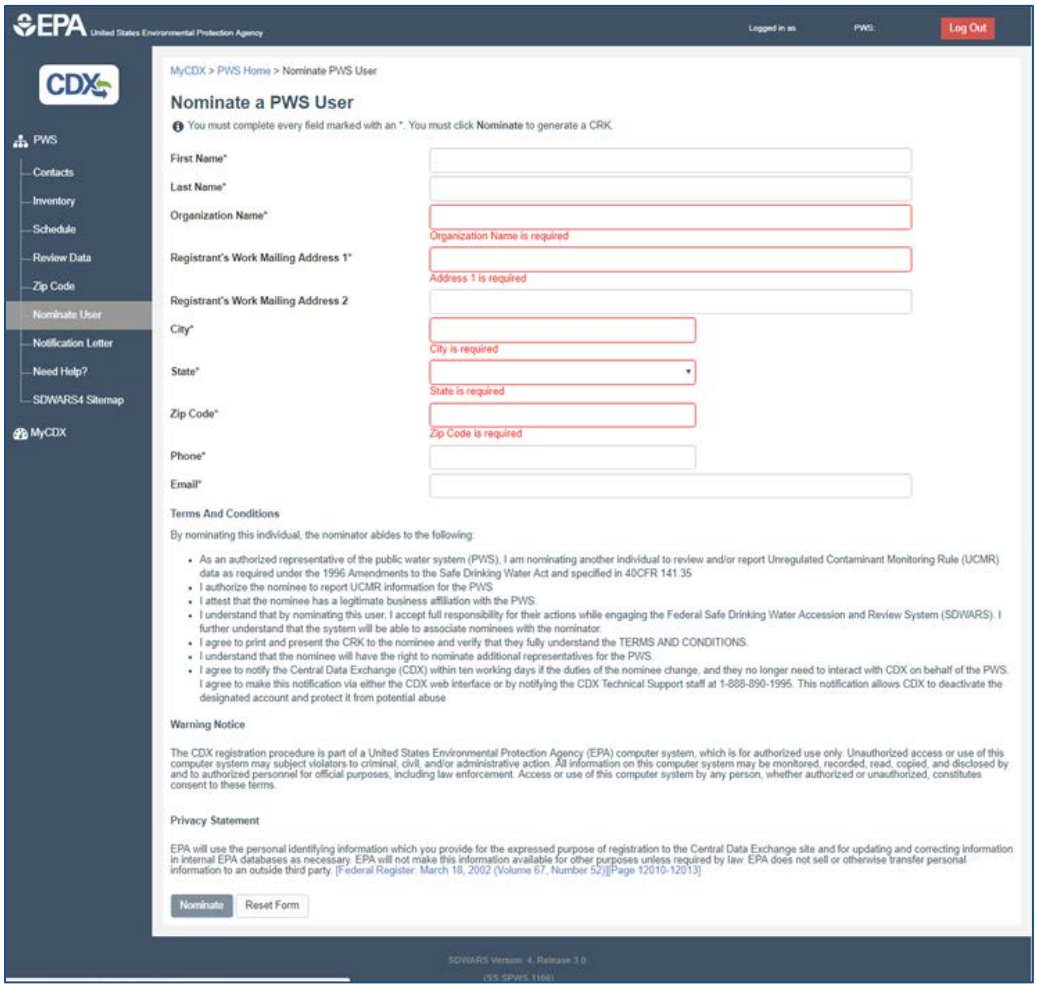
3. You can download or print your zip codes using icons ( ) on the right-hand corner.

2.7 How to Nominate a User for a CDX/SDWARS4 Account

This step is optional. The account holder can nominate an authorized representative of their choice to review data in SDWARS4. It is important to read and understand the terms and conditions of this agreement. The account holder can nominate more than one person.

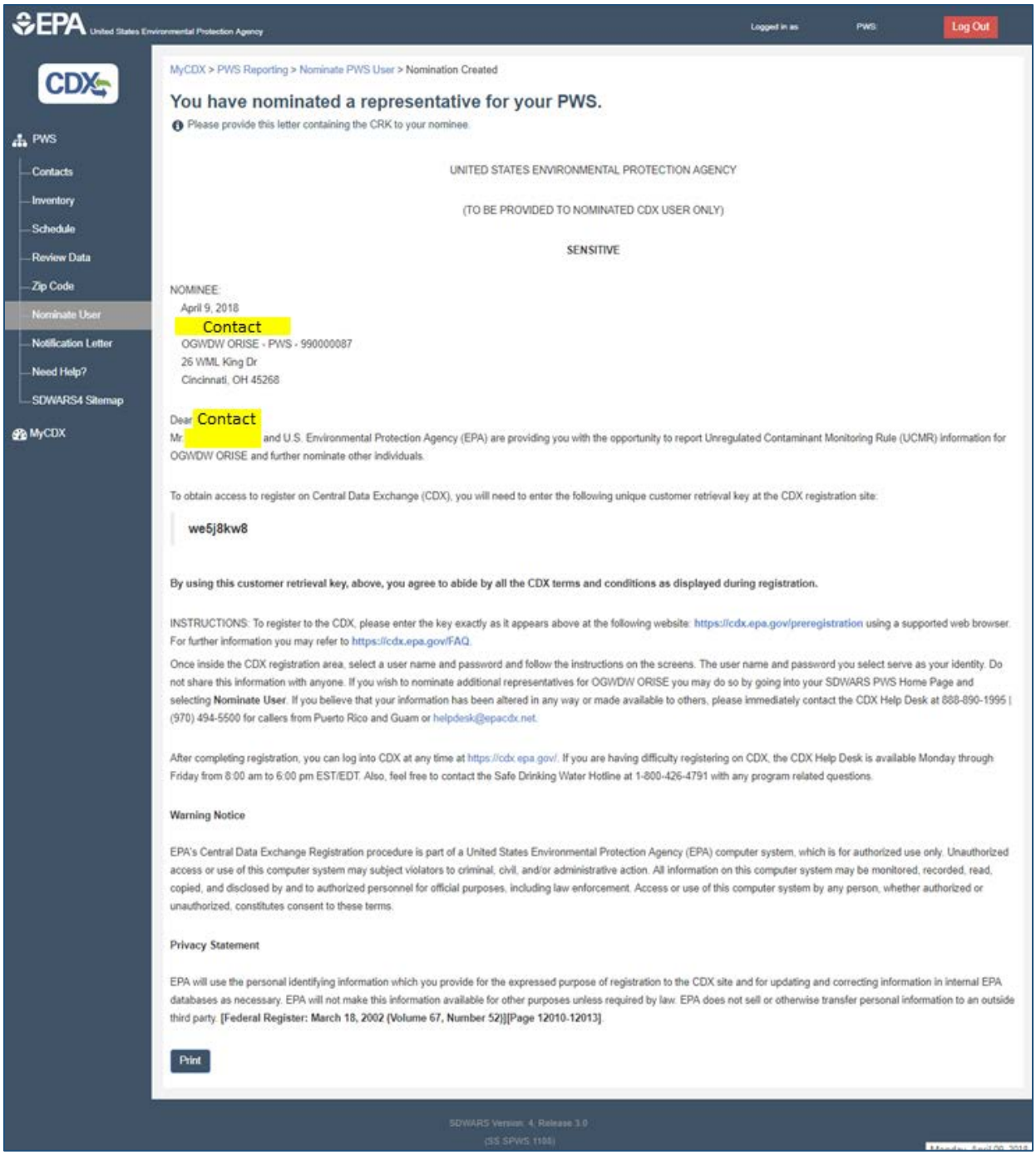
1. Select “Nominate User” from the navigation panel.

2. Complete every field marked with an asterisk* and click “Nominate” at the bottom of the page to create a CRK (customer retrieval key) for the nominee.



3. Once you click “Nominate” you will see a confirmation page with a message at the top of the screen reading: “You have nominated a representative for your PWS” (see below).

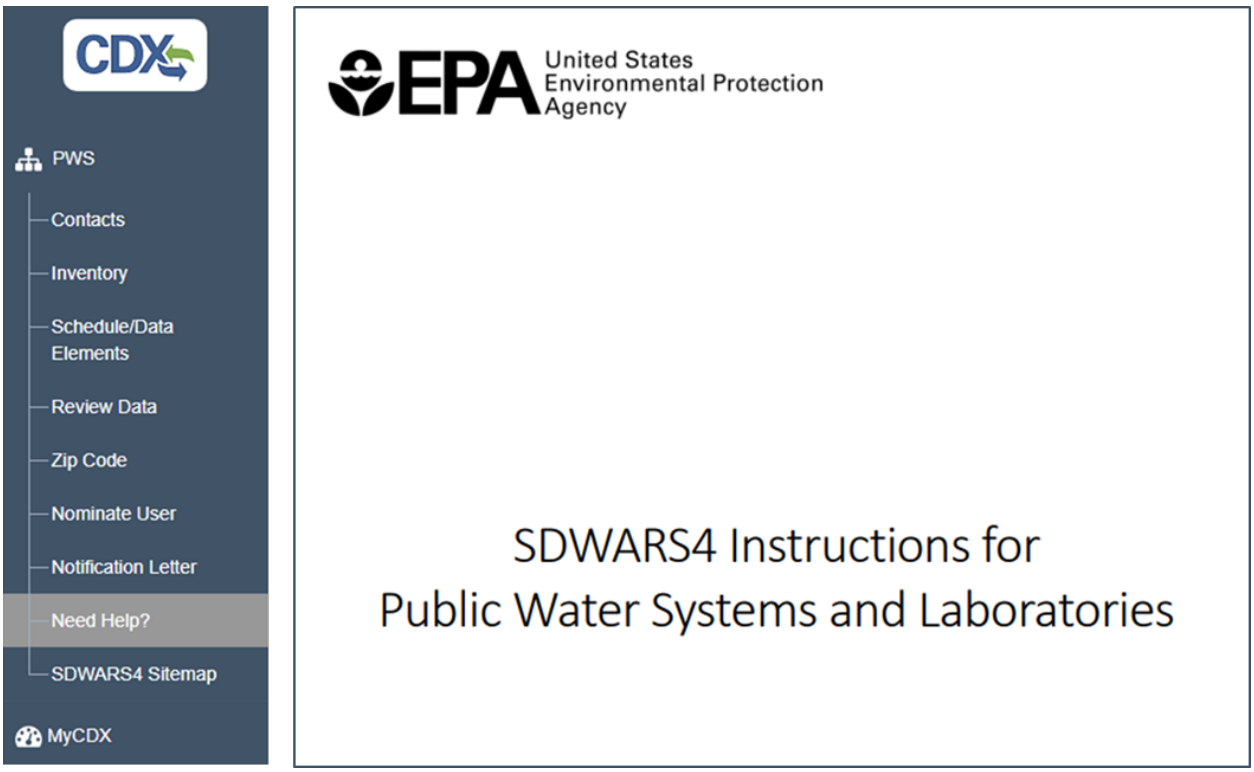
4. The top portion of the confirmation page will show the nominee information and a uniquely assigned CRK for the nominee.

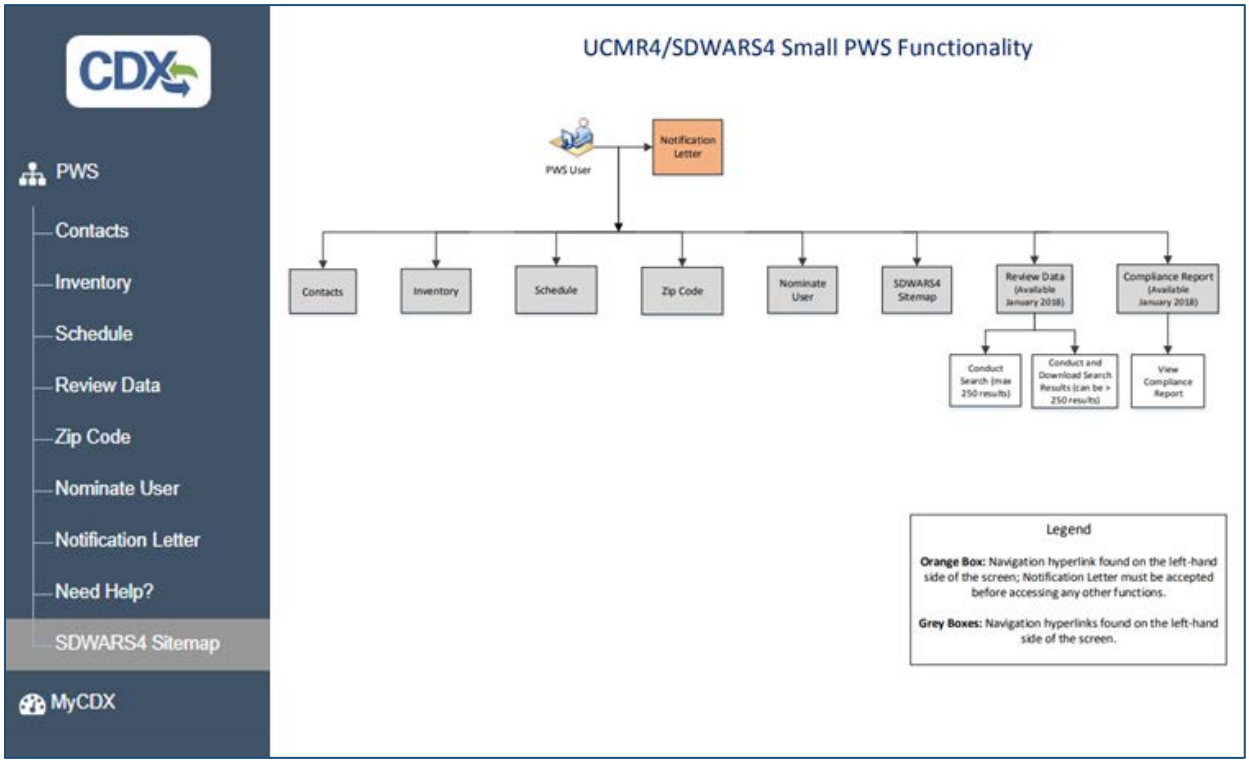


5. You will need to review the instructions, warning notice and privacy statement.

6. Print out the CRK and registration instructions for the nominee.

2.8 SDWARS4 Need Help Document and Sitemap



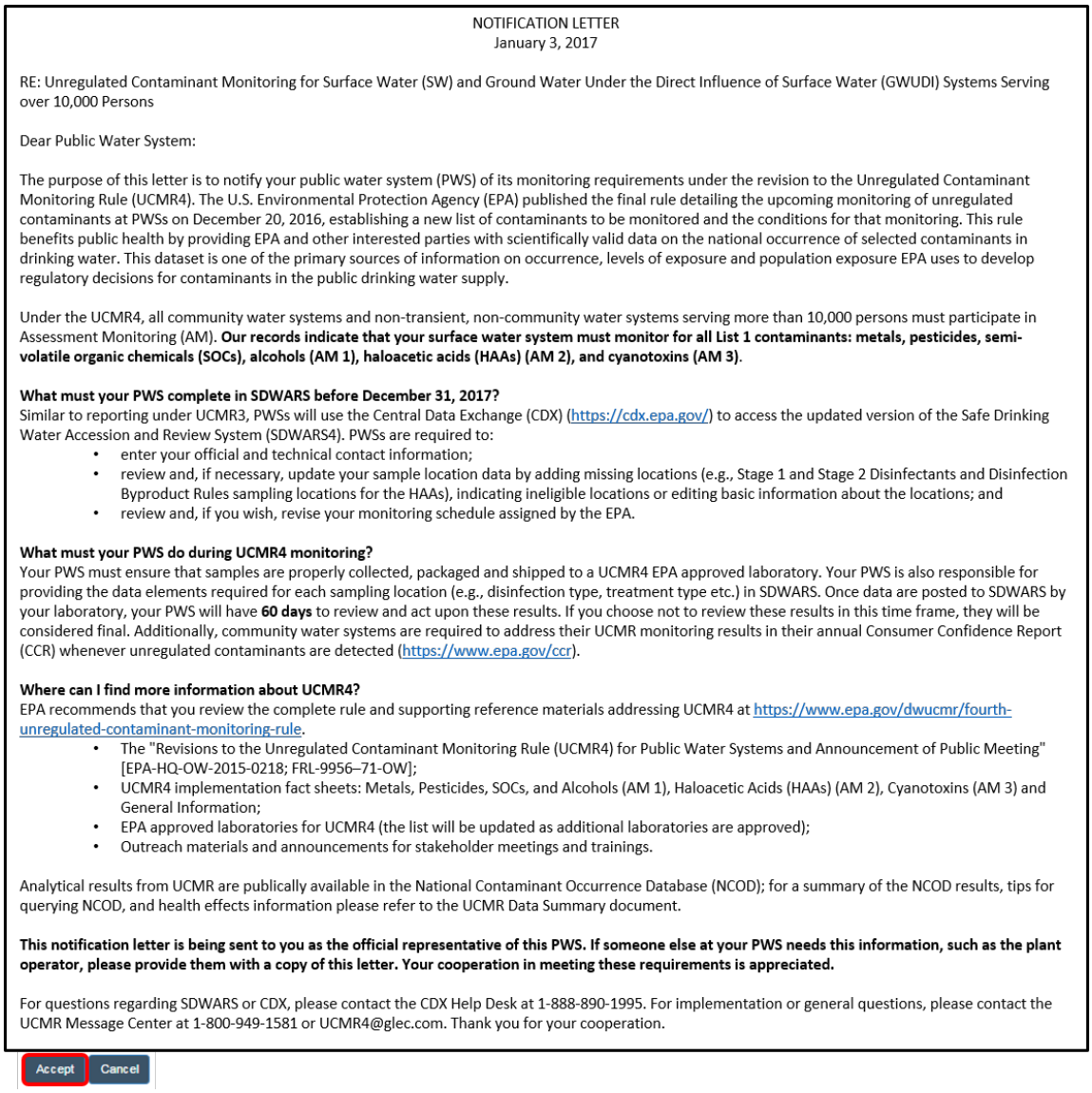


3. Large Public Water System (PWS) Account Information

3.1 How to Get Started with a Large PWS Account

1. Once you have logged into SDWARS4 and clicked "Proceed" on the Application Profile Settings pop-up, you will see your notification letter. Please read it carefully, and acknowledge the notification by clicking the "Accept" button at the bottom of the page. After accepting, you can always access your letter through clicking on the "Notification Letter" link on the navigation panel. From there you can print it.

2. Your notification letter will identify your PWS's sampling requirements to monitor for all Assessment Monitoring contaminants, or a portion of them based on your size category, water type and other characteristics. Below is an example notification letter for a large system required to monitor for all UCMR 4 contaminants.



NOTIFICATION LETTER
January 3, 2017

RE: Unregulated Contaminant Monitoring for Surface Water (SW) and Ground Water Under the Direct Influence of Surface Water (GWUDI) Systems Serving over 10,000 Persons

Dear Public Water System:

The purpose of this letter is to notify your public water system (PWS) of its monitoring requirements under the revision to the Unregulated Contaminant Monitoring Rule (UCMR4). The U.S. Environmental Protection Agency (EPA) published the final rule detailing the upcoming monitoring of unregulated contaminants at PWSs on December 20, 2016, establishing a new list of contaminants to be monitored and the conditions for that monitoring. This rule benefits public health by providing EPA and other interested parties with scientifically valid data on the national occurrence of selected contaminants in drinking water. This dataset is one of the primary sources of information on occurrence, levels of exposure and population exposure EPA uses to develop regulatory decisions for contaminants in the public drinking water supply.

Under the UCMR4, all community water systems and non-transient, non-community water systems serving more than 10,000 persons must participate in Assessment Monitoring (AM). **Our records indicate that your surface water system must monitor for all List 1 contaminants: metals, pesticides, semi-volatile organic chemicals (SOCs), alcohols (AM 1), haloacetic acids (HAAs) (AM 2), and cyanotoxins (AM 3)**.

What must your PWS complete in SDWARS before December 31, 2017?
Similar to reporting under UCMR3, PWSs will use the Central Data Exchange (CDX) (https://cdx.epa.gov/) to access the updated version of the Safe Drinking Water Accession and Review System (SDWARS4). PWSs are required to:

- enter your official and technical contact information;
- review and, if necessary, update your sample location data by adding missing locations (e.g., Stage 1 and Stage 2 Disinfectants and Disinfection Byproduct Rules sampling locations for the HAAs), indicating ineligible locations or editing basic information about the locations; and
- review and, if you wish, revise your monitoring schedule assigned by the EPA.

What must your PWS do during UCMR4 monitoring?
Your PWS must ensure that samples are properly collected, packaged and shipped to a UCMR4 EPA approved laboratory. Your PWS is also responsible for providing the data elements required for each sampling location (e.g., disinfection type, treatment type etc.) in SDWARS. Once data are posted to SDWARS by your laboratory, your PWS will have **60 days** to review and act upon these results. If you choose not to review these results in this time frame, they will be considered final. Additionally, community water systems are required to address their UCMR monitoring results in their annual Consumer Confidence Report (CCR) whenever unregulated contaminants are detected (https://www.epa.gov/ccr).

Where can I find more information about UCMR4?
EPA recommends that you review the complete rule and supporting reference materials addressing UCMR4 at https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule.

- The "Revisions to the Unregulated Contaminant Monitoring Rule (UCMR4) for Public Water Systems and Announcement of Public Meeting" [EPA-HQ-OW-2015-0218; FRL-9956–71-OW];
- UCMR4 implementation fact sheets: Metals, Pesticides, SOCs, and Alcohols (AM 1), Haloacetic Acids (HAAs) (AM 2), Cyanotoxins (AM 3) and General Information;
- EPA approved laboratories for UCMR4 (the list will be updated as additional laboratories are approved);
- Outreach materials and announcements for stakeholder meetings and trainings.

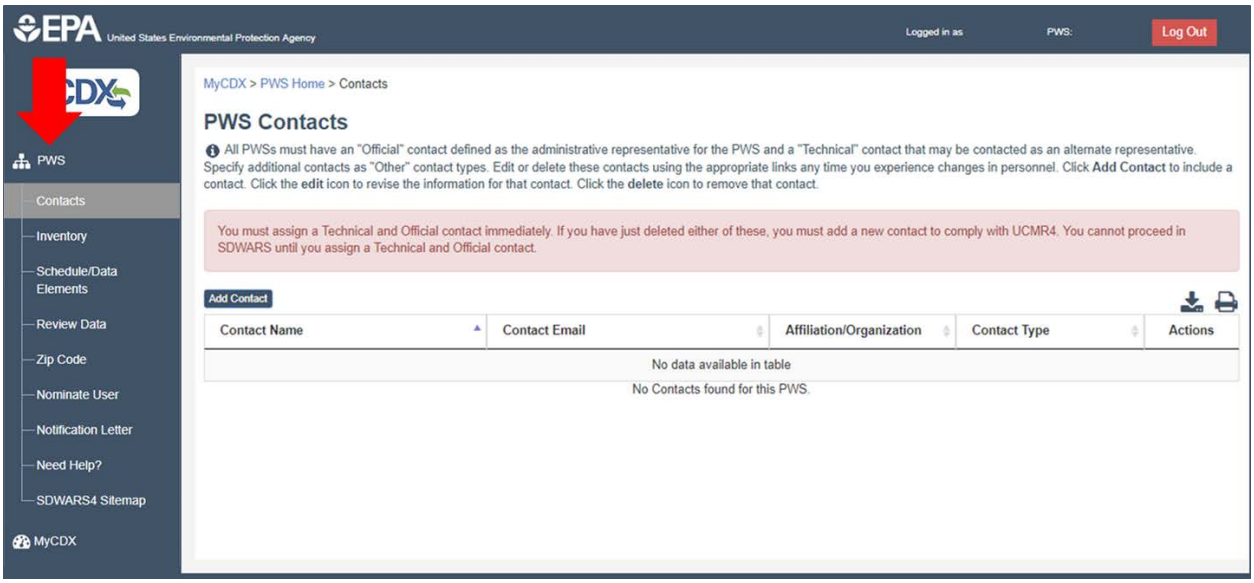
Analytical results from UCMR are publically available in the National Contaminant Occurrence Database (NCOD); for a summary of the NCOD results, tips for querying NCOD, and health effects information please refer to the UCMR Data Summary document.

This notification letter is being sent to you as the official representative of this PWS. If someone else at your PWS needs this information, such as the plant operator, please provide them with a copy of this letter. Your cooperation in meeting these requirements is appreciated.

For questions regarding SDWARS or CDX, please contact the CDX Help Desk at 1-888-890-1995. For implementation or general questions, please contact the UCMR Message Center at 1-800-949-1581 or UCMR4@glec.com. Thank you for your cooperation.

Accept Cancel

3. Having accepted the notification letter, you will be able to access your navigation panel (red arrow below) which allows you to navigate to the different sections of SDWARS4.



3.2 How to Add Contacts to Large PWS Accounts

1. As indicated by the red box on the "PWS Contacts" page, you must add two PWS contacts (official and technical) before you can navigate to another section (e.g., Inventory).

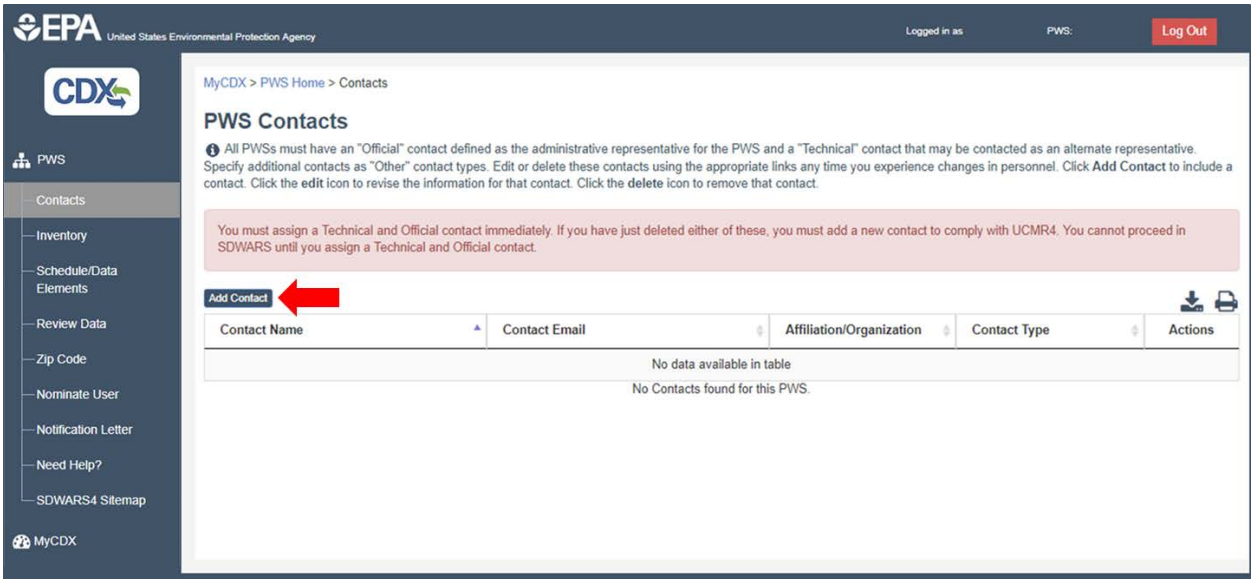
   a. An "official" contact refers to the person at your PWS who can function as the official spokesperson for the UCMR activities (i.e., administrative representative).

   b. A "technical" contact refers to the person at your PWS who is responsible for technical aspects of your UCMR activities, such as sampling and reporting (i.e., alternate representative).

   c. You can specify additional contacts as "other."

   d. You may edit or delete these contacts at any time as personnel change, but you must always have an official and technical contact in SDWARS4 to proceed further.

2. To begin adding contacts, click “Add Contact.”

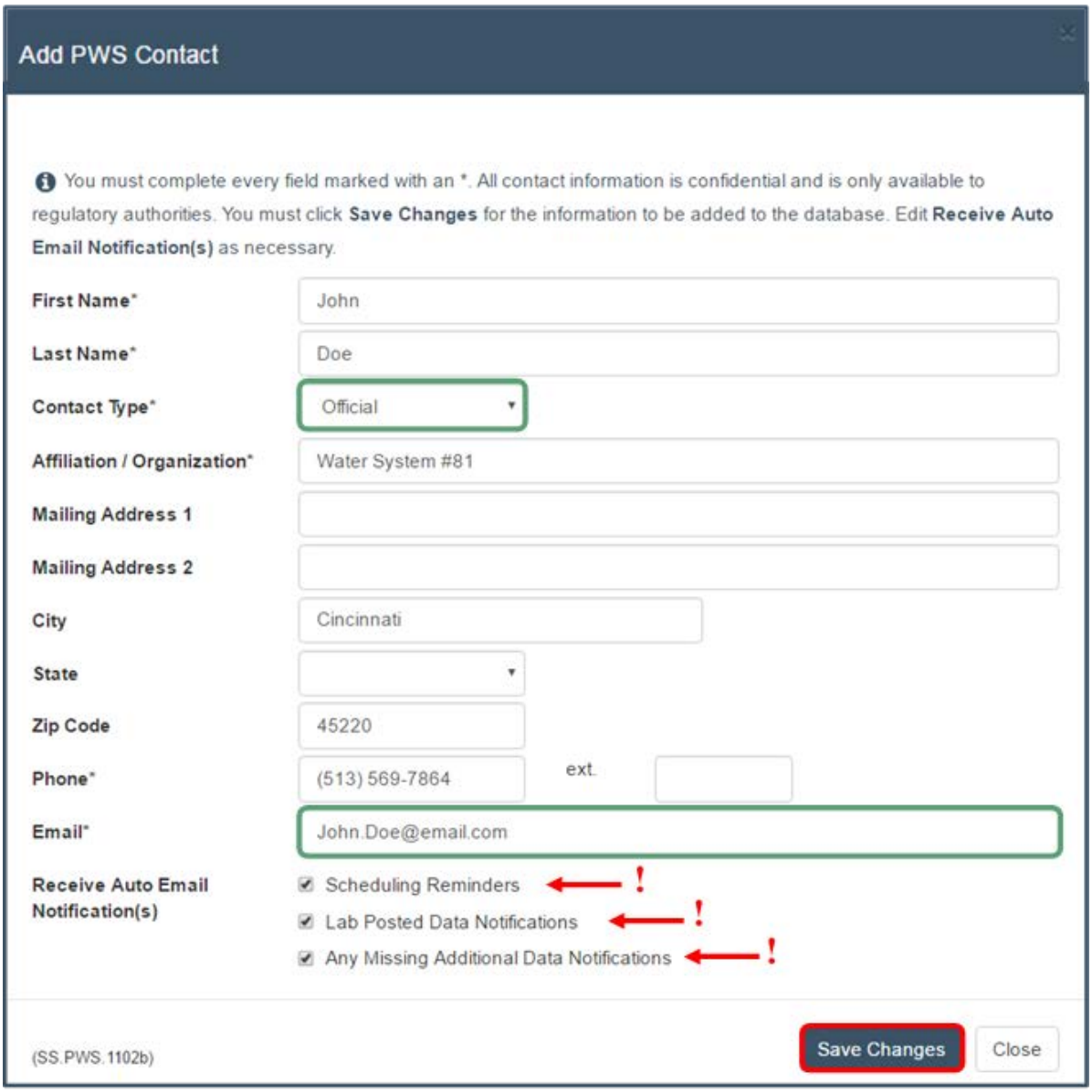


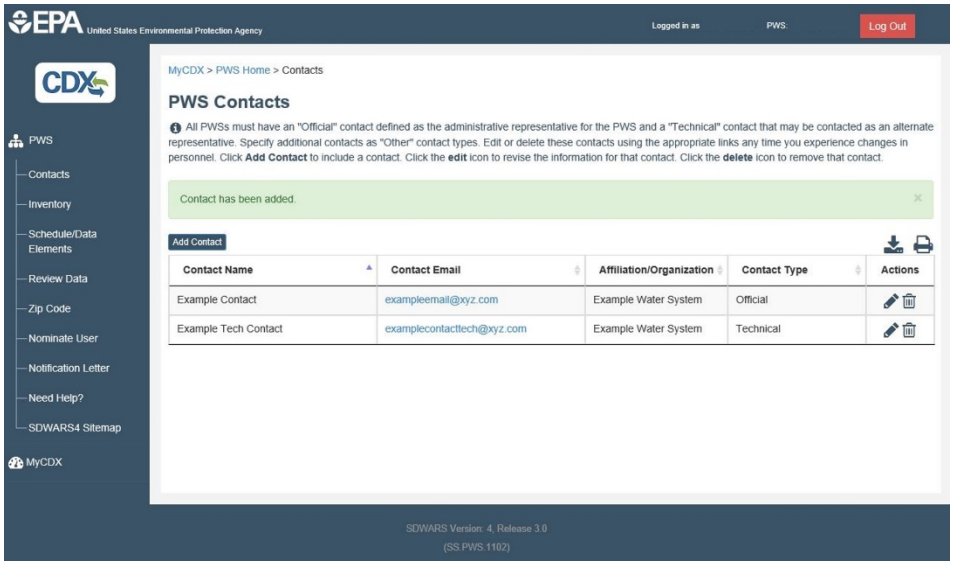
3. Provide requested information for PWS contacts. The fields marked with an asterisk* (first and last name, contact type, affiliation/organization, phone number and email) are mandatory. All contact information is confidential and is only available to regulatory authorities.

4. Check the “Receive Auto Email Notification(s)” boxes to have the contact receive scheduling reminders; notifications when your lab has posted data; and notifications regarding missing reporting requirements (such as disinfectant type, treatment information, disinfectant residual and cyanotoxin information; Appendices E, F, and G).

5. Click “Save Changes.”
   a. Once you click on “Save Changes,” a green bar will appear at the top of the page confirming that a contact has been added (see next page).
   b. You can download or print your contact information using the icons on the right ( ).
   c. Use the pencil icon ( ) under “Actions” to edit this contact’s information.

6. Use the trash can icon (🗑) under "Actions" to delete the contact. Since you must always have an official and technical contact in SDWARS4, click "Add Contact" and repeat steps 2 through 5 of this section to add a contact. Maintaining accurate contact information in SDWARS4 is critical to ensure timely notifications and correspondence are received by those key individuals responsible for UCMR compliance at the PWS.



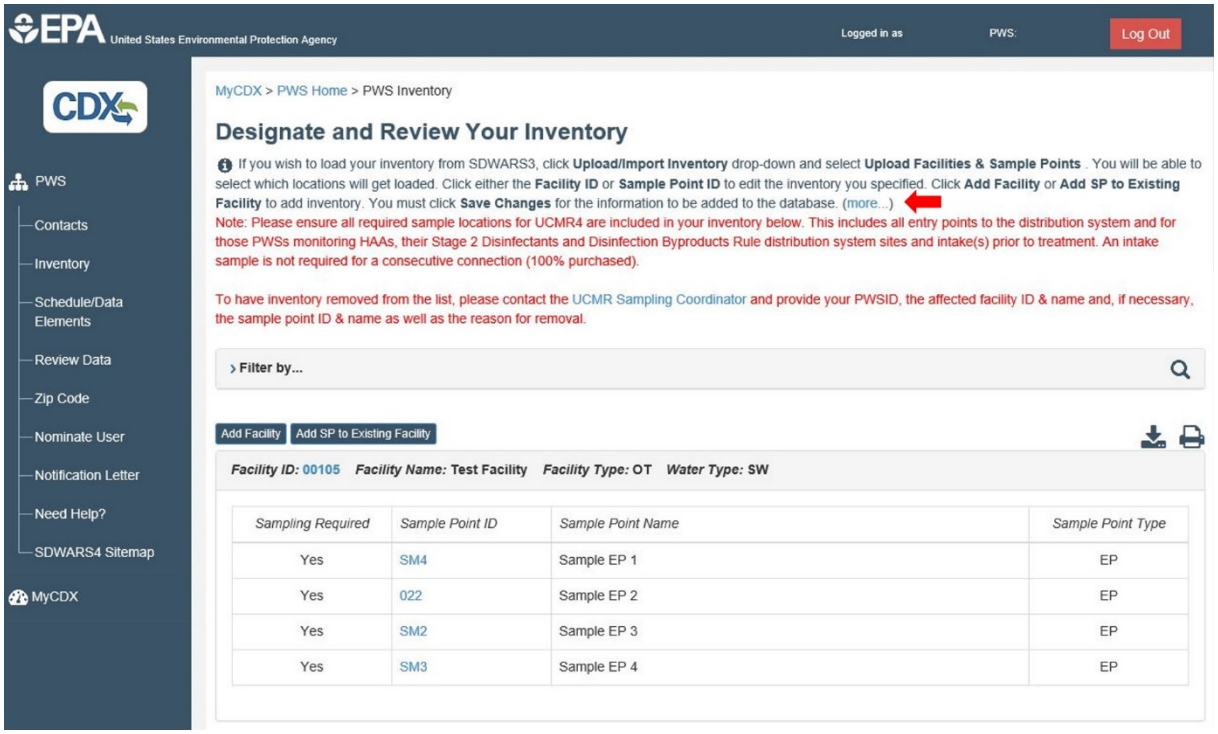


3.3 How to Add Inventory to Large PWS Accounts

1. Select “Inventory” from the navigation panel.

2. Ensure that all required sample locations for UCMR 4 are included; all EPs to the distribution system for AM1 [metals, pesticides, alcohols and SVOCs] and/or AM3 (cyanotoxins), and for those PWSs monitoring UCMR 4 HAAs and the indicators (TOC/Br^-) for AM2, your D/DBPR DS and SR locations. UCMR 4 HAA monitoring requires PWSs to collect HAA samples at the D/DBPR locations where HAA5 is sampled for compliance monitoring. Note that consecutive connections (purchased finished water) are not required to have SR locations for the HAA indicators.

3. For an overview of inventory and resampling requirements for AM2 and AM3 please see Appendix H.



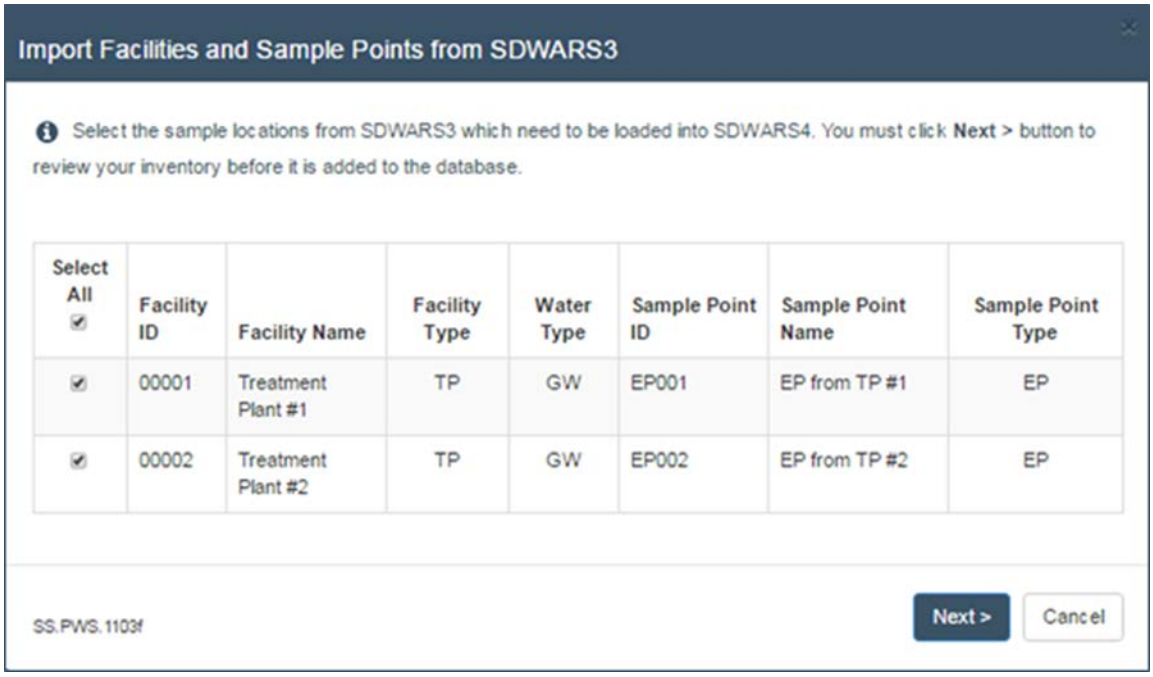
4. You have three options to input inventory from the "Inventory" homepage in the above screenshot:
   IMPORTANT: Once the closed entry period for inventory is enacted, the PWS must contact the UCMR Sampling Coordinator (ucmr_sampling_coordinator@epa.gov) to add inventory.
   - **Option 1: Add EP inventory from SDWARS3**. The SDWARS3 import option will only provide EP locations. If you are subject to the UCMR 4 HAA and TOC/Br^- monitoring and are using the "import from SDWAR3" option, you must go back to the inventory homepage after importing your EP locations and use either the bulk upload or manual option to input your D/DBPR DS and SR locations.
   - **Option 2: Add inventory via bulk upload**. If you choose this option first, the SDWARS3 import option will no longer be available.
   - **Option 3: Add inventory manually**. If you choose this option first, the SDWARS3 import option will no longer be available.

Option 1: Add EP inventory from SDWARS3. On the inventory homepage, click on the "Upload/Import Inventory" drop-down menu on the right and select "Import from SDWARS3".

a. Select which locations are still applicable to UCMR 4 by marking the checkboxes.

b. Click "Next" to review the available inventory.

c. Once you verify all your facilities and sample points, click "Import" to transfer inventory to SDWARS4. If your system is subject to UCMR 4 HAA monitoring, you must go back to the inventory homepage and bulk upload or manually add your D/DBPR DS and SR locations.

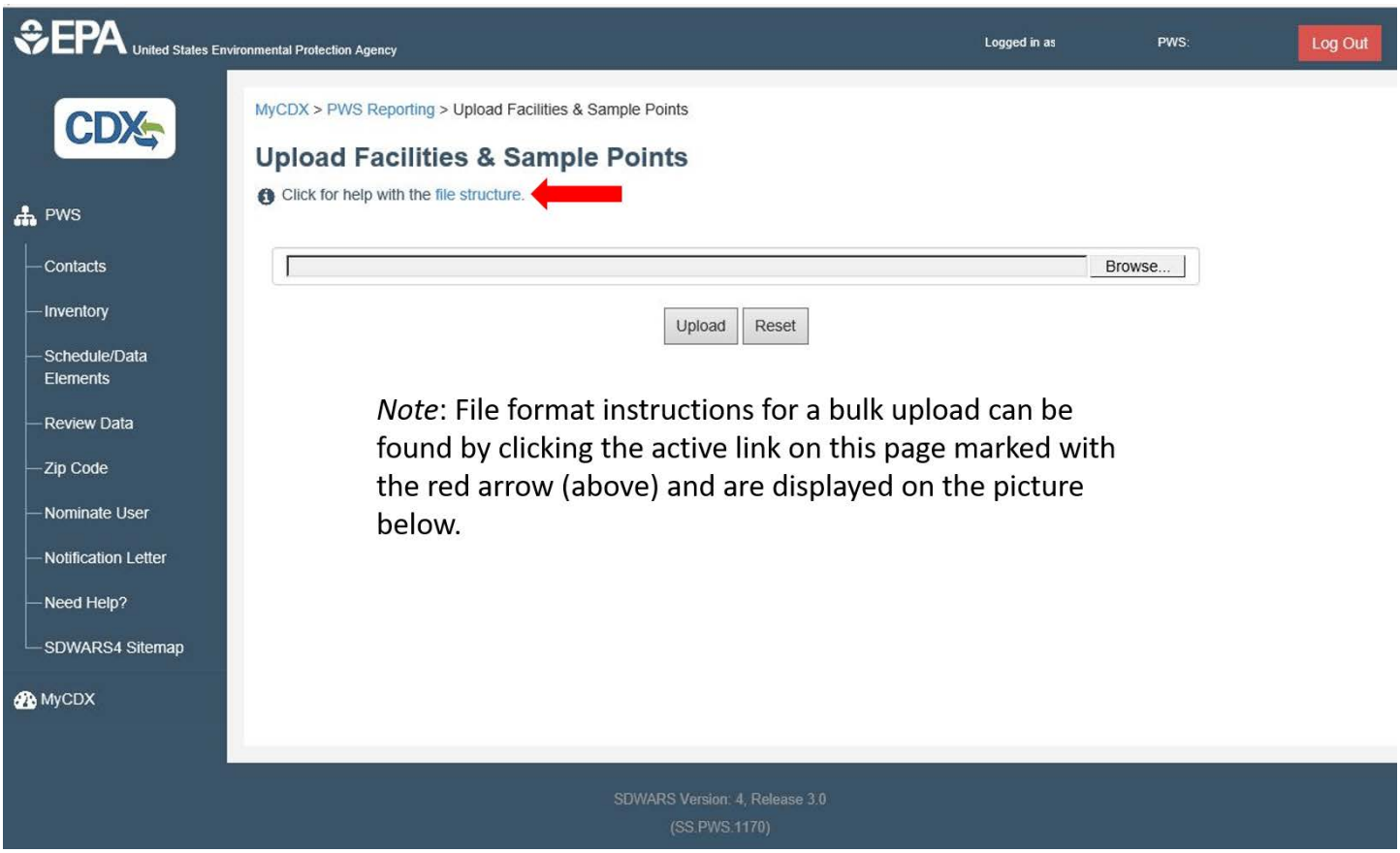


Option 2: Add inventory via bulk upload. On the inventory homepage, click on the "Upload/Import Inventory" drop-down menu on the right and select "Upload Facilities & Sample Points".

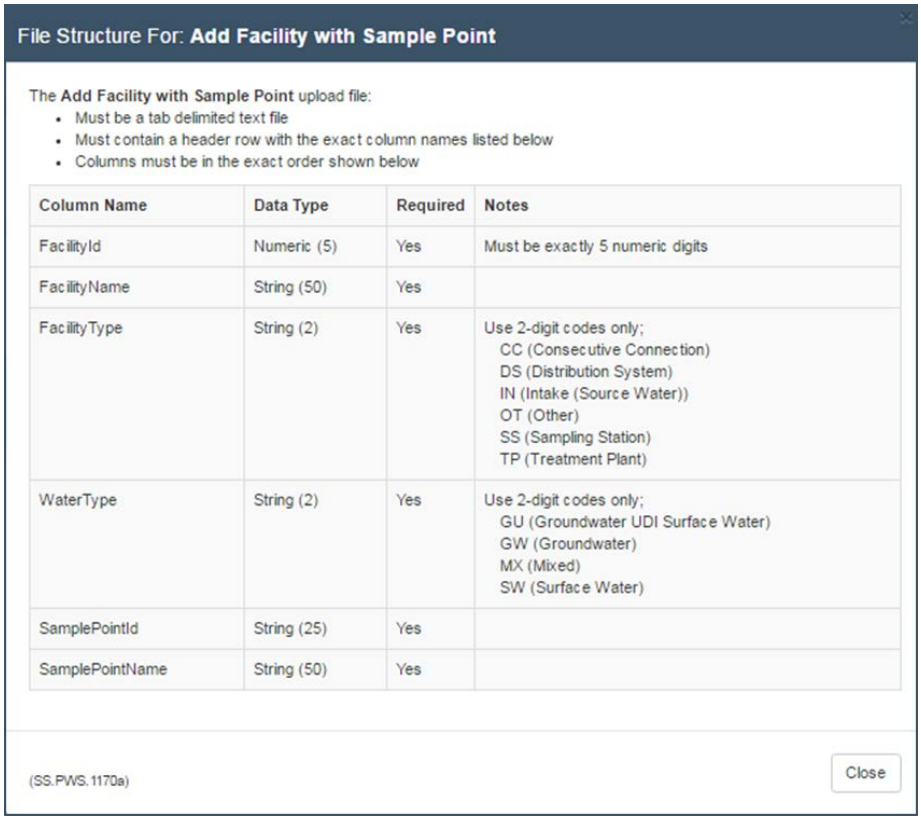
a. To create a file for a bulk upload, click the "file structure" link (light blue functional text). The pop-up describes the file format requirements.

b. Create a file for a bulk upload using the exact listed format criteria. Once your inventory file is complete and in the correct format, select "Browse" to upload. Please contact the UCMR 4 Message Center (UCMR4@glec.com) if you need assistance.

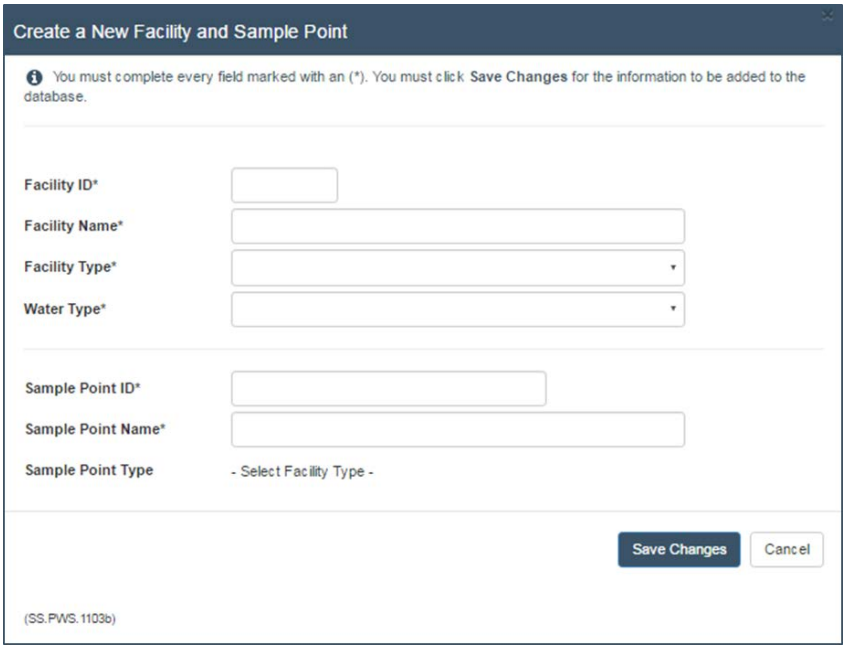
c. As a reminder, if your system is subject to UCMR 4 HAA monitoring, include your D/DBPR DS and SR locations in addition to your EP locations.



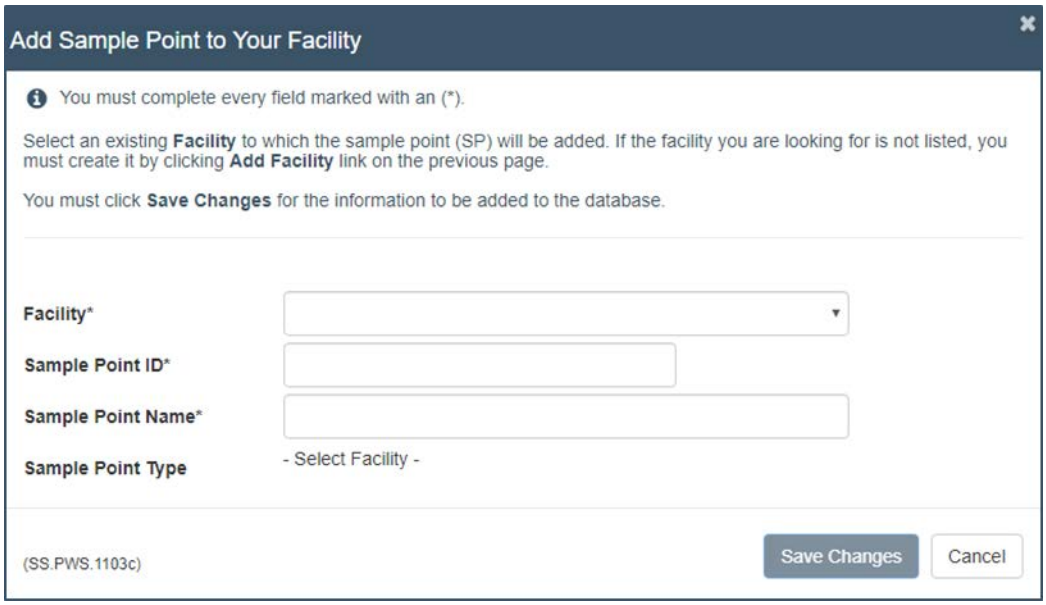
Note: File format instructions for a bulk upload can be found by clicking the active link on this page marked with the red arrow (above) and are displayed on the picture below.



Option 3: Add inventory manually. On the inventory homepage, click the "Add Facility" button. Create new facilities and sample points by completing every field marked with an asterisk*. Click "Save Changes" for the information to be added to the database. Please contact the UCMR 4 Message Center (UCMR4@glec.com) if you need assistance.



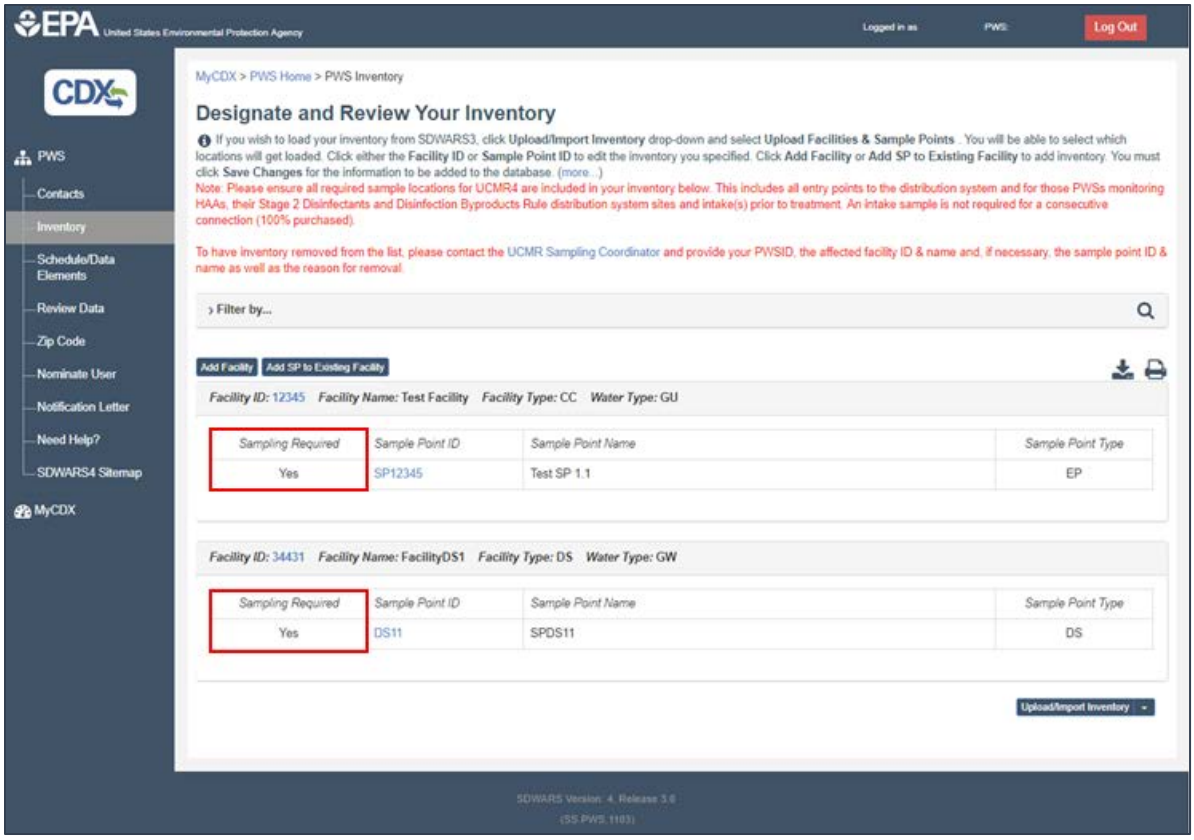
Also, on the inventory homepage, click the “Add Sample Point to Your Facility” button. This allows a user to add new sample point to an existing facility by completing every field marked with an asterisk*. Click “Save Changes” for the information to be added to the database.



3.4 How to Review/Edit Inventory in Large PWS Accounts

1. Once you have added your inventory, the “Inventory” homepage will list each facility, facility ID, sampling point ID, name and type. On the “Inventory” homepage you can download and print your inventory with the icons on the right ( ). Please note that facility ID is not synonymous with a PWS ID. SDWARS requires a unique facility ID for each Facility Type.

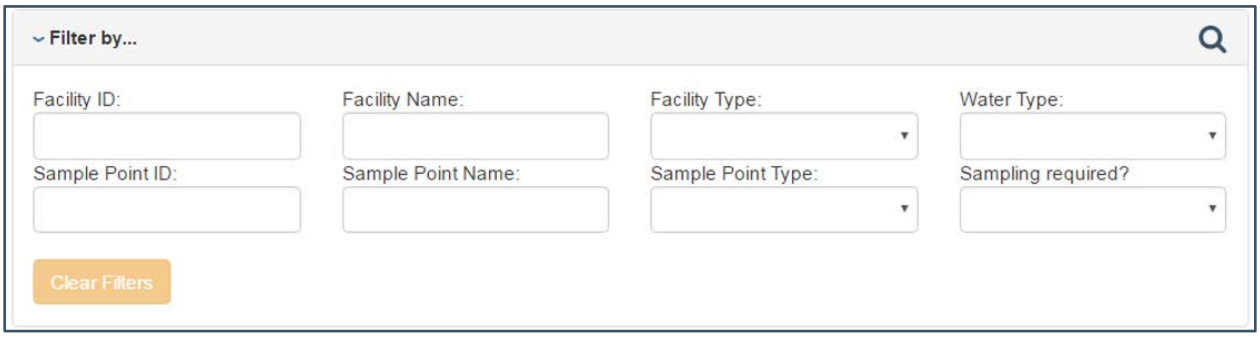
   IMPORTANT: Once the closed entry period for inventory is enacted, the PWS must contact the UCMR Sampling Coordinator (ucmr_sampling_coordinator@epa.gov) to edit inventory.



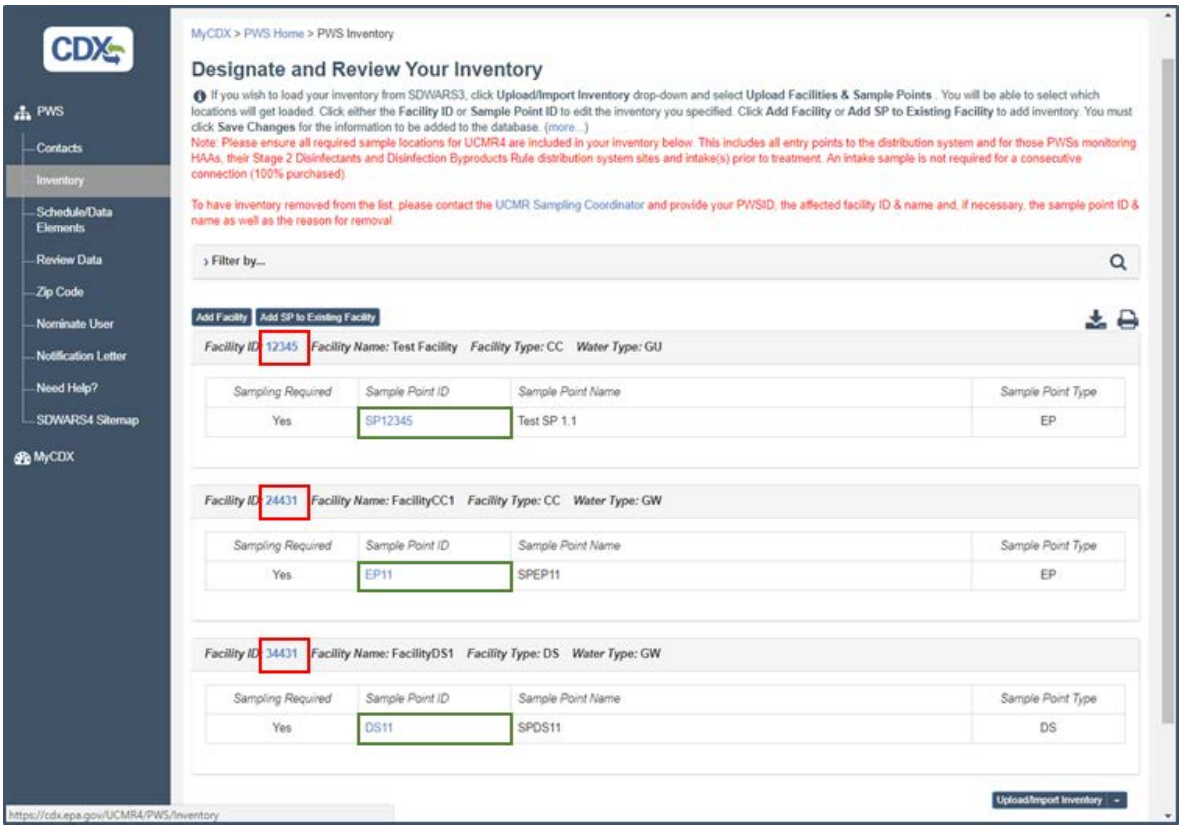
2. A “Yes” under “Sampling Required” signifies an applicable sample location for UCMR 4 monitoring (red box above). If you need to request a facility or sample point be removed from your inventory, please contact the UCMR Sampling Coordinator (ucmr_sampling_coordinator@epa.gov). The active hyperlink for the UCMR Sampling Coordinator will prompt an email window with the correct email address. Please provide your PWS ID, the affected facility ID & name and, if necessary, the sample point ID & name as well as the reason for removal.

3. You can use the “Filter by...” function (appears below the red text on the screenshot for 3.4.1) to search your inventory using any of the fields shown below.

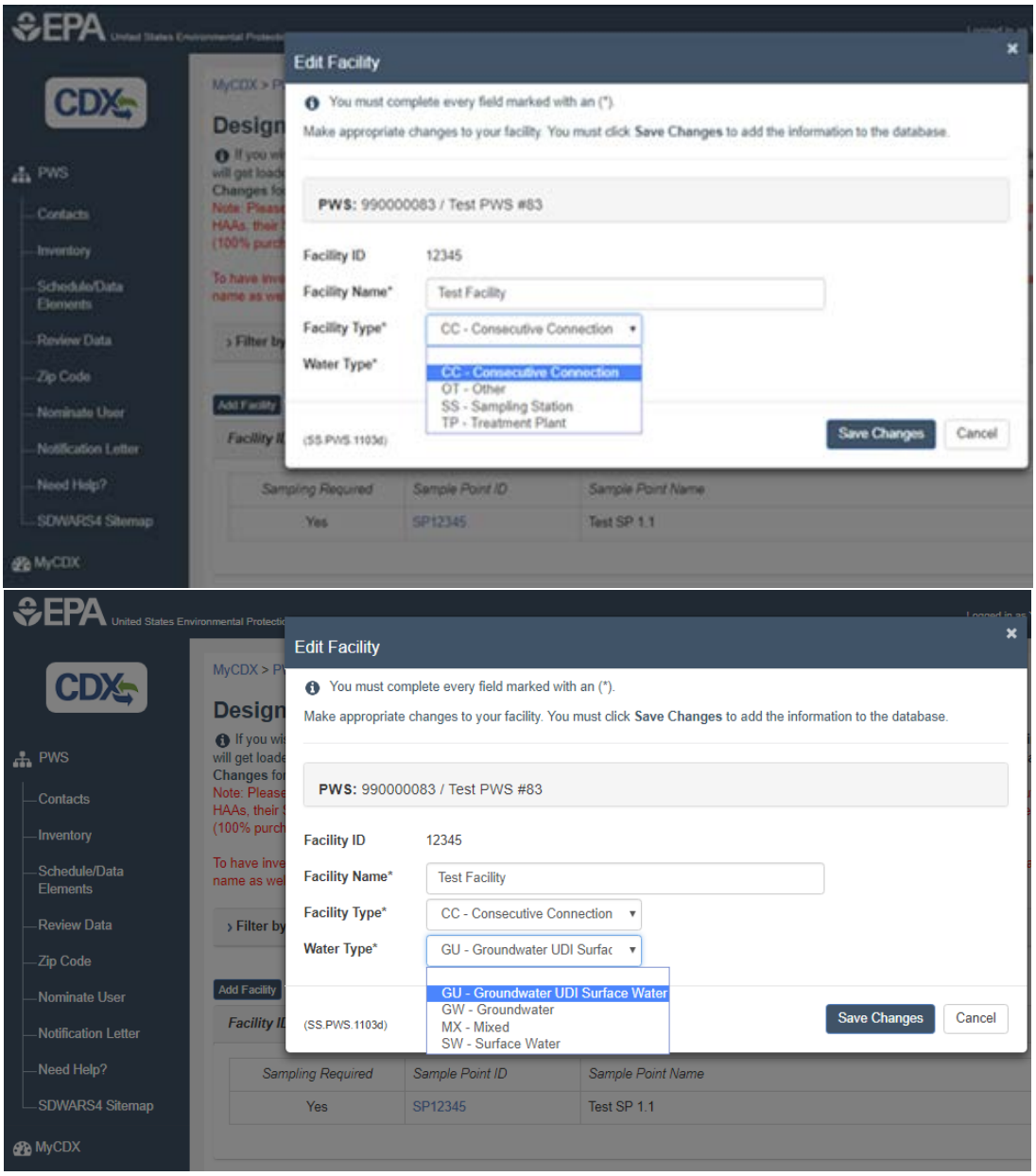
    i. Note, on the screenshot above, the “Filter by...” function is collapsed. Click on the blue arrowhead icon to the left of the text to unhide the search options.



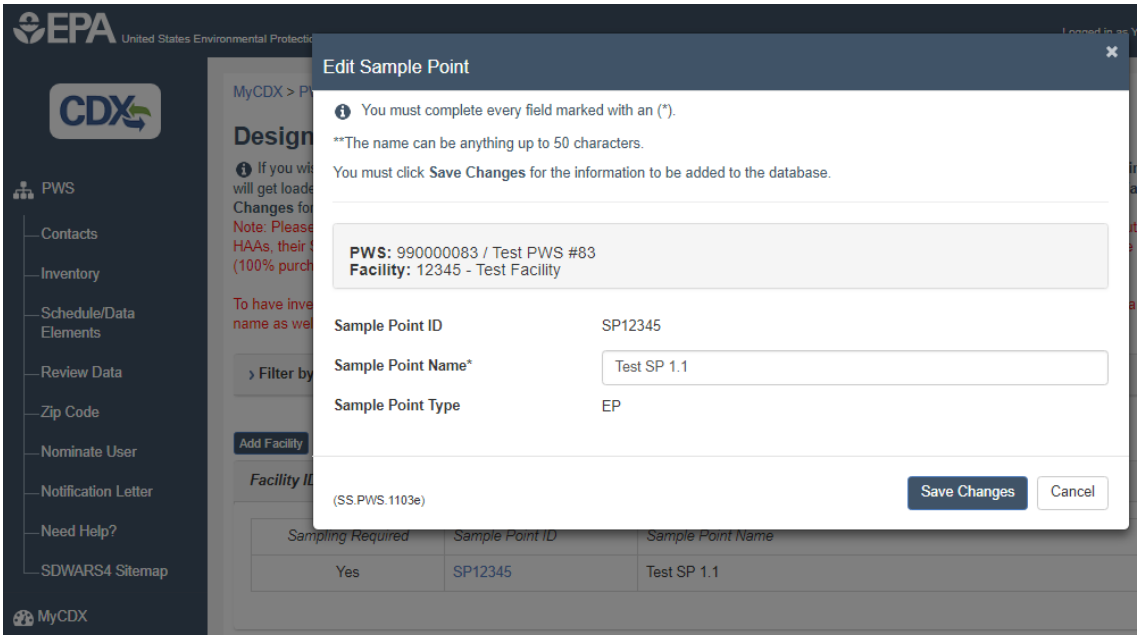
4. You can also directly click the light blue functional text either to edit or review existing Facility (red boxes) or Sampling Point (green boxes) inventory.



5. To edit Facility inventory, enter all the required information below and click “Save Changes.” You can change the name of the Facility as well as Facility Type and Water Type using available dropdown menus (see below). You cannot change the Facility ID. However, if you need to change other pieces of inventory, please contact the UCMR Sampling Coordinator (ucmr_sampling_coordinator@epa.gov).



6. To edit Sample Point information, click on the Sample Point ID hyperlink and enter all the required information below and click “Save Changes.” You can only change the Sample Point Name. However, if you need to change other pieces of inventory, please contact the UCMR Sampling Coordinator (ucmr_sampling_coordinator@epa.gov).



Once the changes are made, click Save Changes. A green bar will appear at the top of your homepage confirming changes (see below).

3.5 How to Review Sampling Schedules for Large PWS Accounts

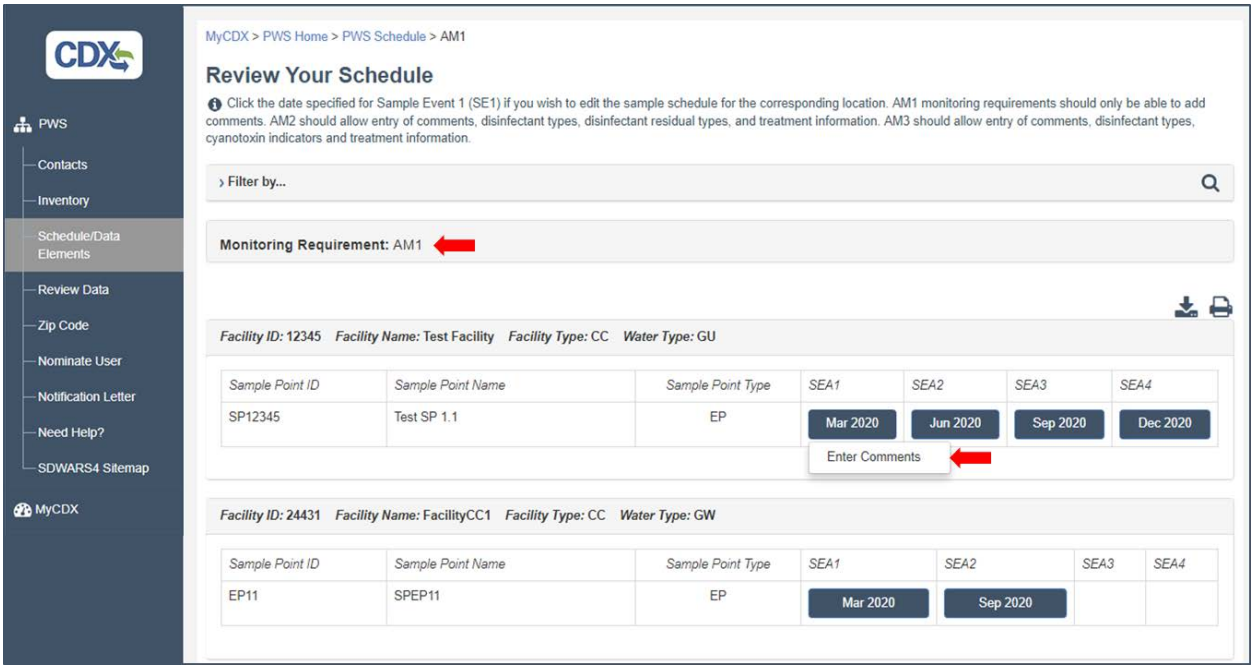
1. Select “Schedule/Data Elements” from the navigation panel.
2. Click the “Select Monitoring Type” drop-down menu and select a monitoring requirement to view the inventory and schedule. Depending on your system size, water type and other characteristics, you will see a combination of the following AM schedule options: AM1 applies to metals, pesticides, alcohols and SVOCs; AM2 applies to the HAAs and TOC/Br; and AM3 applies to the cyanotoxins.

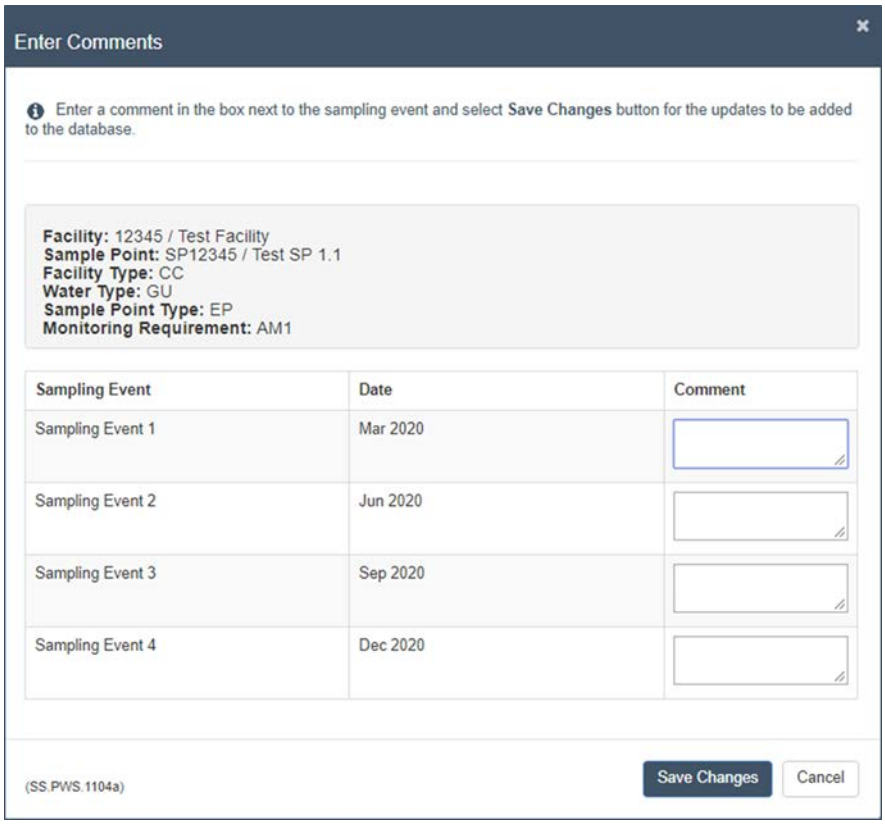
   IMPORTANT: After the closed entry period for schedule is enacted, the PWS must contact the UCMR Sampling Coordinator (ucmr_sampling_coordinator@epa.gov) to change their schedule. Please provide your PWS ID, the affected facility ID & name and, if necessary, the sample point ID & name as well as the reason for the schedule change.

3. You can also download or print your schedules using the icons on the right.

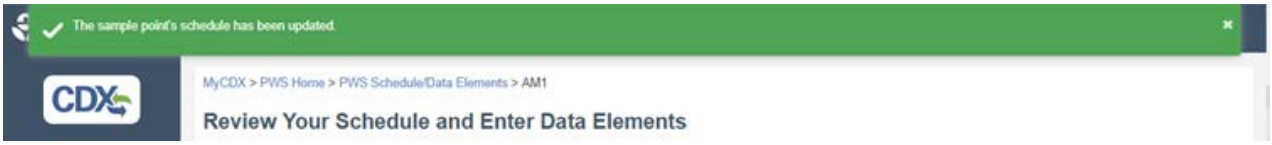
For each sampling event you will find a blue button with the designated month and year of sampling for each of your sample points. Click the date specified for Sample Event 1 to enter comments or enter data element responses. Comments should be entered to denote valid reasons for not collecting a sample (e.g., location is inactive/closed). The data elements should be entered as close to time of collection as possible.

In the screenshot below for AM1, there are no data elements so the only option in the list is to enter comments.

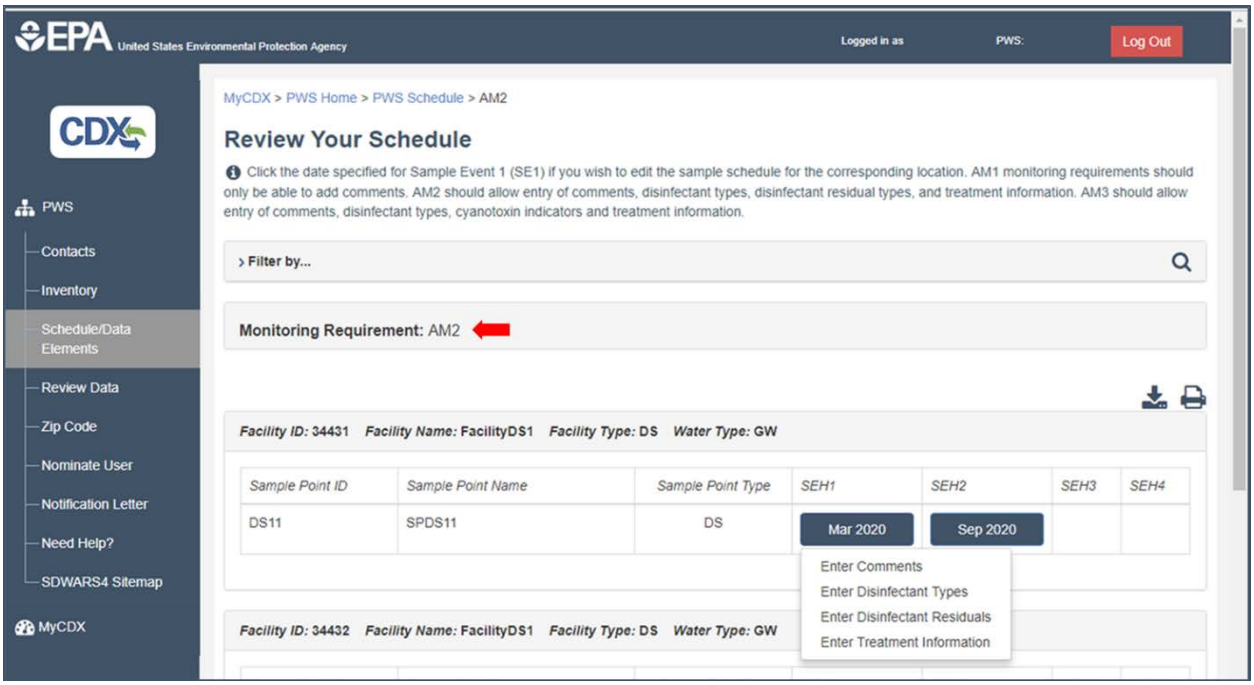




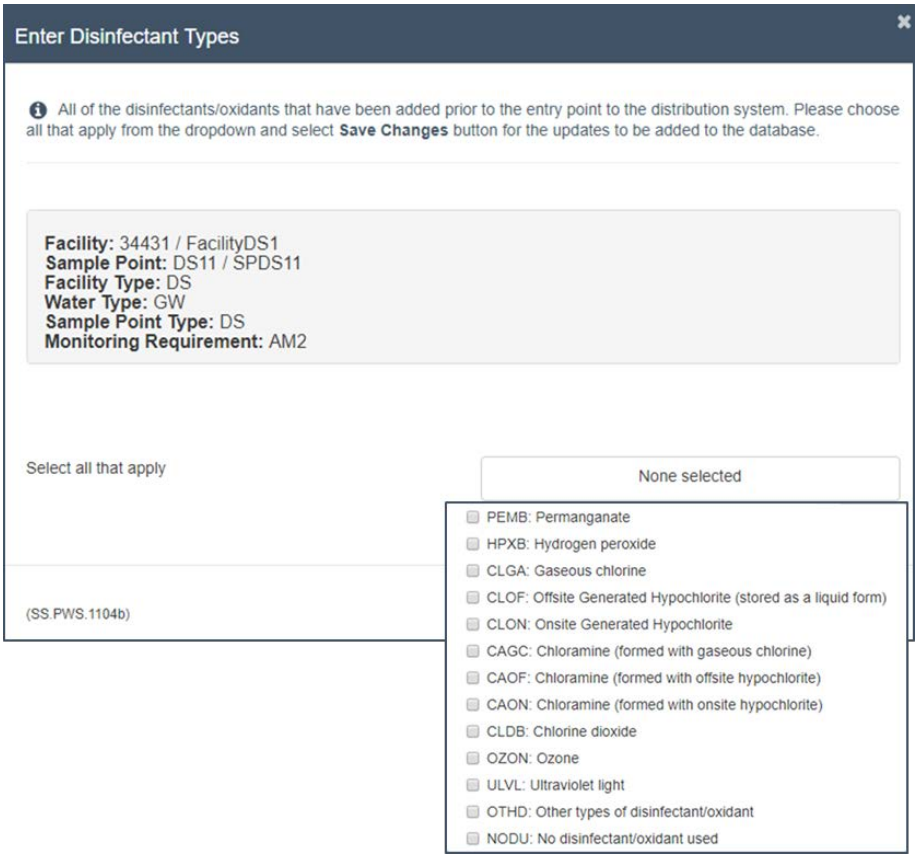
4. Click “Save Changes.” This will bring you back to the “Review Your Schedule” screen. A green bar will appear at the top of your homepage confirming changes (see below).



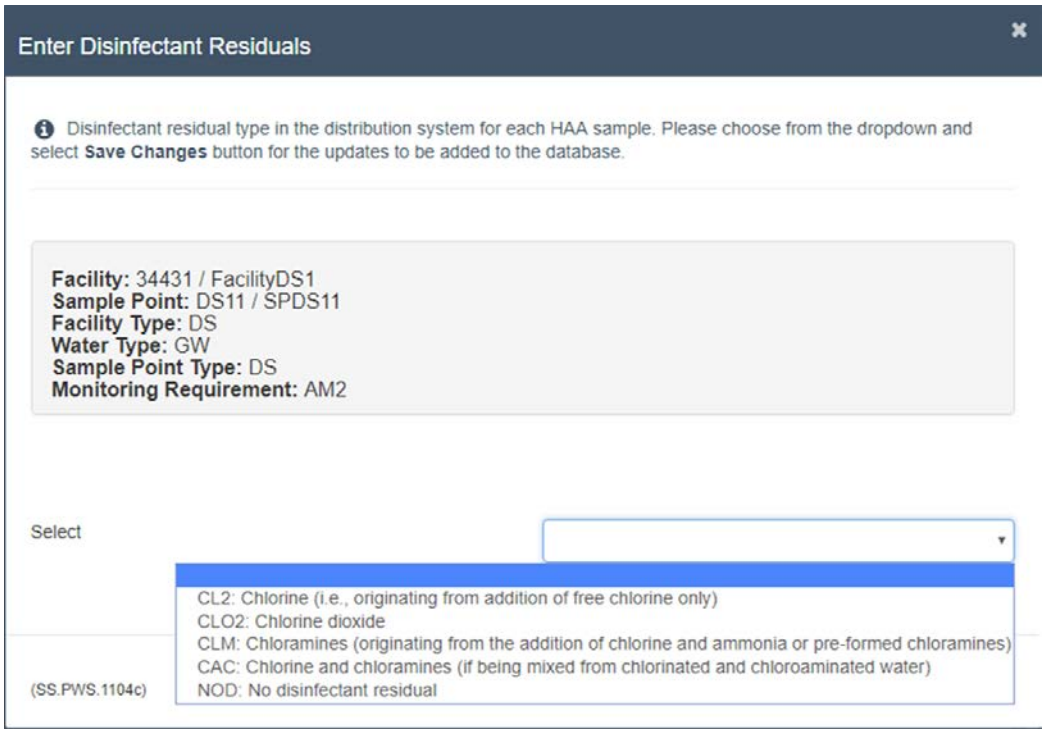
5. Under Schedule/Data Elements, select AM2 to view schedules for the HAAs and TOC/Br^- sampling. For AM2 DS locations, you have the option to enter a relevant comment, enter disinfectant type(s) used for each sample point, disclose disinfection residuals and select treatment information (see below). For all HAA sampling events (SEH#) after SEH1, you can copy previous SEH information for each data element if everything has remained the same.



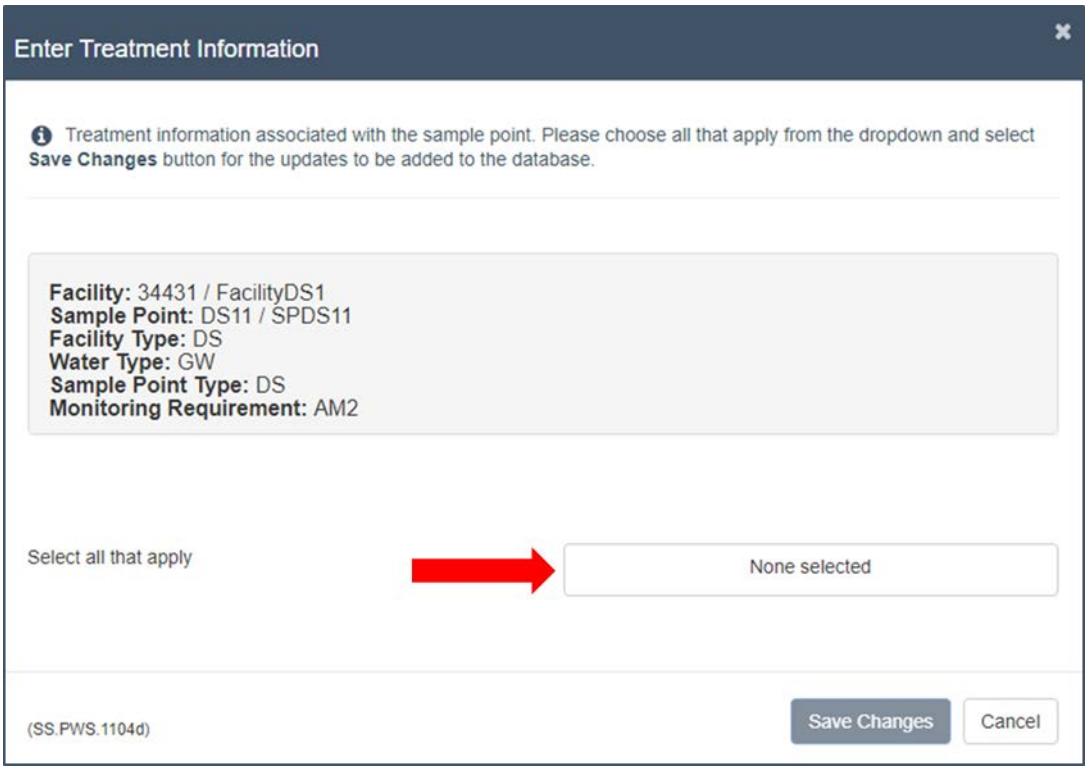
a. Under Disinfectant Types, you can select multiple disinfectants from the drop-down list that are used at a sample point location. If your disinfectant type is not listed below, please mark OTHD (other…).

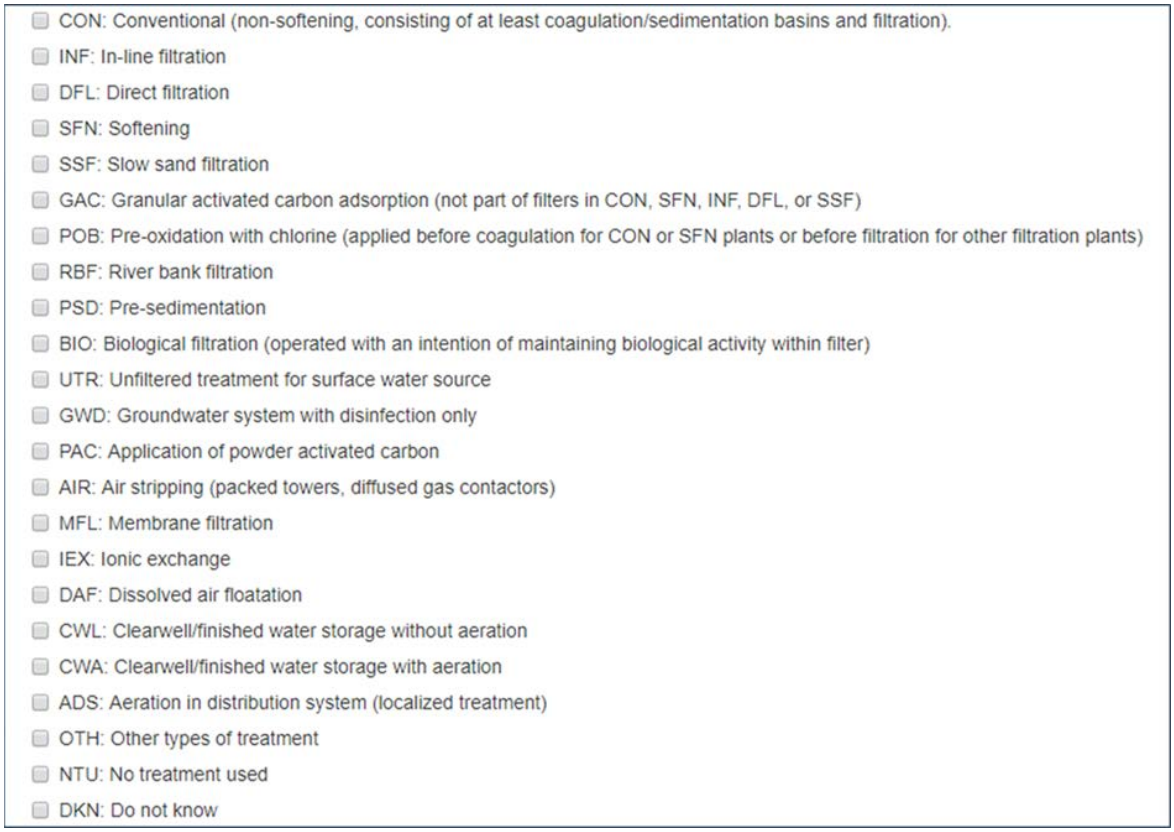


b. Under Disinfectant Residuals you can select one out of 5 possible disinfectant residuals from the drop-down list that are used at a sample point location.

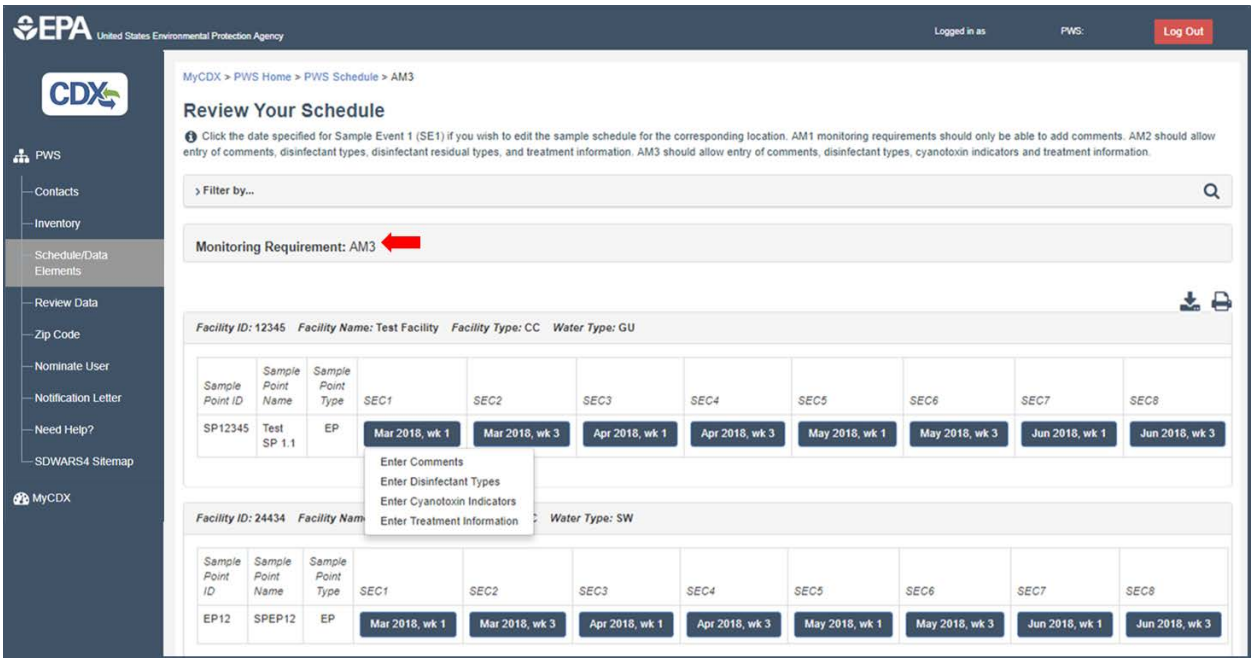


c. For the Treatment Information, you can select multiple treatment option from the drop-down menu. All possible treatment options are shown below. If your treatment type is not listed, please select OTH (Other types of treatment).

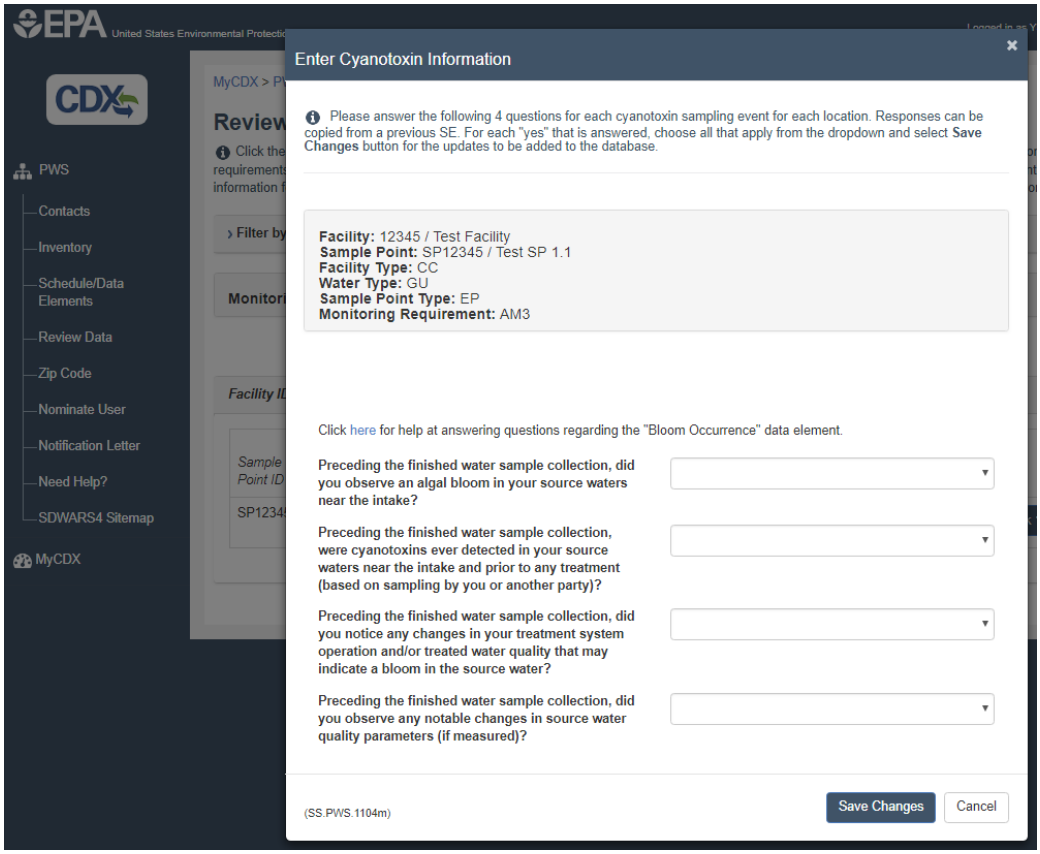




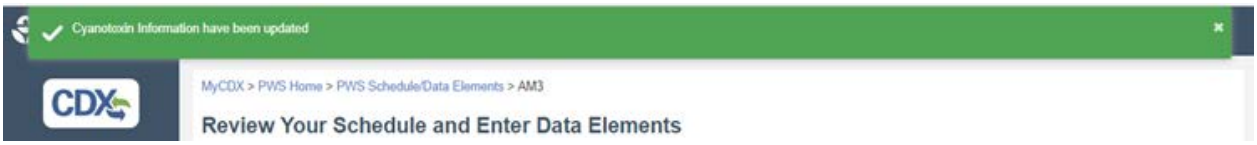
6. Under Schedule/Data Elements select AM3 monitoring, which applies to the cyanotoxins. The options under each sample point schedule for AM3 are Comments, Disinfectant Types, Cyanotoxin Information and Treatment Information. Refer to 5a and 5c in this section for detailed screens of the Disinfectant Type and Treatment Information options. The Cyanotoxin Information data element contains multiple questions about your source and finished water. For all cyanotoxin sampling events (SEC#) after SEC1, you can copy previous SEC information for each data element if everything has remained the same.



a. Please answer the four questions by selecting answers from the drop-down menus. Once complete, please click Save Changes.



b. Note that there is a visual guide for harmful algal bloom occurrence. The blue hyperlink text on the Cyanotoxin Information pop-up redirects you to a PDF file for more information (https://cdx.epa.gov/UCMR4/Content/media/HAB_Visual_Identification_180227_large.pdf).

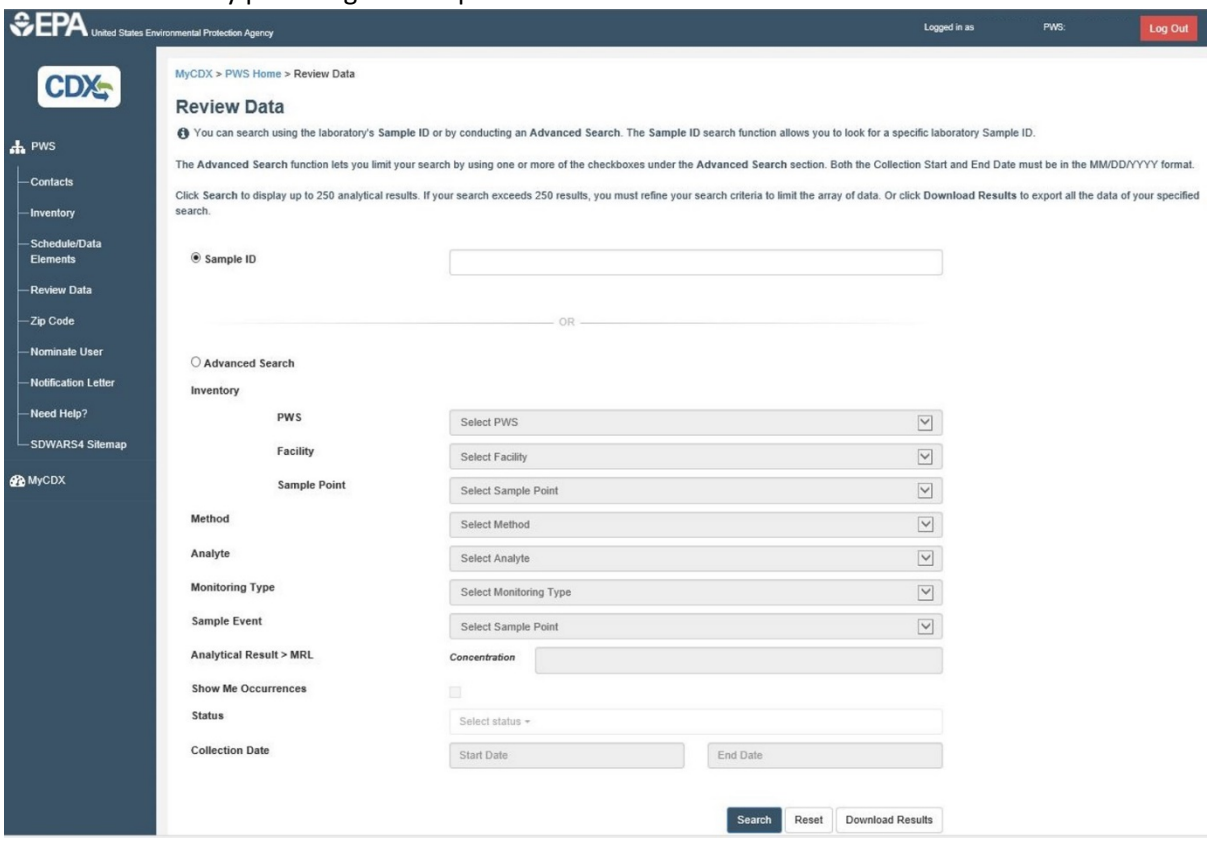


c. A green bar will appear at the top of your homepage confirming changes (see above).

3.6 How to Review Analytical Data Submitted by the Laboratory for Large PWS Accounts

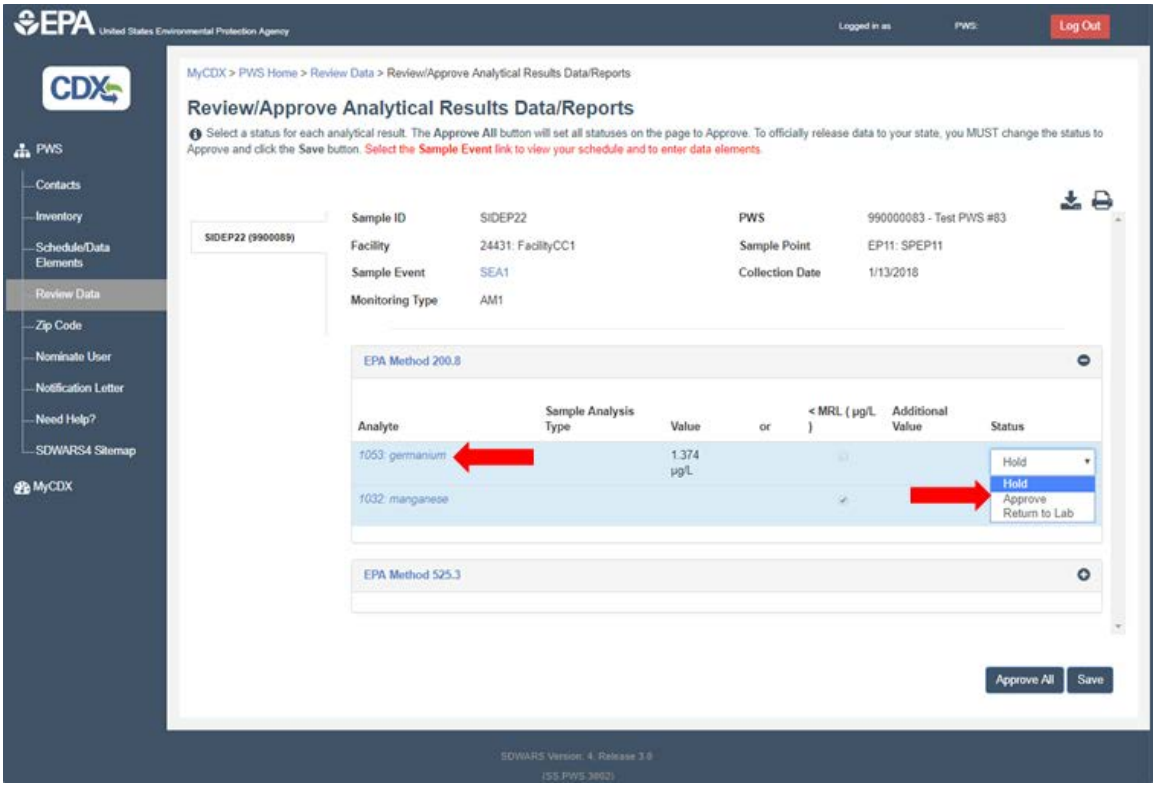
1. On the main navigational panel select Review Data. To find analytical results that have been successfully uploaded and approved by your laboratory, you can search by a specific Sample ID. A wildcard (%) can also be used to search

for all sample IDs for your PWS. Please be patient this search may take a few minutes. Alternatively, you can use an advanced search by providing various pieces of information to narrow down the search.



2. Once the Sample ID is found, select each sample ID on the left-hand side of the screen. You can view inventory information for the sampled location in the upper portion of the page followed by analytical results. Reported values equal to or greater than the MRL are displayed in µg/L. Results less than the MRL are denoted with a checked box under the "MRL (µg/L)" column. Details regarding quality control parameters can be viewed by clicking on the analyte. Note that you can collapse each method by clicking on the minus symbol in the upper right corner of each methods section or expand information using the plus sign (Appendix D).

3. Refer to the "Reference Concentrations for the Fourth Unregulated Contaminant Monitoring Rule (UCMR 4)" for health-based values that provide context for the detection of a UCMR 4 contaminant.

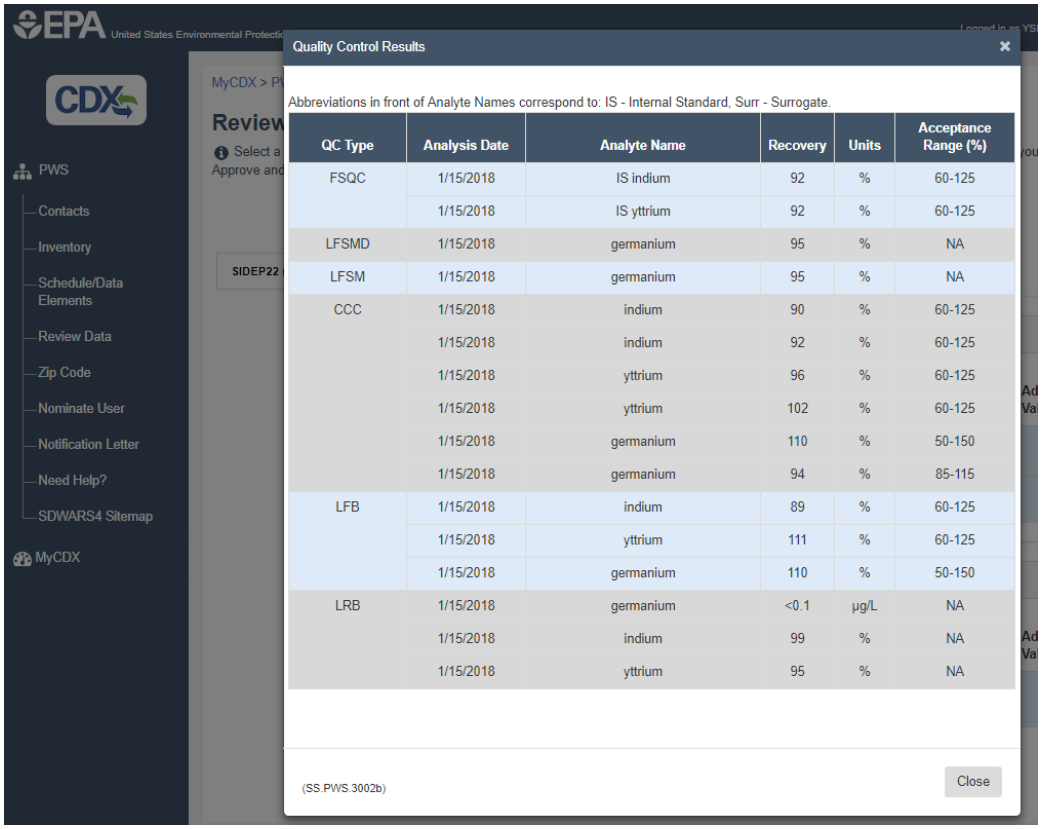


4. The PWS has up to 60 days after their laboratory successfully uploads and approves the analytical results to review the data. You can select “Approve” for each contaminant individually or click on the Approve All button at the bottom of the window (see above). Click Save to save the changes to the database. After 60 days the “Status” will default to PWS approved and be viewable to State and EPA users. For more information about each “Status” see Appendix I.

5. The PWS also has the option to select “Return to Lab”. The lab will receive a SDWARS notification if this option is selected.

6. Click on the Sampling Event (blue hyperlinked text) for each sample to go to your schedule to complete the data elements if you have not done so already.

7. You can also view laboratory QC data for each analytical result by clicking on each individual analyte to generate a pop-up screen. An example below shows the QC for a test sample for the Germanium contaminant (Analyte 1053) under EPA method 200.8 for AM1.

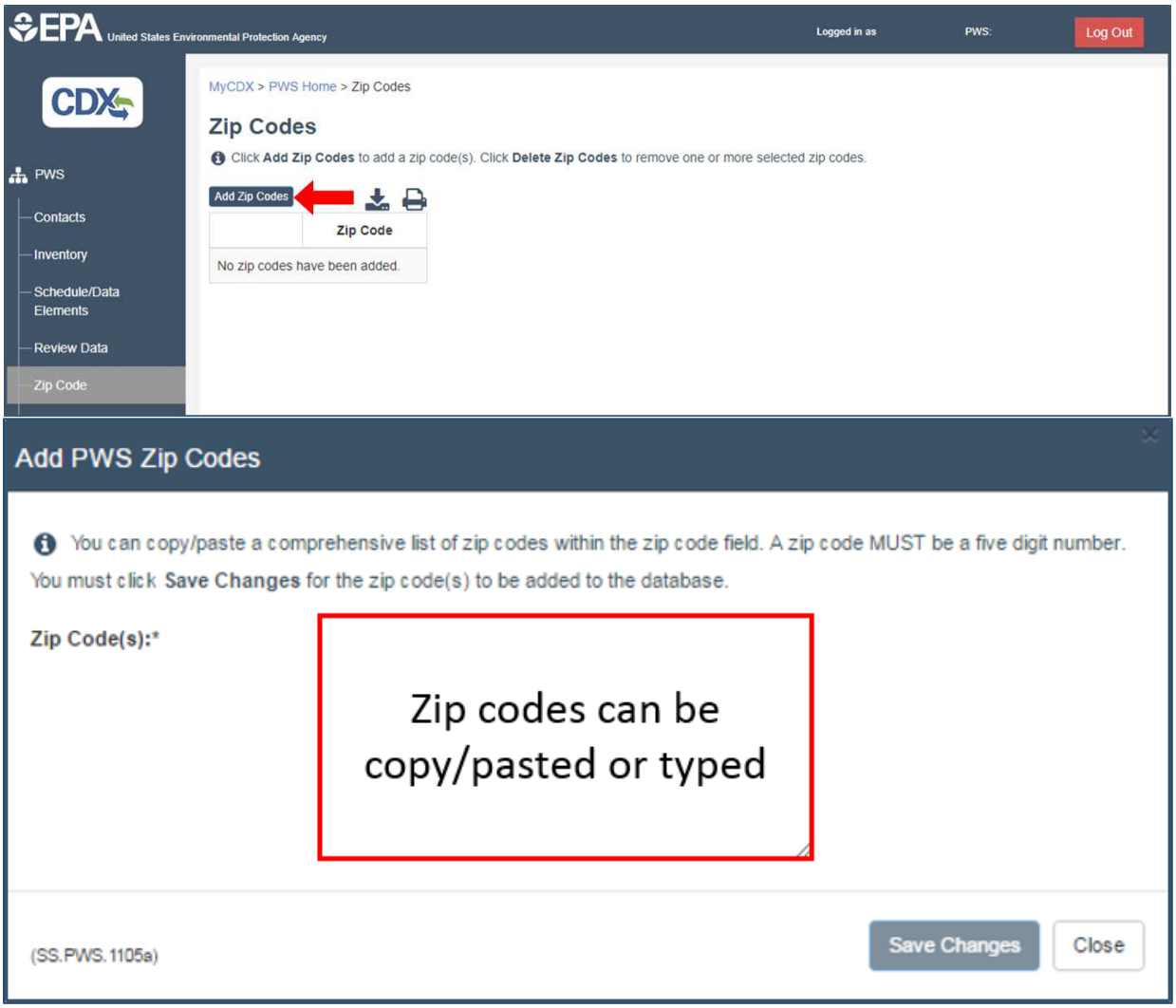


Note: below is a list of QC types and explanation of their properties

- **CCC** = continuing calibration check; a calibration standard containing the contaminant, the internal standard, and the surrogate analyzed to verify the existing calibration for those contaminants.
- **FSQC** = field sample quality control; internal standards and/or surrogates in the field sample.
- **LFB** = laboratory fortified blank; an aliquot of reagent water fortified with known quantities of the contaminants and all preservation compounds.
- **LRB** = laboratory reagent blank; an aliquot of reagent water treated exactly as a field sample, including the addition of preservatives, internal standards, and surrogates to determine if interferences are present in the laboratory reagents, or to other equipment.
- **LFSM** = laboratory fortified sample matrix; a UCMR field sample with a known amount of the contaminant of interest and all preservation compounds added.
- **LFSMD** = laboratory fortified sample matrix duplicate; duplicate of laboratory fortified sample matrix.
- **QCS** = quality control sample; a sample prepared with a source external to the one used for initial calibration and CCC. The QCS is used to check calibration standard integrity.
- **QHS** = quality HAA; HAA sample collected and submitted for quality control purposes.
- **SUR** = surrogate standard; a standard that assesses method performance for each extraction.
- **IS** = internal standard; a standard that measures the relative response of contaminants.

3.7 How to Add Zip Codes for Large PWS Accounts

1. Select “Zip Code” on the navigation panel.
2. Click “Add Zip Codes” (marked with red arrow). A pop-up window lets you add zip codes (see below).



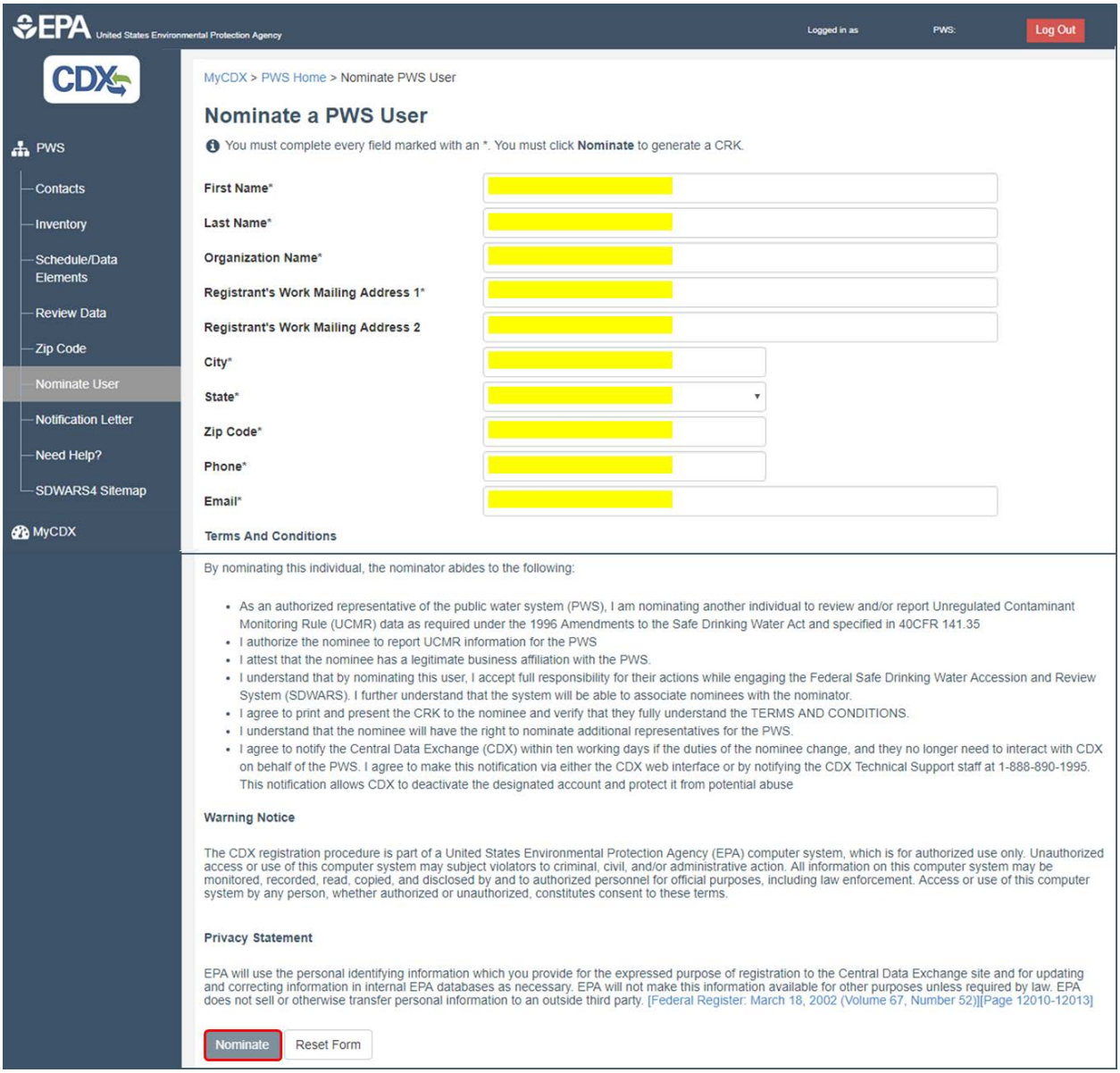
3. You can copy and paste a comprehensive list of zip codes or type them in.
4. Click “Save Changes” for the zip codes to be added to the database.
5. If you would like to remove one or more zip code(s), checkmark each individual zip code or choose “Select All” to delete the entire list then click “Delete Zip Codes” at the bottom of your zip code list. A pop-up window will display selected zip codes and prompt you to “Confirm Delete” action. A green bar will appear at the top of your homepage confirming changes.
6. You can download or print your zip codes using the icons ( ) on the right-hand corner.

3.8 How to Nominate a User for a CDX/SDWARS4 Account

This step is optional. The account holder can nominate an authorized representative of their choice to review data in SDWARS4. It is important to read and understand the terms and conditions of this agreement. The account holder can nominate more than one person.

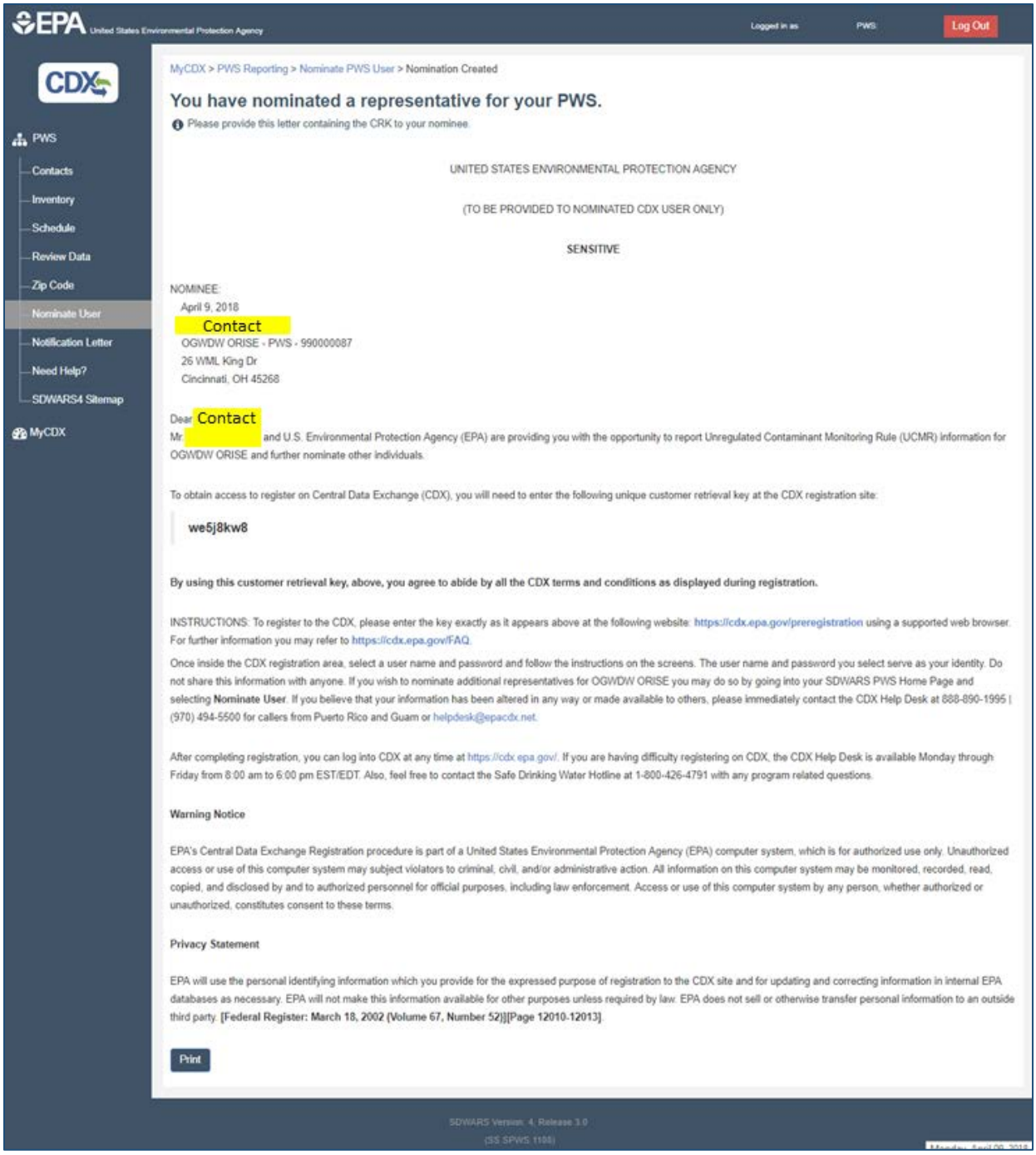
1. Select “Nominate User” from the navigation panel.

2. Complete every field marked with an asterisk* and click “Nominate” at the bottom of the page to create a CRK (or customer retrieval key) for the nominee.



3. Once you click “Nominate” you will see a confirmation at the top of your screen, saying “You have nominated a representative for your PWS” (see below).

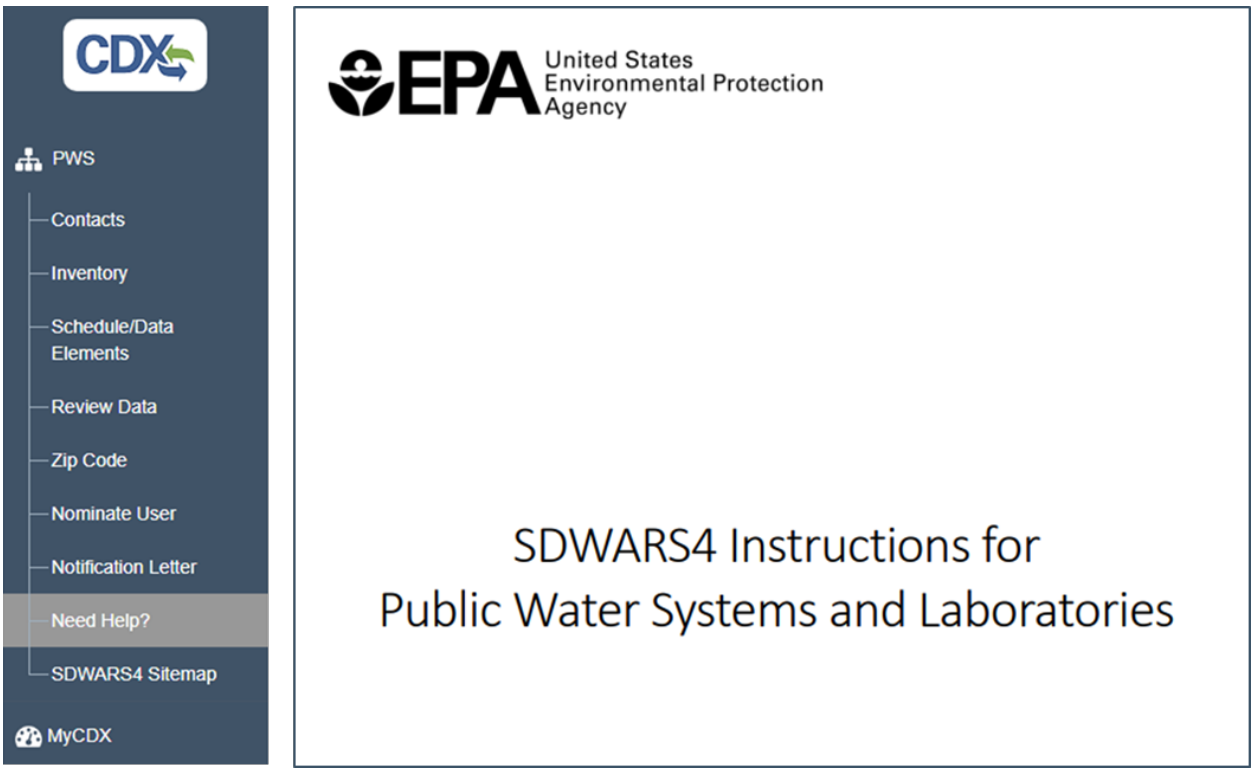
4. The top portion will show the nominee information and, a uniquely assigned CRK number for the nominee.

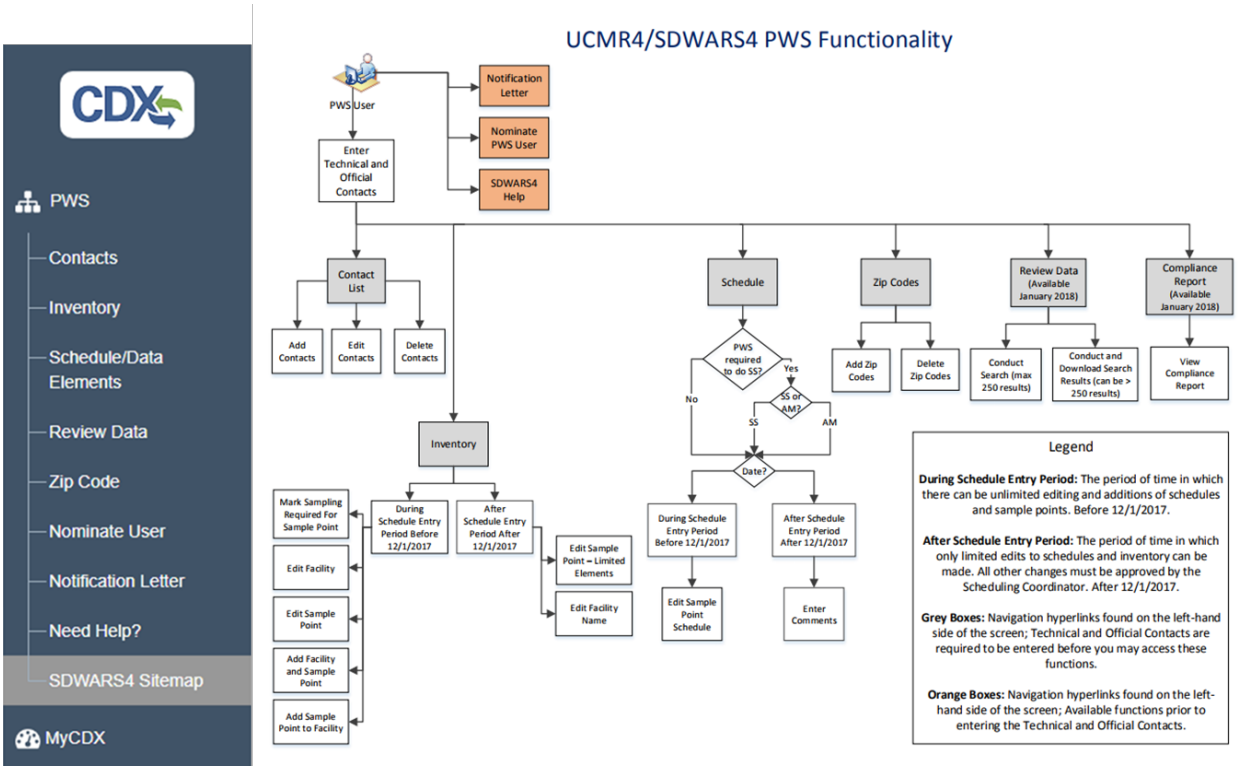


7. You will need to review the instructions, warning notice and privacy statement.

8. Print out the CRK and registration instructions for the nominee.

3.9 SDWARS4 Need Help Document and Sitemap



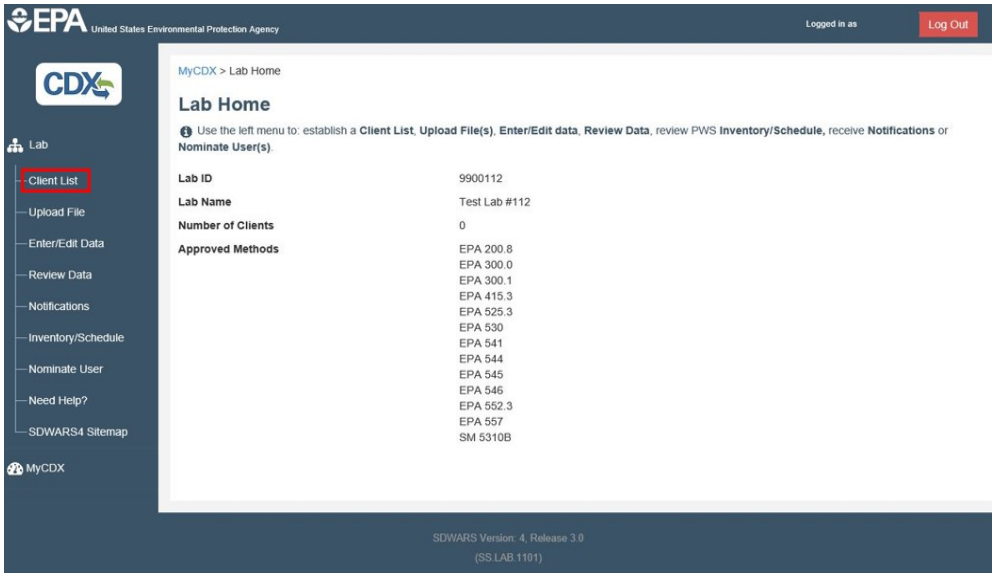


4. Laboratory Account Information

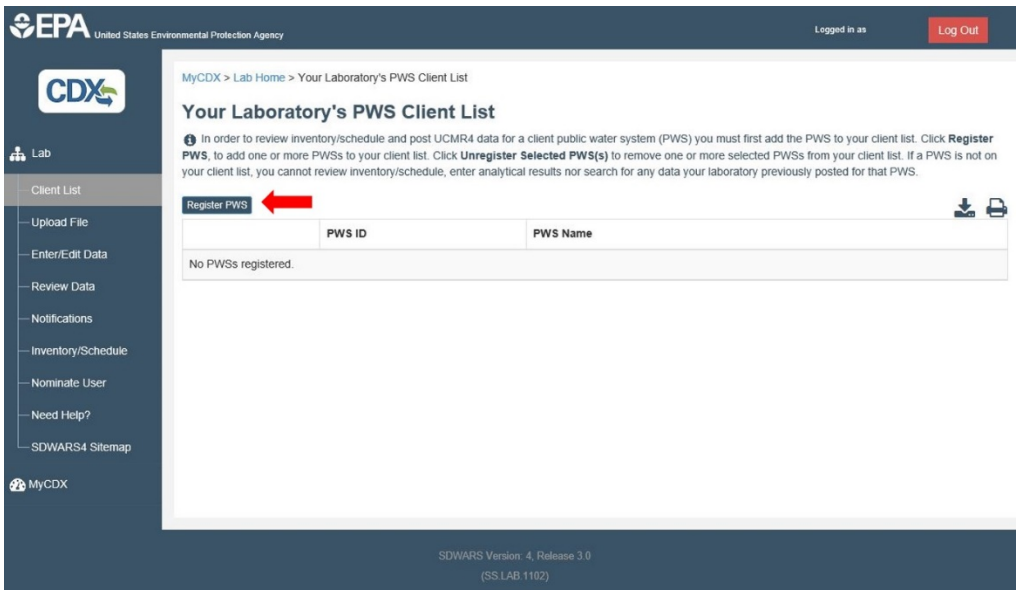
4.1 How to Add/Update Laboratory Client List

The Lab Home page provides your Lab ID, Lab Name, Number of Clients and list of approved methods.

1. Select “Client List” from the navigation panel to add PWS clients.

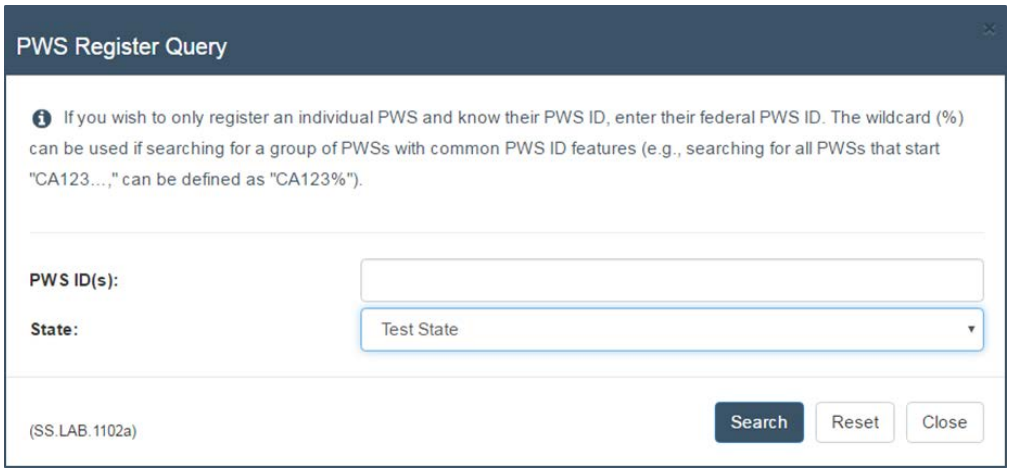


2. Under Client List click “Register PWS”.

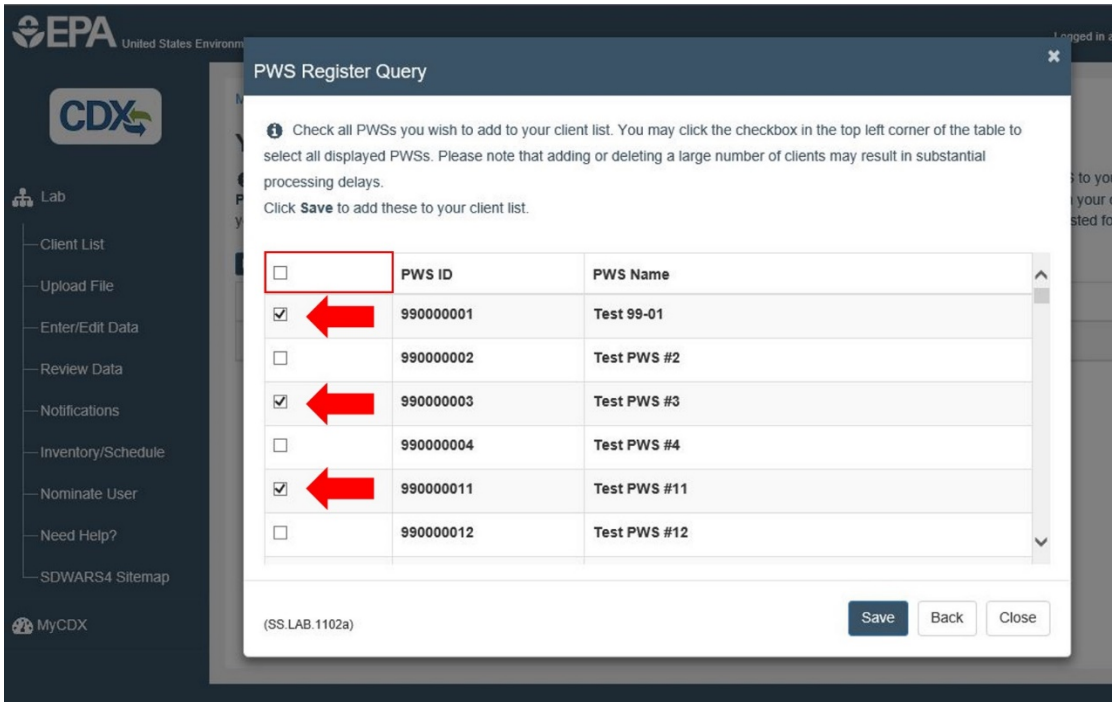


3. Search for a client PWS by: typing or pasting the PWS ID(s), selecting a relevant state from a drop-down menu, or using a percent symbol (%) with common PWS ID features (e.g., CA123%) in the “PWS ID(s)” field to search for an existing group of water systems.

Warning: using only the wildcard percent symbol (%) without additional characters can take a long time to load since the search will display all systems available in the SDWARS database. The following example searches for all available PWSs in a "Test State."

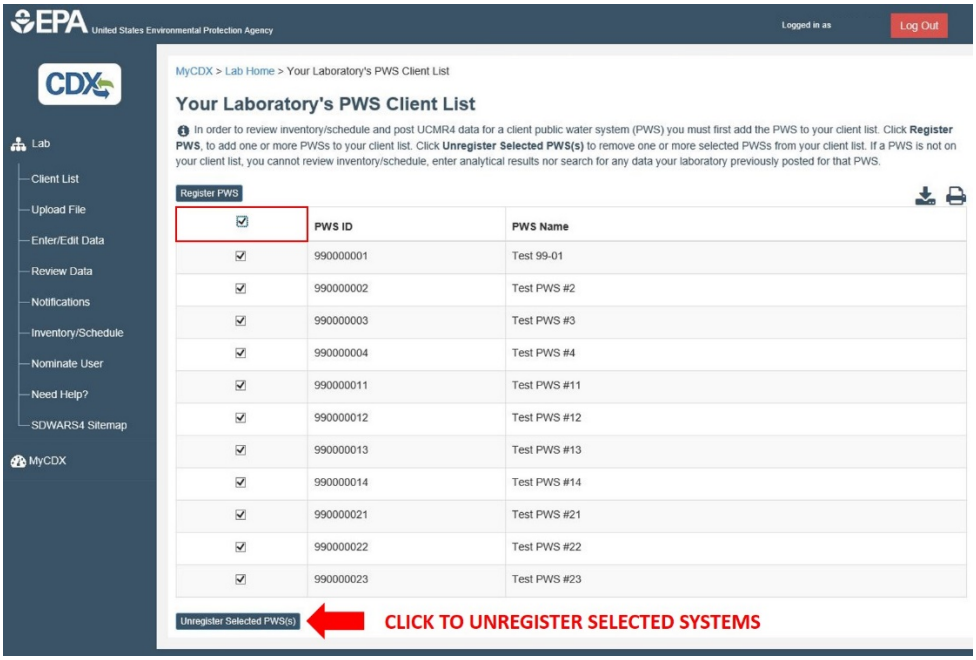


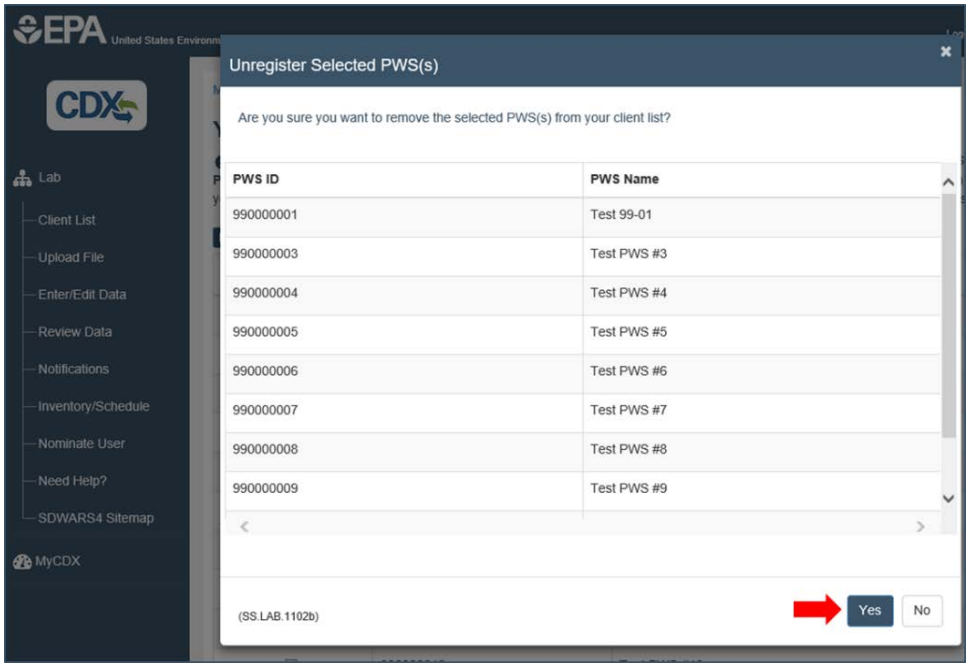
4. Once the client PWSs are found, select all the PWSs by checking the box at the top (shown below in the red box) or place a checkmark by the PWSs that are relevant (red arrows below).



5. Click "Save".

6. Once the PWSs are saved, you can also unregister some of them (or all of them) by clicking on "Unregister Selected PWS(s)". After clicking, a pop-up window will appear asking you to confirm the removal of the selected PWSs from your client list, click "Yes" to confirm or "No" if you do not want to remove the listed PWSs. You can select all PWSs to be unregistered for your laboratory with the first checkbox (red box below).

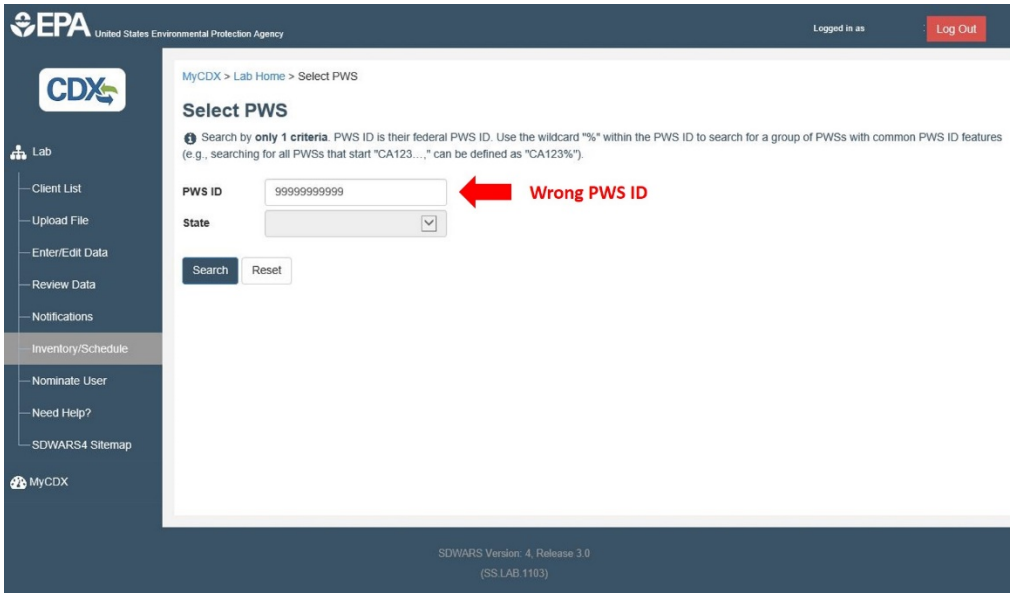




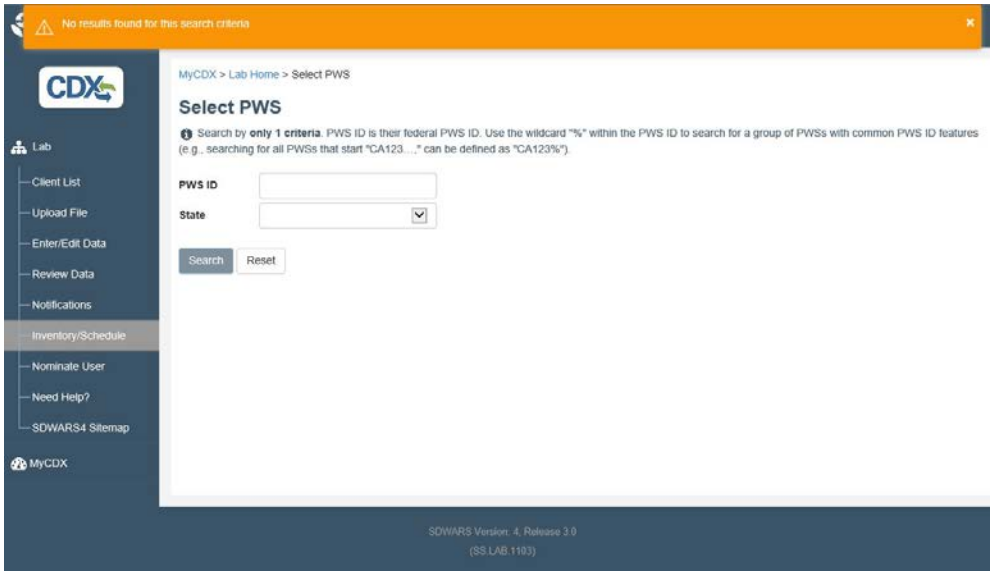
7. You can also print and download those PWSs which were added to your account by clicking on the icons located on the right-hand corner of the clients table.

4.2 How to Review Inventory/Schedule for Selected Clients

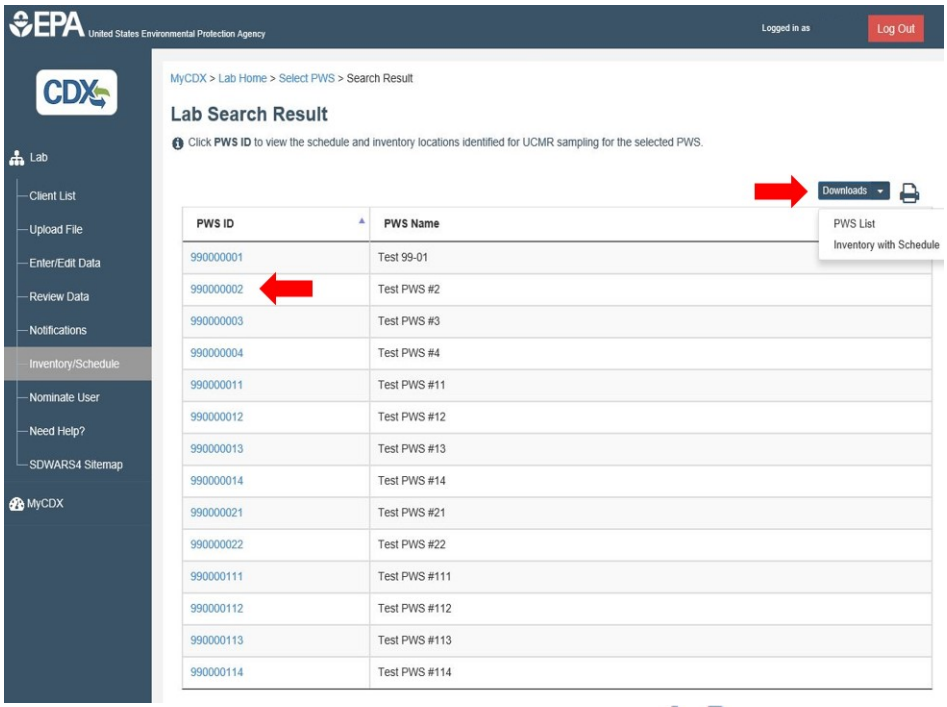
1. Select “Inventory/Schedule” in the navigation panel to search for relevant PWSs. To review a specific PWS **Inventory/Schedule**, search for that water systems information by entering its federal **PWS ID**. You can also select your client PWS’ from a list of PWS(s) via searching by **State** or using the wildcard (**%**) in the PWS ID search field.



Note: if you incorrectly type a PWS ID the system will display no results and warn you with the yellow bar at the top of the page (see below).

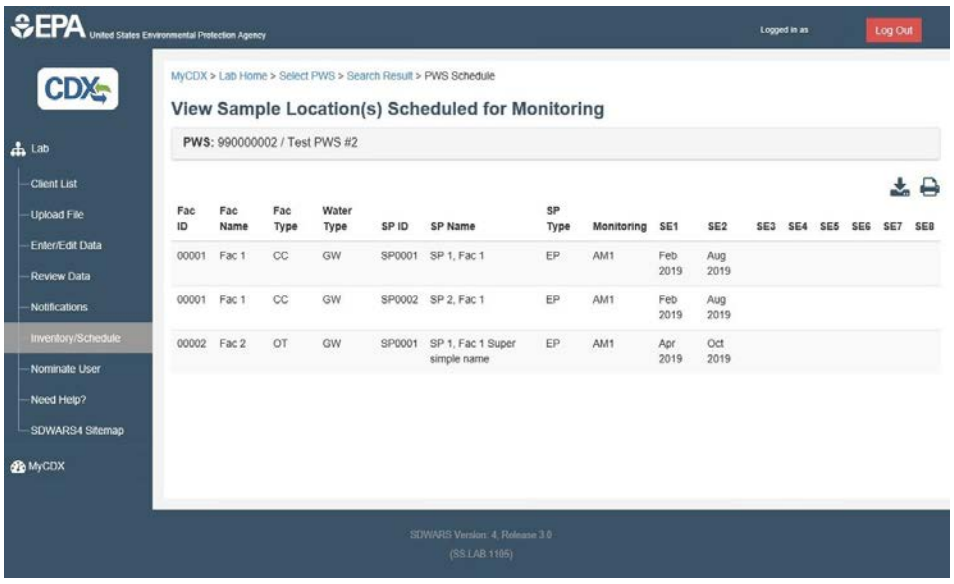


2. You will only be able to view PWSs that you have registered as a client. For example, searching for Ohio will only return the PWSs that you have already added as clients in the state of Ohio. In this example we already added PWS IDs for the Test States.



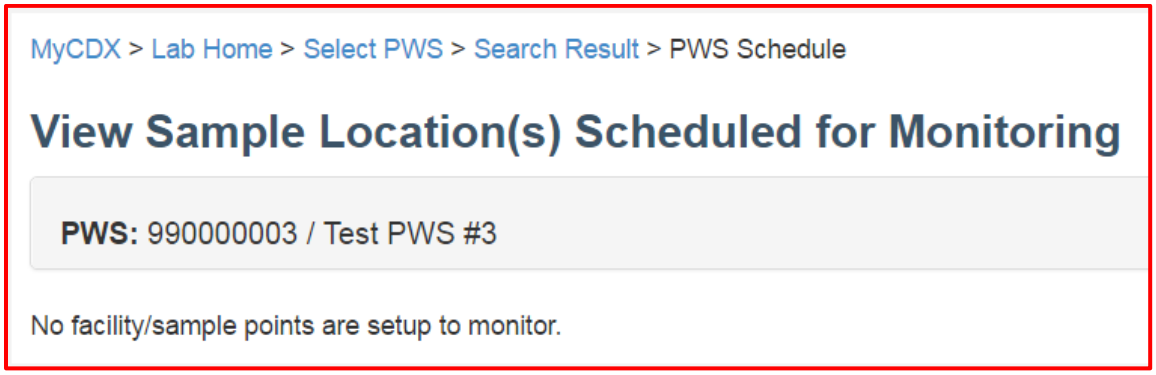
Note: on the right side of the screen there are download and print buttons ( ). The download button has two options: PWS List and full inventory with schedules, which includes every Facility ID and all related Sample Points for each PWS that has already confirmed its inventory (above).

3. To view available inventory for each PWS separately prior to downloading, simply click on each PWS ID (above).



When the inventory is not yet available, you will receive the message, "No facility/sample points are set up to monitor" (see below). If you encounter this situation when preparing sampling kits to send to a PWS client, please inform your client PWS that they need to define sample locations in SDWARS prior to sampling, referring them to this document or the UCMR 4 Message Center (UCMR4@glec.com).

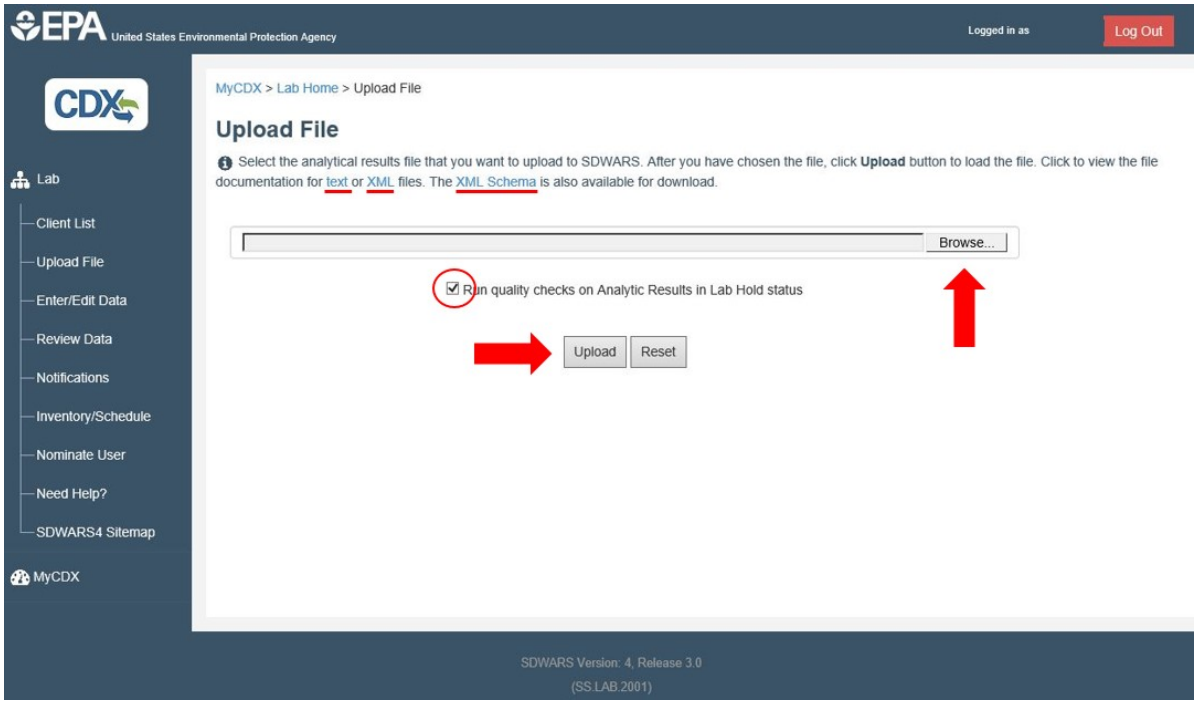
4. For an overview of PWS inventory and resampling requirements for AM2 and AM3 please see Appendix H.



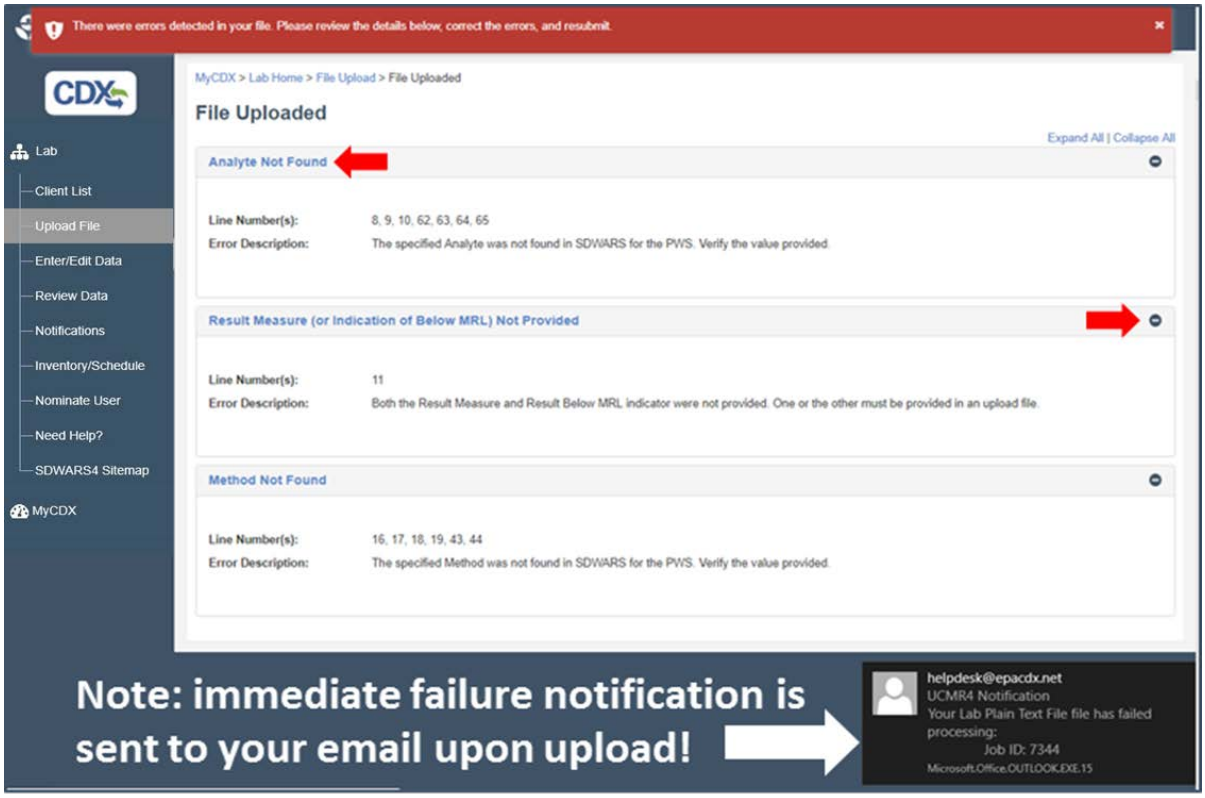
4.3 How to Upload a File with Analytical Results

To submit your analytical results file to SDWARS4, it must be in text or XML format. Click on the **text** or **XML** links for help formatting your analytical results file (red underline below). If you click on the hyperlink blue text it will redirect you to the flat file specifications document, which provides directions for formatting UCMR 4 analytical results and QC samples in a text file. If you click on the XML hyperlink, it will redirect you to the XML specifications document for similar assistance in formatting an XML file for upload. The XML Schema link allows you to download a zipped file.

1. After your file is in text or XML format click **Browse** to find and select your file. Once your file is selected click **Upload**. Make sure that you keep the checkmark next to "Run quality checks". If your file is correctly formatted and there are no issues with your data criteria, then the database will proceed to Quality Control (QC) review.



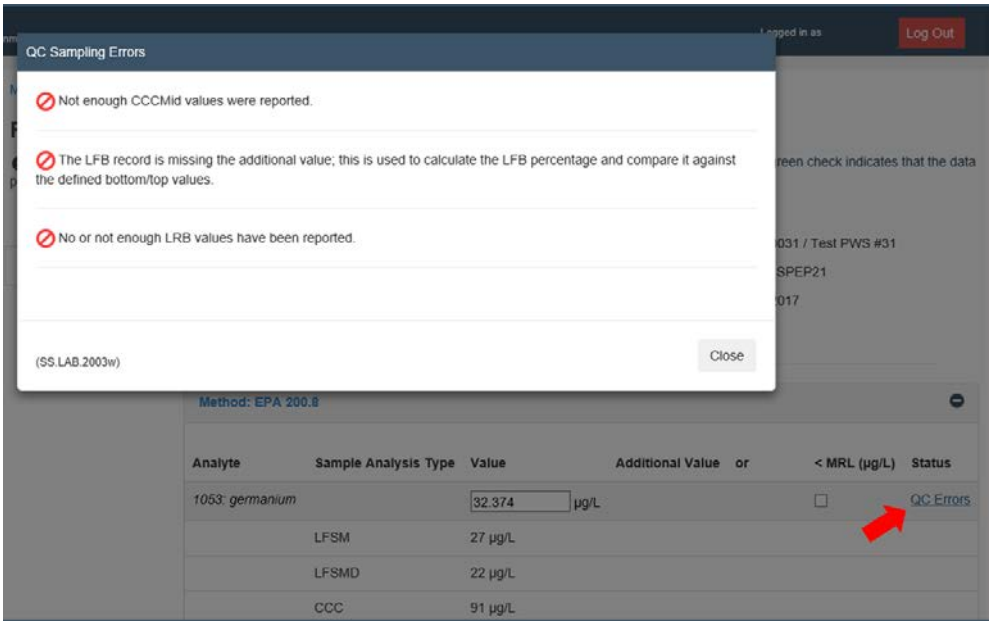
2. Files that do not meet the format criteria cannot be loaded into SDWARS4 and must be corrected before resubmission. If your file doesn't meet the format criteria you will be redirected to a screen listing formatting errors (below).



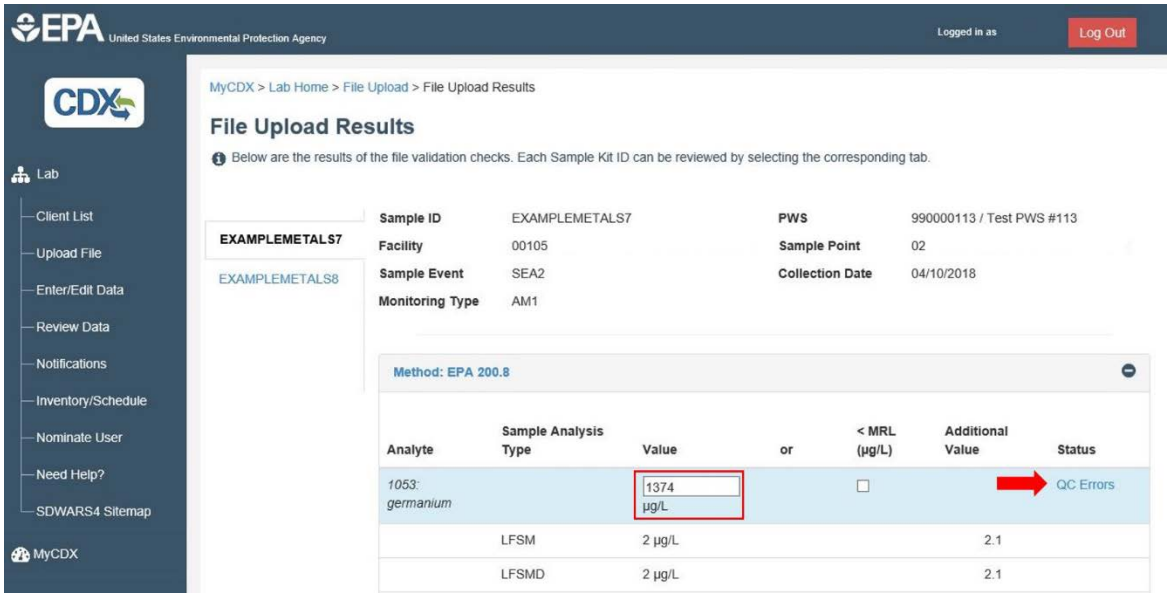
3. You can expand or collapse errors using the +/- arrows in the right-hand side or use Expand All |Collapse All on the top right corner of the file upload screen.

4. QC will only be processed once the file has passed the formatting criteria; however, if your analytical results fail QC requirements, then an error message will be displayed.

5. Depending on the file specifications, your data will be placed in lab hold status or loaded into SDWARS as lab approved status if your data passes all QC requirements. Data that doesn't pass QC requirements will be automatically placed in hold and can be edited either in the **Enter/Edit Data** section or via file correction. Once a file is successfully uploaded, the **File Upload Results** screen will appear. Each loaded Sample ID and QC data can be reviewed by selecting the corresponding ID on the tab on the left. When selected, a blue link on the right under **Status** labeled **QC Errors** will produce a pop-up window describing the errors (see below). Clicking the **QC Errors** link will produce this pop-up which contains **QC Sampling Errors**. Each error is a brief description of the issues pertaining to that sample. Please note that if batch QC is incorrect, the errors will be repeated for each analyte (within each sample) that was impacted by that batch. In this example, Method 200.8, the analytes fail because no CCC Mid was reported. This also means all other analytes in samples that have the same analysis batch ID will also fail and show this same error message.



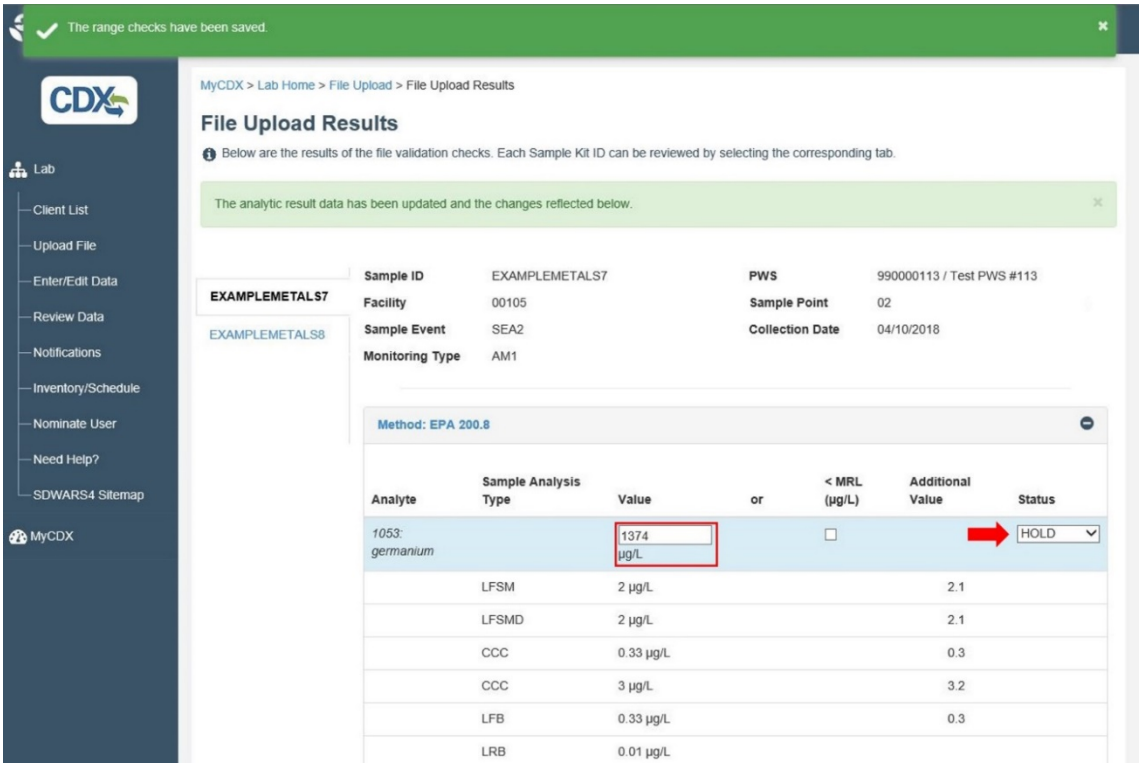
6. A sample may also be marked as having QC errors if the value entered for a result exceeds the maximum reasonable value. If this is the case, the blue link labeled **QC Errors** (red arrow below) will produce a pop-up window displaying the message "Result measure exceeds the maximum reasonable value".



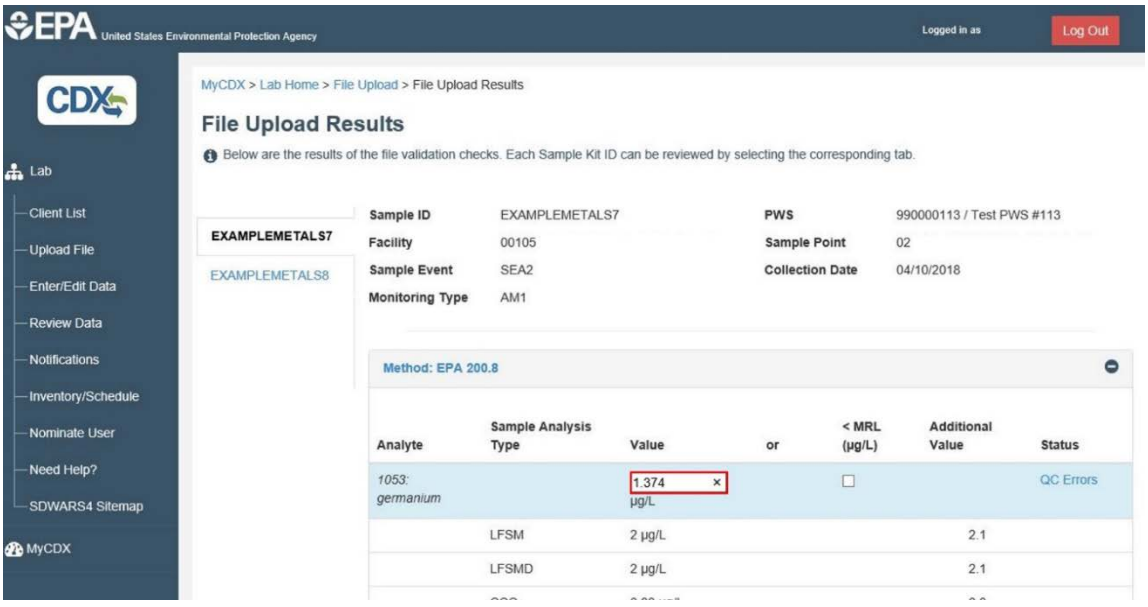
If you see this message (shown below), you can close the window and review the value on the File Upload Results page.

If the value is correct, open the **QC Errors** popup window again, check the box to the left of the text by clicking on it (red arrorw below) and then click save.

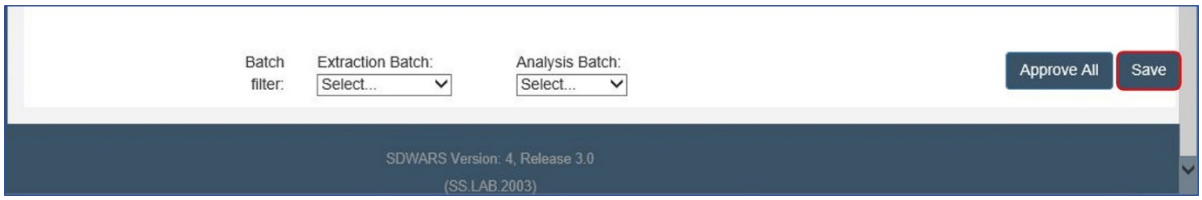
A green bar will appear at the top of the page confirming that the range checks have been saved. The status of the sample will be set to **Hold** and will have the option to be changed to **Approved** (shown below).



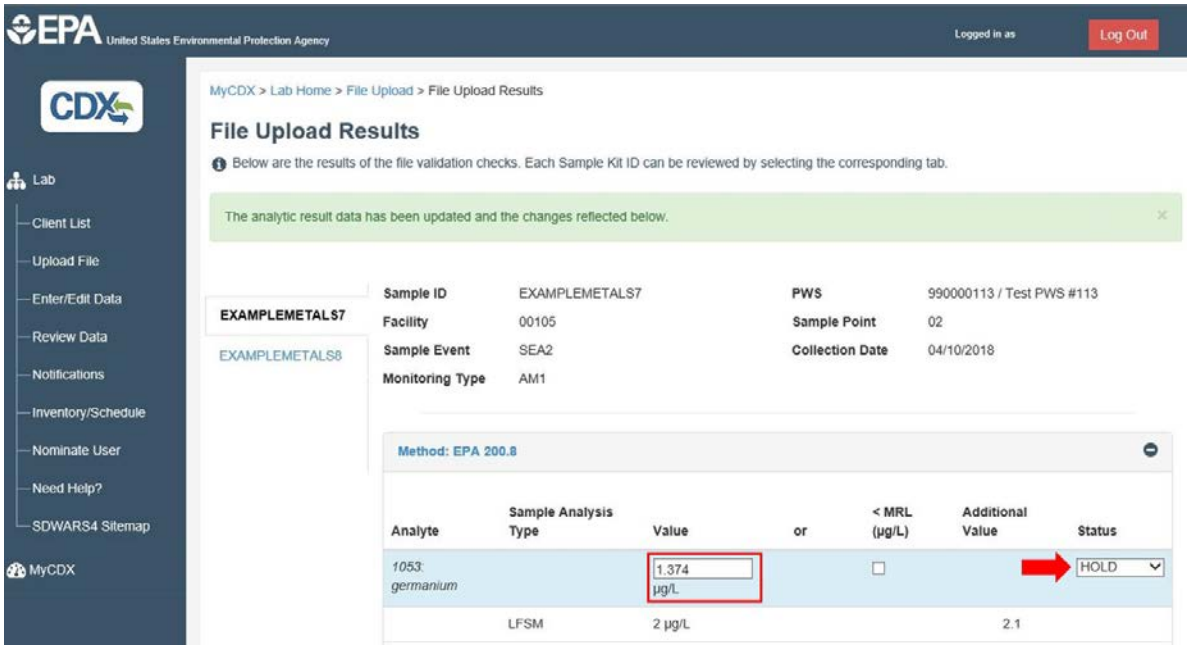
If the value entered for the sample is wrong, you can edit it on the File Upload Results screen by typing the correct value in the box that contained the error.



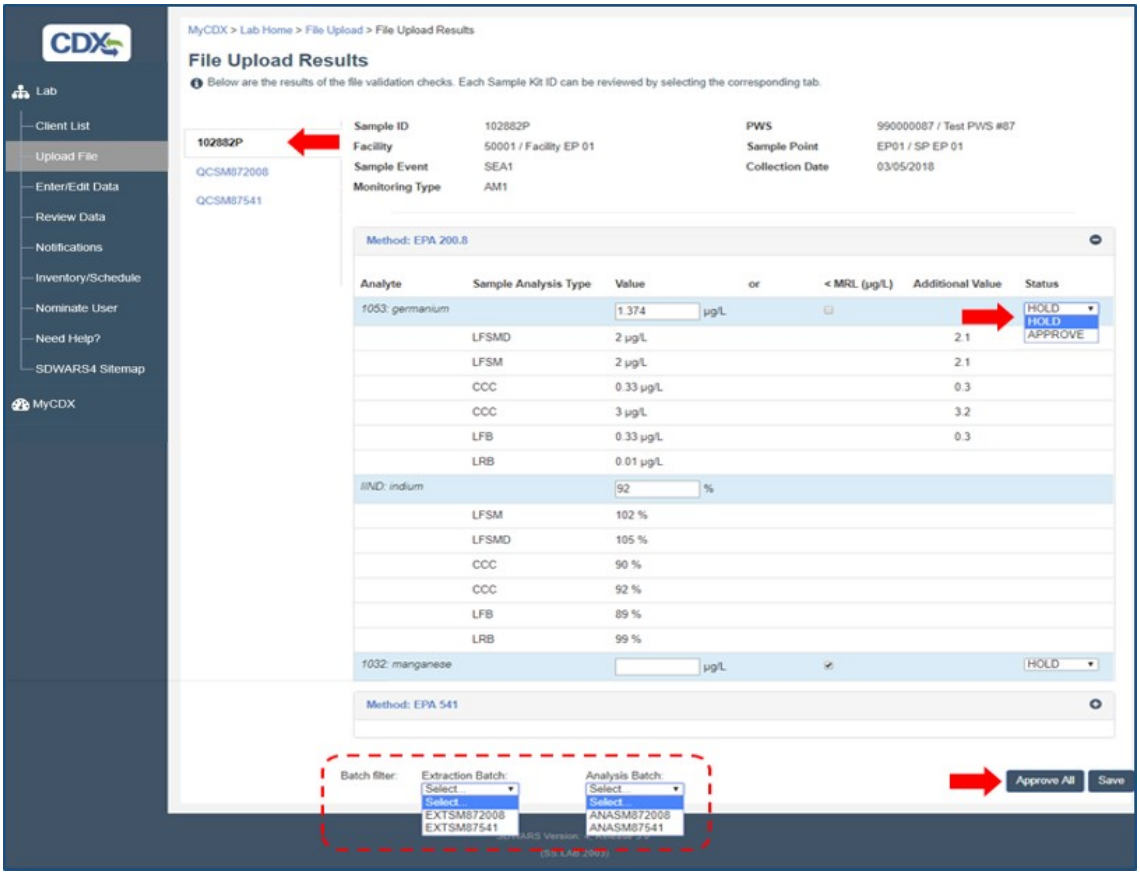
You must then scroll to the bottom of the screen and click **Save**.



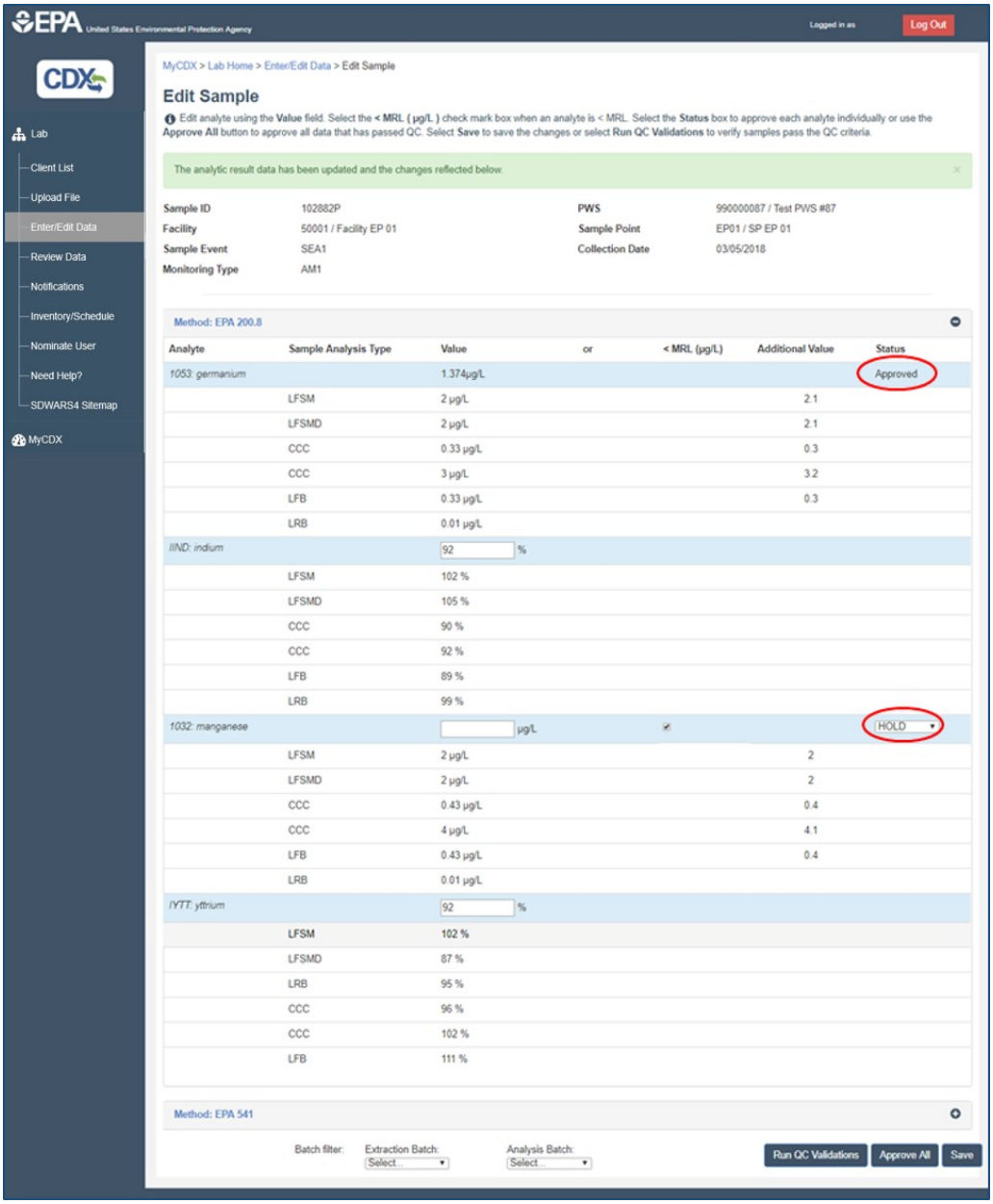
A green box will appear at the top of the page indicating that the analytic result data has been updated and the changes reflected below. If the new value is now within the range of reasonable values, the status of the sample will now be set to **Hold** and will have the option to be changed to **Approved** (shown below).



7. The example below shows a correct submission of sample kit **102882P** by a laboratory for the **Test PWS 990000087** (red left-side arrow). The data has passed all QC checks and is ready for approval. A drop-down menu to the right of the analytical result allows you to change data status from **Hold** to **Approve** for each individual analyte. You can also use the **Approve All** button to make that switch for all results at once (red right-side arrows). Once you change the status of data, click **Save** in the bottom right corner to save changes. A section at the bottom of the picture below (red dashed box) shows a **Batch filter** option of sorting data within a selected **Sample ID** by either **Extraction Batch** or **Analysis Batch** IDs.



8. In the following example, the Analyte 1053 (germanium) result was changed from **HOLD** to **APPROVE** and saved. Note that the status of germanium changed to **Approved**, whereas the remaining analyte(s) are still in the **HOLD** status. You can return to those through either the **Enter/Edit Data** or the **Review Data** functions on the main navigation panel. For more information about each "Status" see appendices C, I and J.

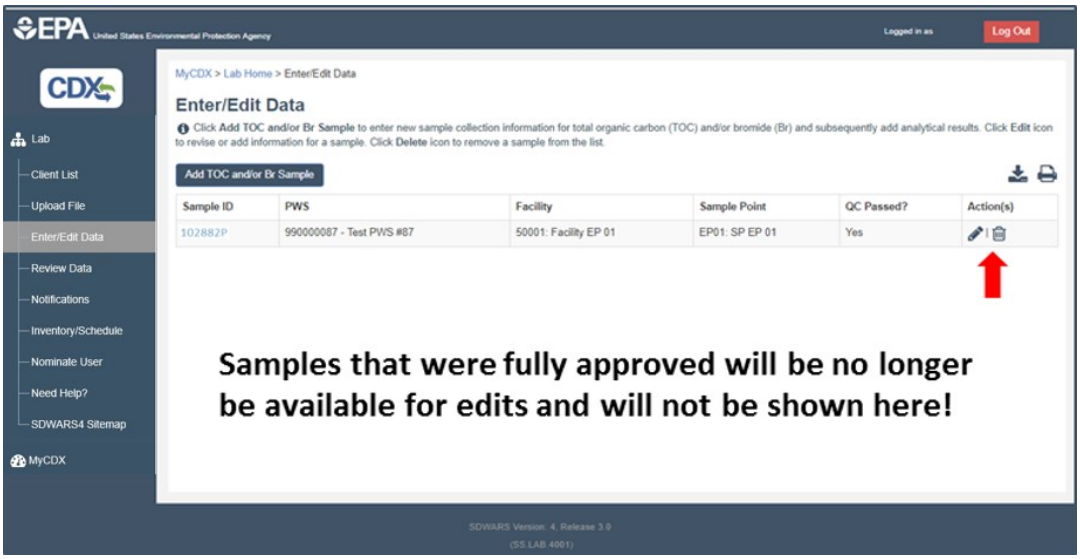


9. A green notification bar will appear indicating that your changes have been saved.

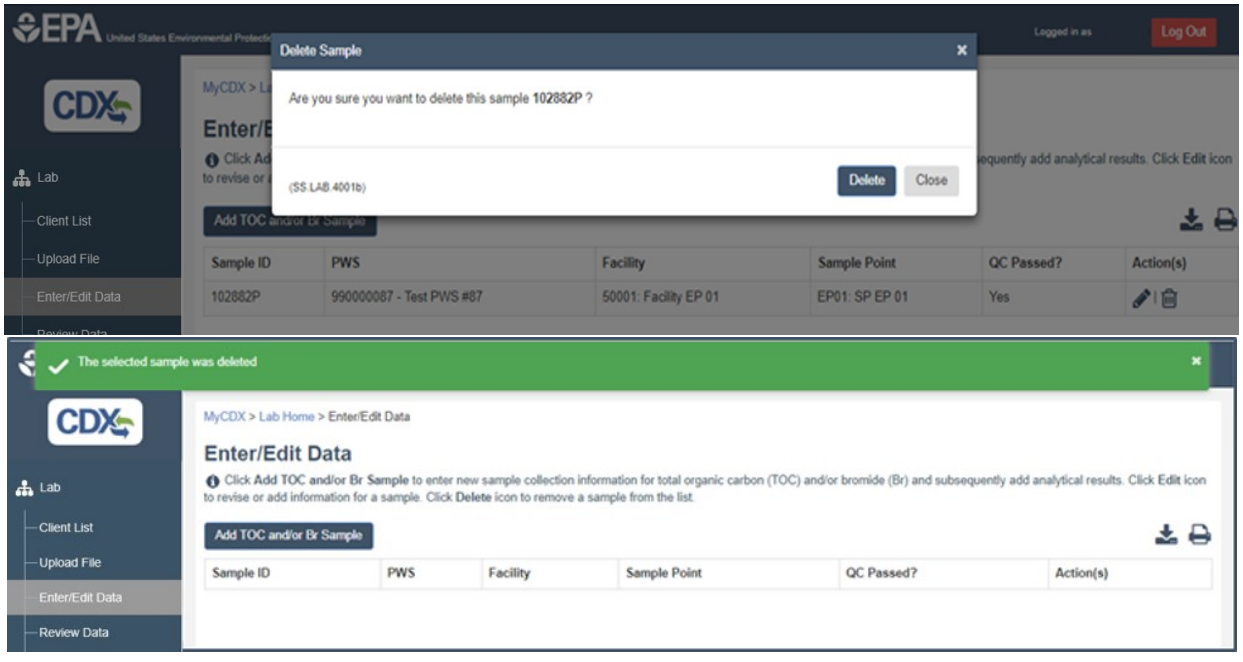
10. If you need assistance with uploading data to SDWARS4 please contact CI_TSC-UCMR@epa.gov. Please provide screen shots of the errors, the data file(s), and any other important details.

4.4 How to Enter/Edit Data

In the **Enter/Edit Data** section under Action(s) field there are two icons (|), which allow user to either edit data or delete the sample. Note: the edit function is available when the results for a given sample are fully or partially in the lab hold status, but the delete function is available for samples that are entirely in the lab hold status. You can also edit select sample information in this section by clicking on a Sample ID.

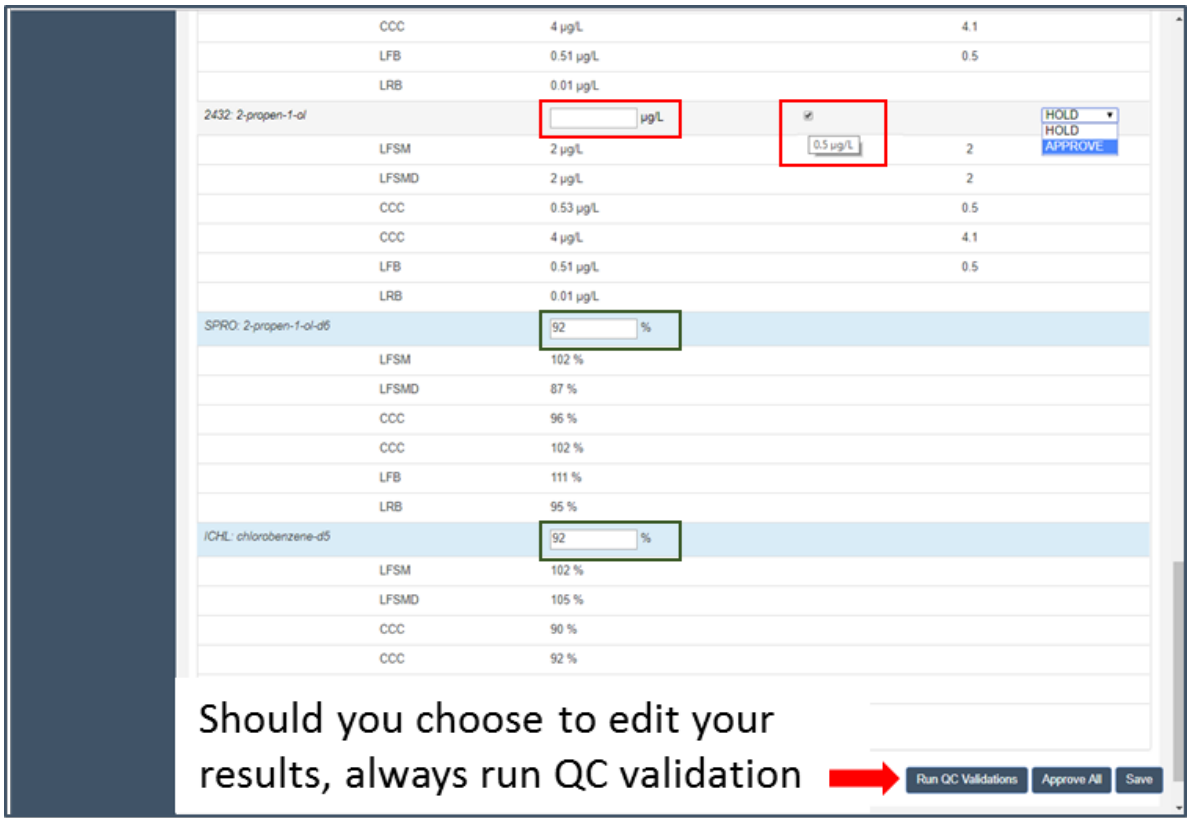


1. If you choose to delete a sample, simply click on the trash can icon ( ). This will prompt the conformation window (see below) and once you click delete, a green bar will appear on top of the page indicating that the sample was deleted.

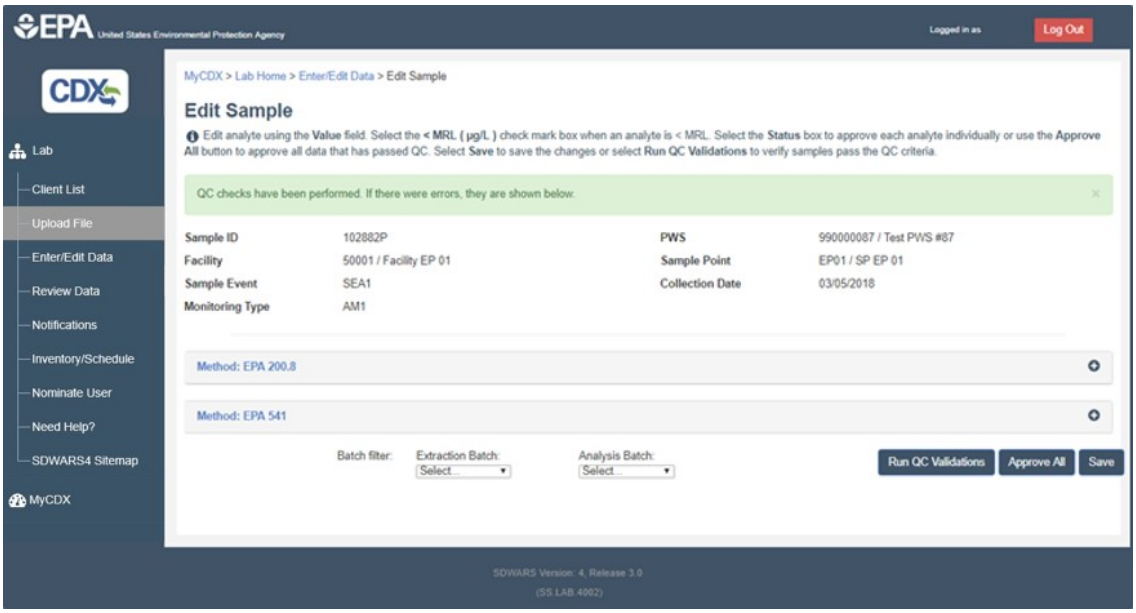


2. Selecting the pencil icon on a sample will take you to an editable view of the sample. Notice the red boxes below that correspond to the analytical result value window and check-mark box for the <MRL fields. If the reported result is less than MRL then that box needs to be checked, which will remove the result value. The green box indicates

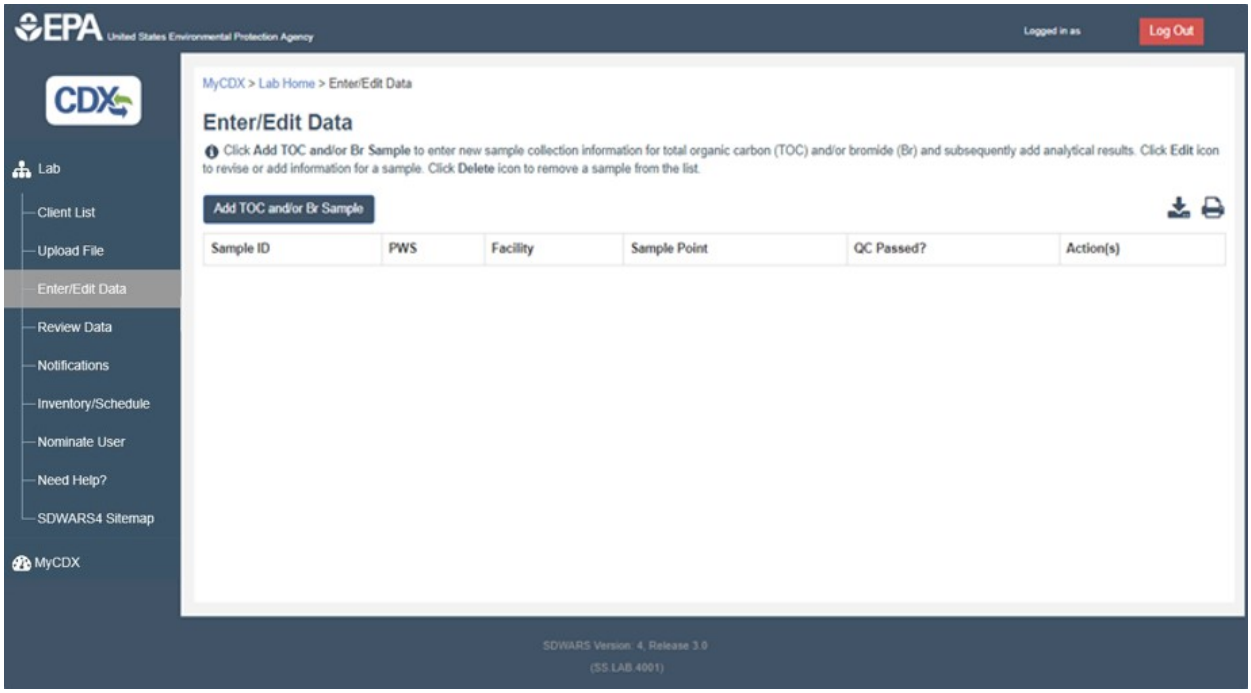
percent recovery for internal standards and surrogates. You can manually edit the values reported for the field sample analytes, internal standards and surrogates.



3. A green notification bar will appear indicating that your data passed QC validation.

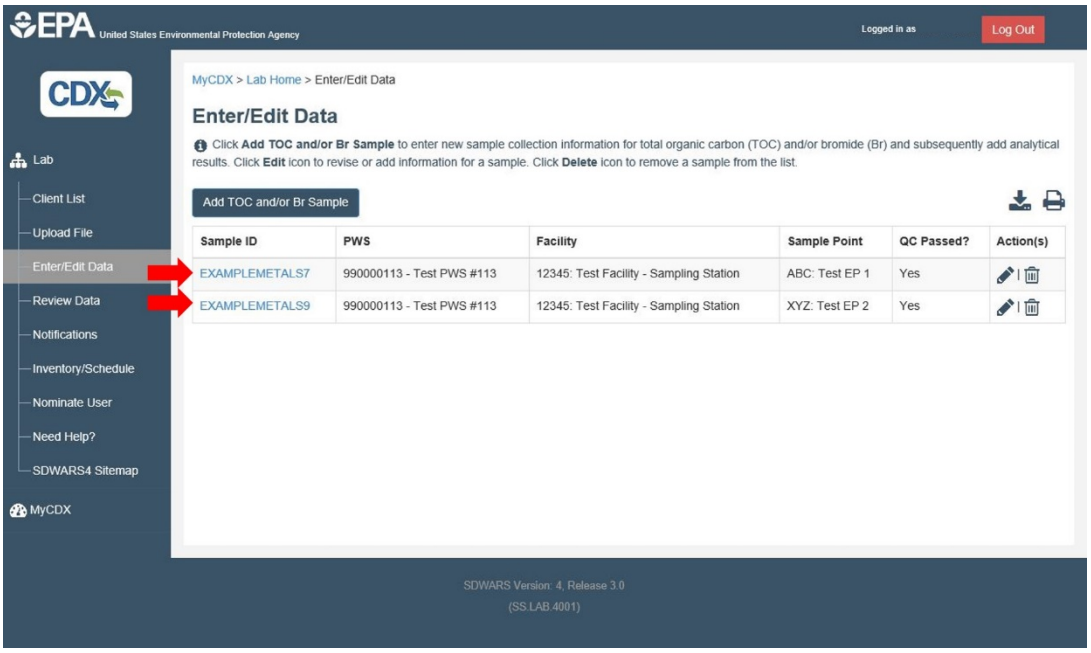


4. If QC validation returns no errors, you can click **Approve All** to change the status of all analytes from **HOLD** to **APPROVE**, then click **Save**. Once you have approved all submitted analytical results for a sample, that sample will disappear from the **Enter/Edit Data** screen (see below) and you will no longer be able to alter it or the QC associated with it.

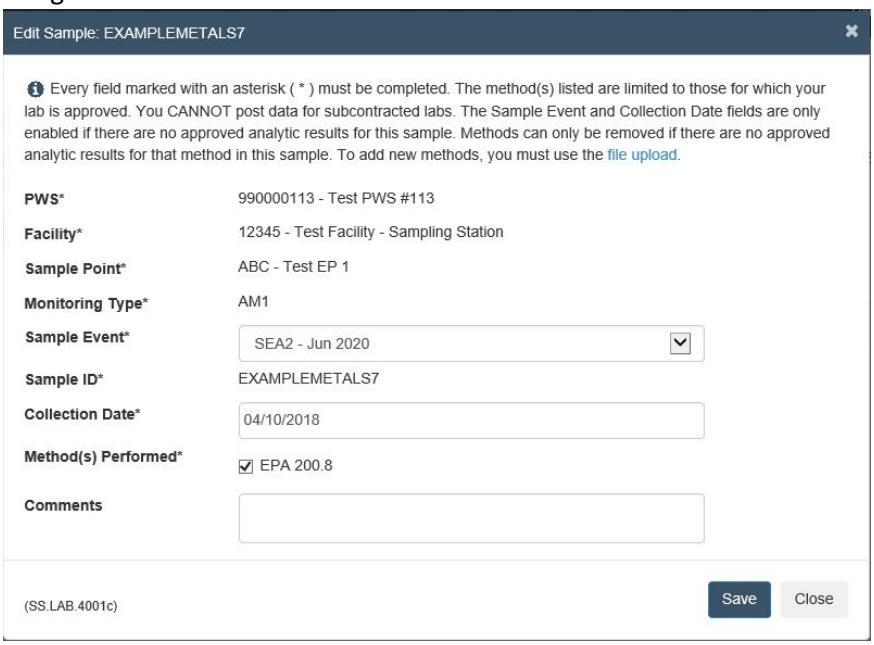


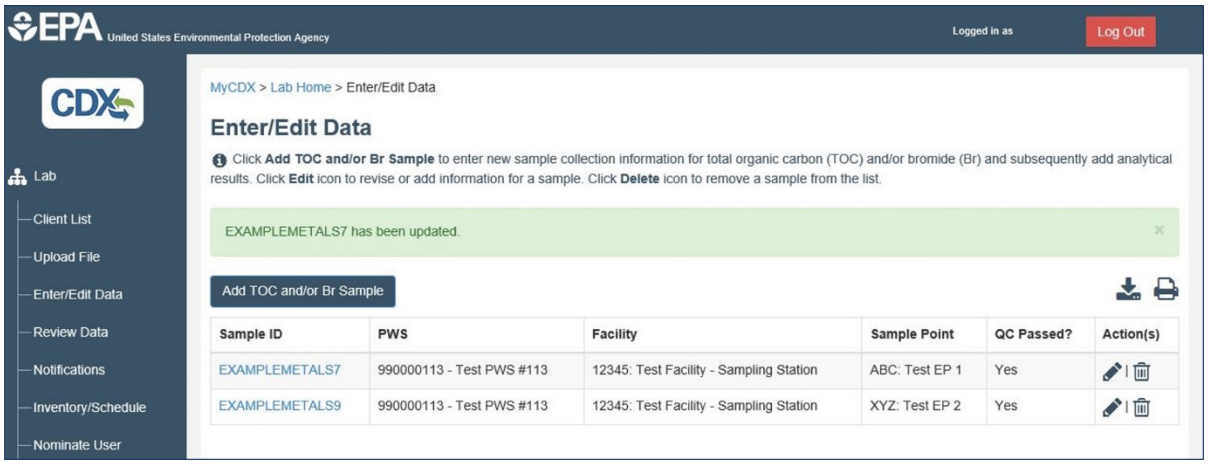
5. In the example above, previously loaded sample **102882P** passed all QC validation and was fully approved. The sample is no longer available for edits in the picture above. However, you can still find all submitted data in the **Review Data** section.

6. To edit sample information, click on the blue text of a Sample ID.

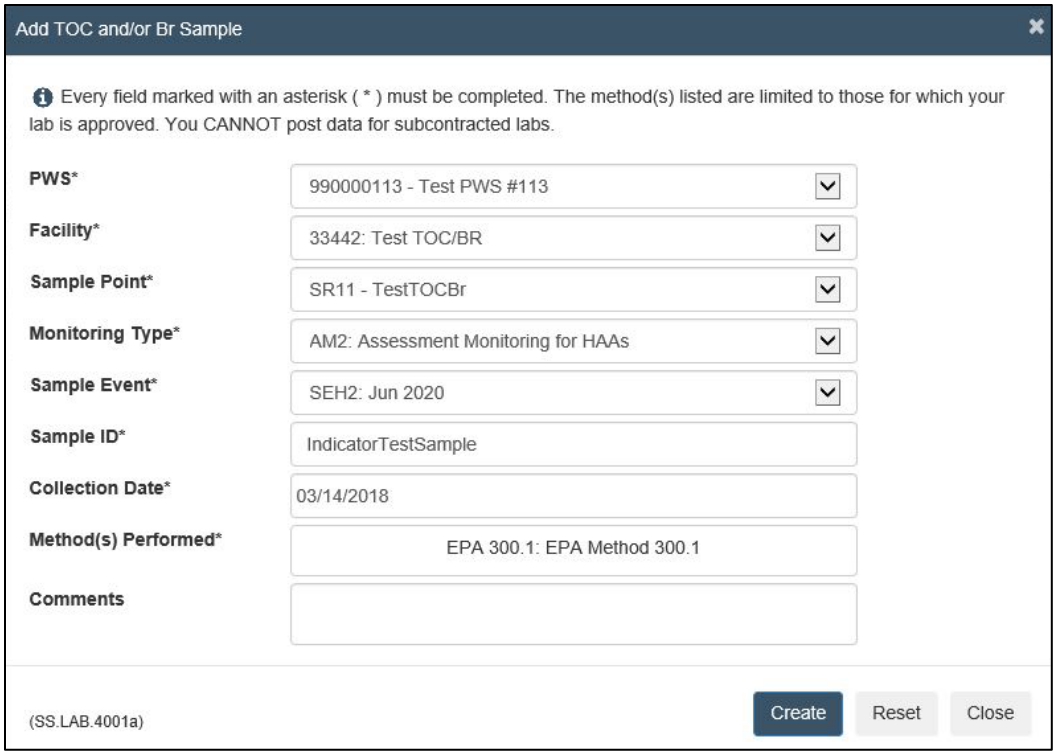


This will open a popup window (shown below) where you can view the PWS, Facility, Sample Point, Monitoring Type, and Sample ID for a given sample. You may also view and edit Sample Event, Collection Date, Methods Performed (remove only) and Comments. Note: Sample Event and Collection Date can only be edited if there are no approved analytic results for this sample and methods can only be removed if there are no approved analytic results for that method in the sample. Once you are done making changes, click save. A green bar will appear at the top of the page confirming that your changes have been saved.





7. For those labs that are authorized to run TOC and/or Br^- methods for UCMR 4, clicking **Add TOC and/or Br Sample** will allow you to enter the data manually. You will need to enter a new sample ID, collection information and subsequently add analytical results. Note: the **Add TOC and/or Br Sample** button allows you to add only TOC and Br^- methods to those PWSs that are in your client list.



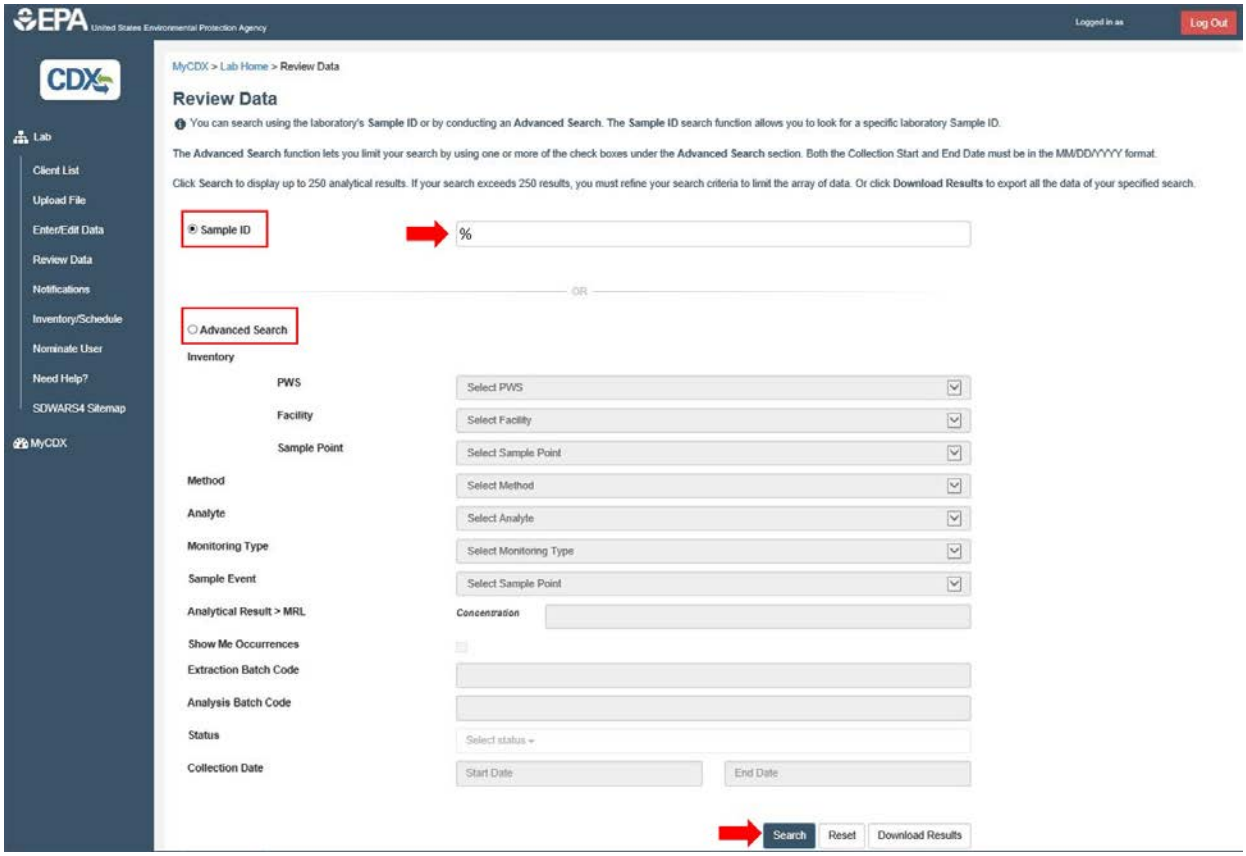
8. Every field marked with an asterisk (*) must be filled in. You cannot post data for subcontracted labs. Any subcontracted labs must be UCMR 4 approved and are responsible for submitting their own data to SDWARS4. Click Create to save new sample. QC samples are not required in SDWARS for indicator methods but all indicator data submitted to SDWARS must still pass method QC requirements.

9. Click the download or print buttons at the top right corner to print or download sample files.

4.5 How to Review Data

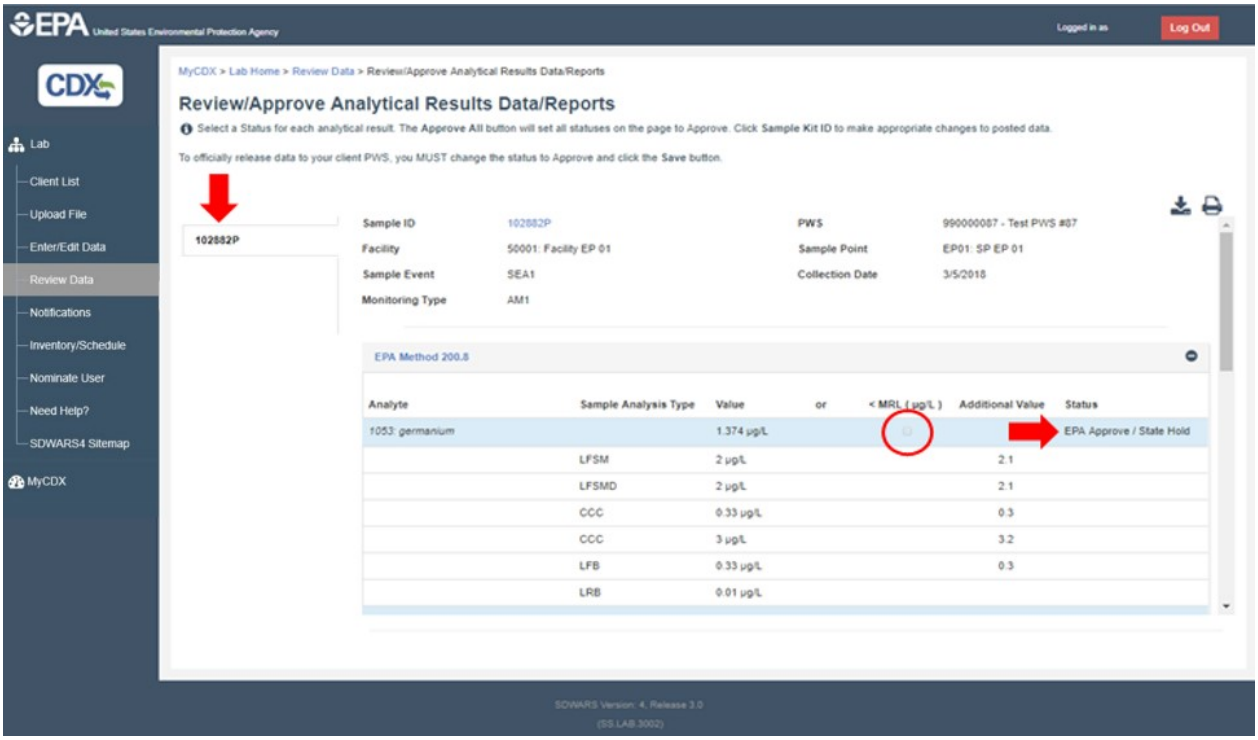
1. Use the **Review Data** search function to review any data that your lab has submitted, regardless of status. You will not be able to take any action on items that are in a review status of **Lab Approved** or higher but you will be able to search for those results. Lab hold data are also viewable through this search. You can additionally search by status if needed. For more information about each "Status" see appendices C, I and J.

2. You can use the wildcard symbol (**%**) to search for all your data in those search fields that do not have a drop-down list. Click **Search** to display up to 250 analytical results. If your search exceeds 250 results, an automatic download will be initiated.



Note: you can search using the exact **Sample ID** or by an advanced search which allows you to search by using one or more fields. Both the Collection Start and End Date must be in the MM/DD/YYYY format as listed in the instructions. You may click **Download Results** to export all the data of your specified search.

For the samples that were approved by the laboratory, you can only view those results. No edit or delete function is available for such data. Note that the Status field in **Review Data** also shows whether the data was also **PWS Approved** or if it is still in **PWS Hold** (102882P sample example below).



3. If you realize later that you need to edit previously submitted and Lab Approved data, your client PWS can "return to lab" these results when they review these data from their PWS SDWARS4 account, provided these results have not yet been PWS Approved. If the results are in the status of PWS Approved, you'll need to contact the UCMR Sampling Coordinator (ucmr_sampling_coordinator@epa.gov) to reset the status. Please provide the exact sample IDs, the method, and specify whether all analytes in the method need to be reset.

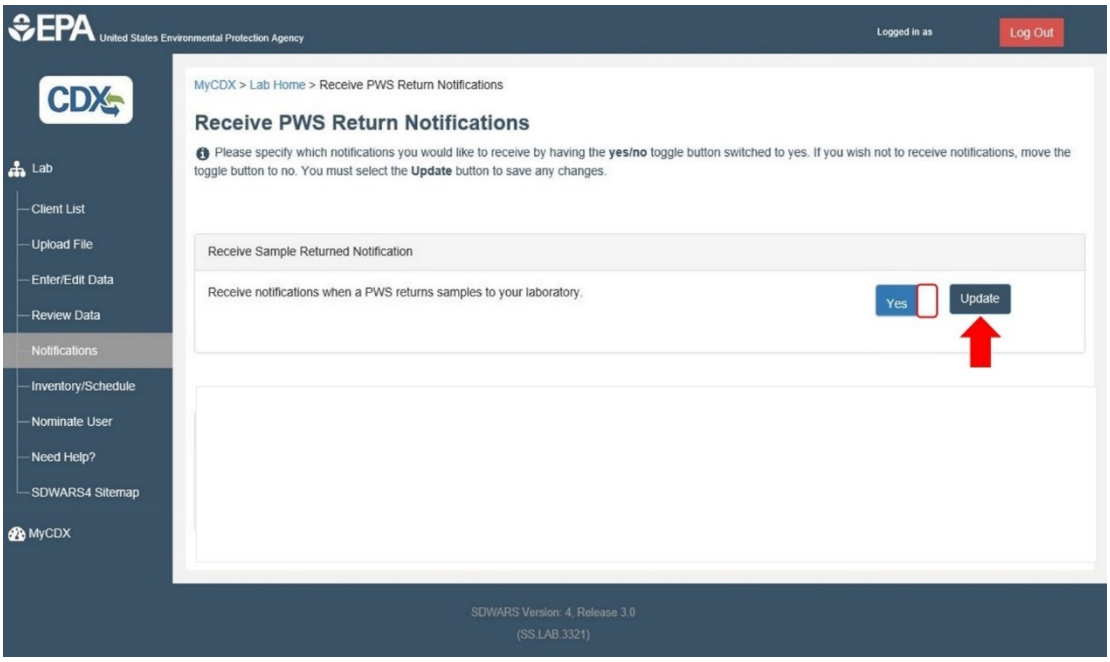
4. Please contact the Lab Approval Coordinator (UCMR_lab_approval@epa.gov) if you have questions about QC failures. For more information on method and analyte codes see Appendix D.

4.6 How to Change Notification Preferences

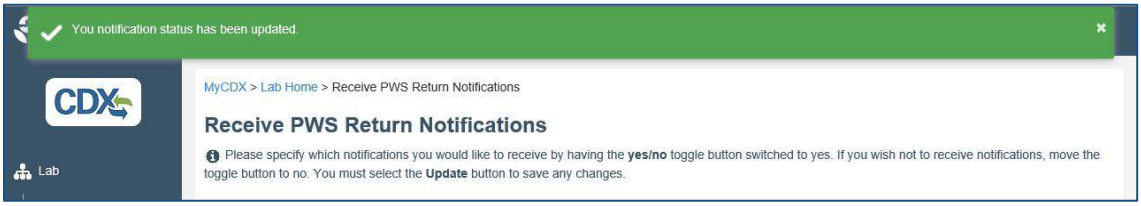
You have the option to receive notifications when a PWS returns samples to your laboratory.

1. Select "Notifications" from the navigation panel.
2. The laboratory in the example below is set to receive notifications when a PWS returns samples to the laboratory. If you do not wish to receive notifications, you can set notification status to "No" by clicking on the toggle button to the right of the notification description.

3. After moving one of the toggle buttons, click the “Update” button to the right of the toggle button to save your changes.



4. A green bar will appear at the top of the page confirming that your notification preferences have been updated (see below).

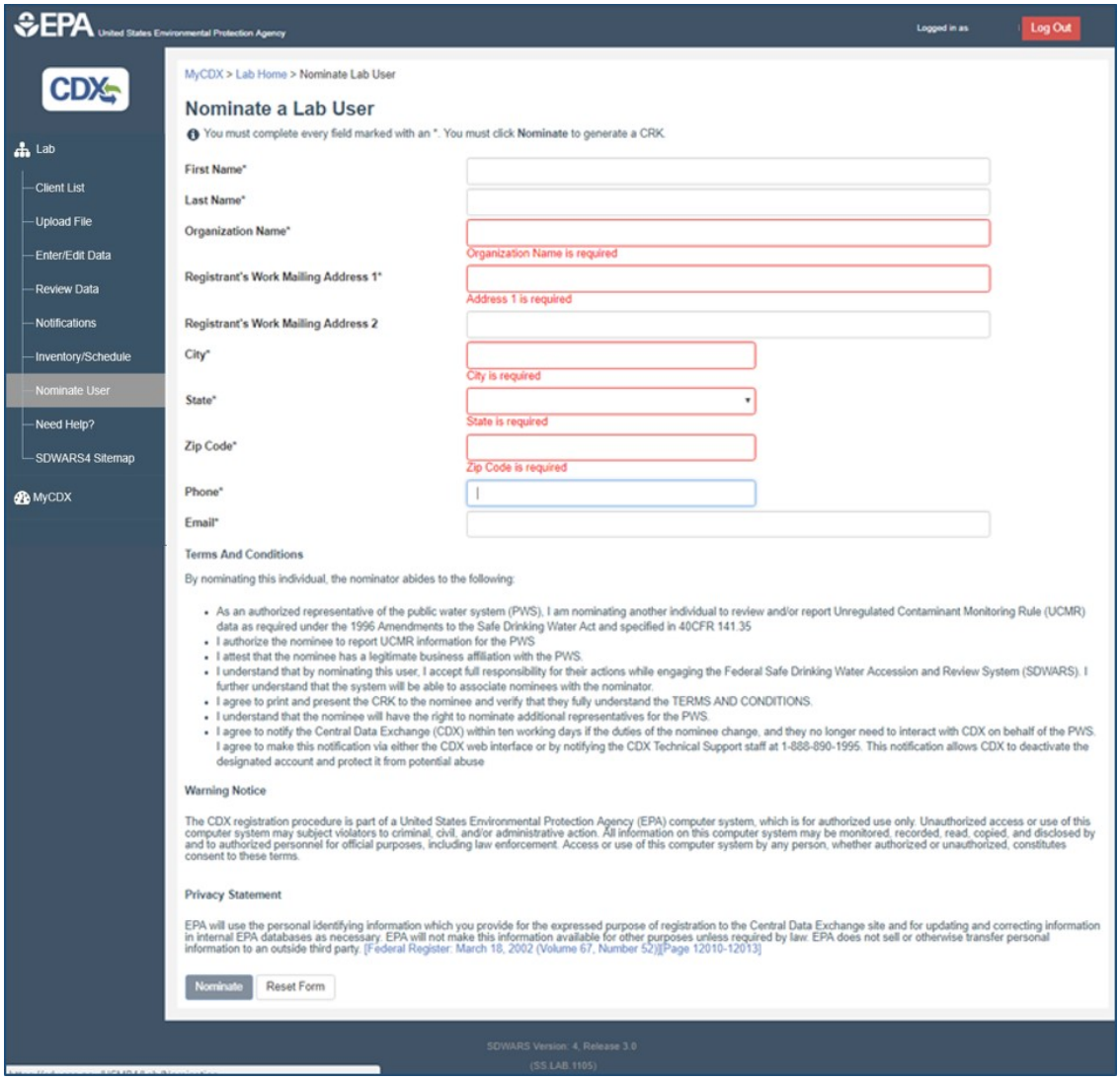


5. You may update notification preferences any time.

4.7 How to Nominate a User for a CDX/SDWARS4 Account

This step is optional. The account holder can nominate an authorized representative to review and input data into SDWARS. It is important to read and understand the terms and conditions of this agreement. A laboratory can nominate more than one person.

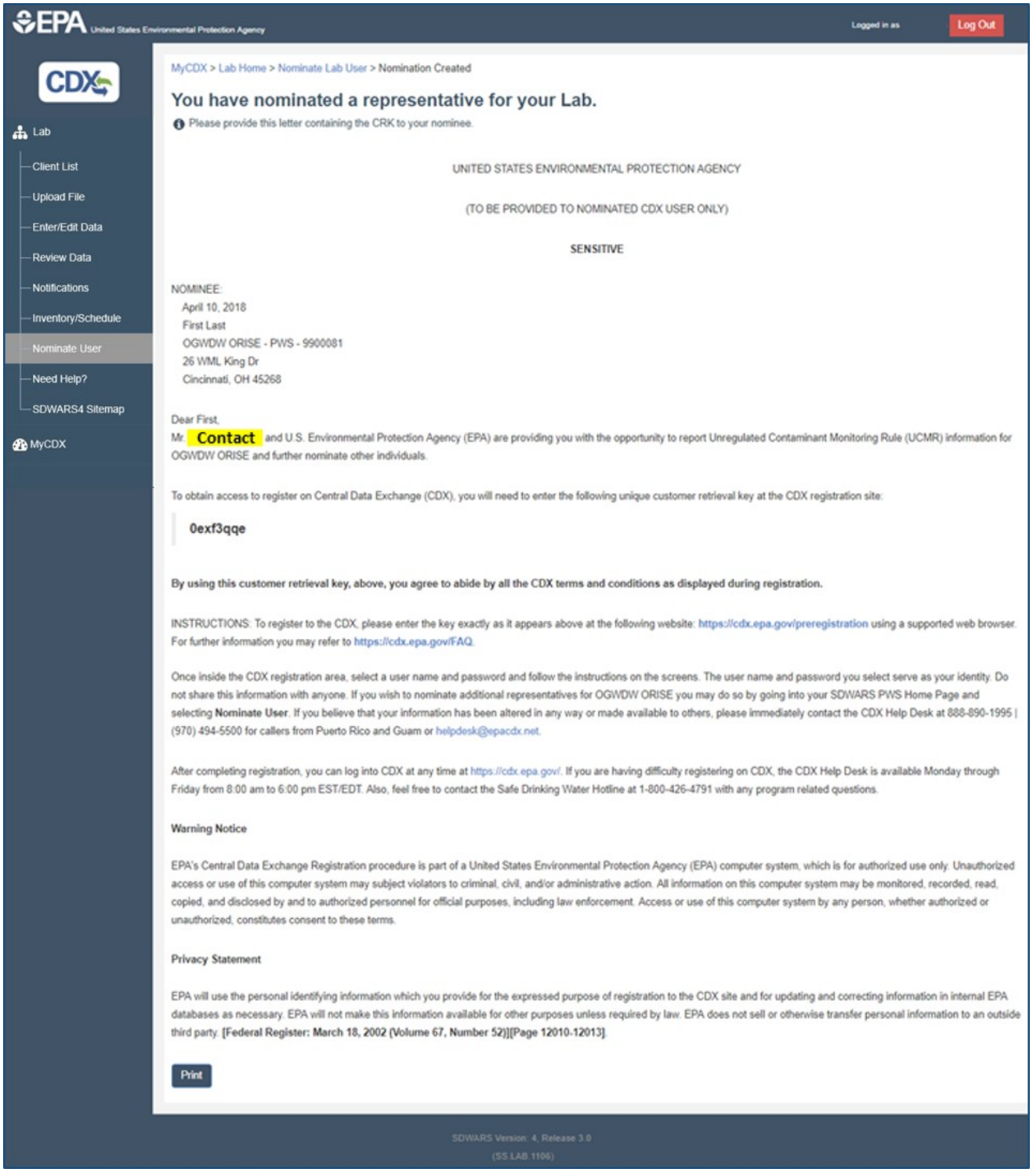
1. Select “Nominate User” from the navigation panel.
2. Complete every field marked with an asterisk (*) and click “Nominate” at the bottom of the page to create a CRK (or customer retrieval key) for the nominee.



3. Once you click “Nominate” you will see a confirmation at the top of your screen, saying “You have nominated a representative for your Laboratory”.

4. The top portion of the confirmation page will show the nominee information and, a uniquely assigned CRK for the nominee. The CRK is required for the new user to create an account.

5. Review the instructions, warning notice and privacy statement. Print out the CRK and registration instructions for the nominee.



5. For More Information

- **UCMR Questions/SDWARS Assistance**
  - UCMR Message Center: (800) 949-1581 or email UCMR Message Center (UCMR4@glec.com)
  - Email UCMR Sampling Coordinator (UCMR_Sampling_Coordinator@epa.gov)
- **SDWARS Registration/Log-in Help**
  - CDX Help Desk: (888) 890-1995 or email CDX Help Desk (helpdesk@epacdx.net)
- **Lab Approval Program**
  - Email UCMR Lab Approval (UCMR_Lab_Approval@epa.gov)
- **Flat File or XML Assistance**
  - Email CI_TSC-UCMR@epa.gov

Appendix

A. Example Small PWS Scheduled Sampling Reminder

Dear @Model.Contact.FirstName @Model.Contact.LastName,

PWS ID: @Model.PWS.PWSCode
PWS Name: @Model.PWS.PWSName

Your public water system (PWS) is scheduled to collect samples for the Unregulated Contaminant Monitoring Rule (UCMR 4) this month. You are receiving this automated email reminder because you are the Safe Drinking Water Accession and Review System (SDWARS) account holder for the PWS.

EPA's implementation contractor, Great Lakes Environmental Center, Inc. (GLEC), will send sampling kits and call the sampler to remind them of the sampling and answer questions.

Thank you.

B. Example Small PWS Results Notification Email

Dear UCMR Contact,

PWS ID: @Model.PWS.PWSCode
PWS Name: @Model.PWS.PWSName

Sampling results for the **Unregulated Contaminant Monitoring Rule (UCMR 4)** are available for your PWS in the Safe Drinking Water Accession and Review System (SDWARS4). You are receiving this automated email because you are a UCMR contact for the PWS. You will receive these notices each time new results become available.

How to View your UCMR 4 Sampling Results in SDWARS4:

1. Log into CDX/SDWARS4 and read/accept your notification letter if you have not done so already.
2. Click the left sidebar link "**Review Data**".
3. Click "**Advanced Search**" and select your "**PWS**" from the drop down menu.
4. At the bottom of the screen click the "**search**" button.
5. Reported values equal to or greater than the minimum reporting level (MRL) are displayed in µg/L. Results less than the MRL are denoted with a checked box under the "MRL (µg/L)" column. No data reportable (NDR) indicates that EPA could not obtain valid data for this contaminant during the scheduled sampling event.
6. You can also download your results using the downward arrow at the top right hand corner of the page.

What if I do not have a CDX/SDWARS4 account (e.g., misplaced or never received a CRK from EPA]?
Please contact the CDX Help Desk via email at helpdesk@epacdx.net or call toll-free at 1-888-890-1995 between 8:00 a.m. and 6:00 p.m. (EST) Monday through Friday. Let the CDX Help Desk know that you are a small system (provide PWS ID) and that you would like a SDWARS4 account.

What if I can't find my sampling results once I have logged into SDWARS4?
If you need help navigating the SDWARS database, please contact the UCMR Message Center at (800) 949-1581 or UCMR4@glec.com. In addition, a SDWARS Instruction document with screen shots is available on our website.

C. "Status" definitions for small PWS

Small PWS Statuses:

- **EPA Approve/State Hold:** After a lab approves data for a small system, it becomes available for view by the PWS, the EPA and the State and appears to the small PWS with this status. No action is required of the small PWS at this point.
- **State Reviewed:** Data with this status has been marked as "Reviewed" by the state. The state may choose to do this if they routinely review data and want to be able to filter for only new data they have not reviewed yet.

D. Method Code-Analyte Code Relationship and MRLs

Method Code	Analyte Code	Analyte Name	Analyte Short Name	Analyte Type	MRL
EPA 200.8	1053	germanium		Analyte	0.3 µg/L
EPA 200.8	1032	manganese		Analyte	0.4 µg/L
EPA 200.8	IIND	indium	In	Alternate Internal	
EPA 200.8	IYTT	yttrium	Y	Internal	
EPA 525.3	2115	alpha-hexachlorocyclohexane		Analyte	0.01 µg/L
EPA 525.3	2057	chloropyrifos		Analyte	0.03 µg/L
EPA 525.3	2116	dimethipin		Analyte	0.2 µg/L
EPA 525.3	7570	ethoprop		Analyte	0.03 µg/L
EPA 525.3	2117	oxyfluorfen		Analyte	0.05 µg/L
EPA 525.3	2118	profenofos		Analyte	0.3 µg/L
EPA 525.3	2119	tebuconazole		Analyte	0.2 µg/L
EPA 525.3	2114	total permethrin		Analyte	0.04 µg/L
EPA 525.3	2120	tribufos		Analyte	0.07 µg/L
EPA 525.3	IACE	acenaphthene-d_{10} (IS 1)		Internal	

Method Code	Analyte Code	Analyte Name	Analyte Short Name	Analyte Type	MRL
EPA 525.3	IPHE	phenanthrene-d_{10} (IS 2)		Internal	
EPA 525.3	ICHR	chrysene-d_{12} (IS 3)		Internal	
EPA 525.3	SDMN	1,3-dimethyl-2-nitrobenzene (SUR 1)		Surrogate	
EPA 525.3	STPP	triphenyl phosphate (SUR 2)		Surrogate	
EPA 525.3	SBAP	benzo[a]pyrene-d_{12} (SUR 3)		Surrogate	
EPA 530	2433	butylated hydroxyanisole		Analyte	0.03 µg/L
EPA 530	2434	o-toluidine		Analyte	0.007 µg/L
EPA 530	3435	quinoline		Analyte	0.02 µg/L
EPA 530	IACE	acenaphthene-d_{10} (IS 1)		Internal	
EPA 530	IPHE	phenanthrene-d_{10} (IS 2)		Internal	
EPA 530	STOL	o-toluidine-d_9 (SUR 1)		Surrogate	
EPA 530	SQUI	quinoline-d_7 (SUR 2)		Surrogate	
EPA 541	2084	1-butanol		Analyte	2.0 µg/L
EPA 541	2431	2-methoxyethanol		Analyte	0.4 µg/L
EPA 541	2432	2-propen-1-ol		Analyte	0.5 µg/L
EPA 541	ICHL	chlorobenzene-d_5		Internal	
EPA 541	SBUT	1-butanol-d_{10}		Surrogate	
EPA 541	SPRO	2-propen-1-ol-d_6		Optional Surrogate	
EPA 544	3303	microcystin-LA		Analyte	0.008 µg/L
EPA 544	3304	microcystin-LF		Analyte	0.006 µg/L
EPA 544	3305	microcystin-LR		Analyte	0.02 µg/L
EPA 544	3306	microcystin-LY		Analyte	0.009 µg/L
EPA 544	3307	microcystin-RR		Analyte	0.006 µg/L
EPA 544	3308	microcystin-YR		Analyte	0.02 µg/L
EPA 544	3309	nodularin		Analyte	0.005 µg/L

Method Code	Analyte Code	Analyte Name	Analyte Short Name	Analyte Type	MRL
EPA 544	IMLF	microcystin-LF-d_5		Optional Internal	
EPA 544	IMLR	microcystin-LR-d_7		Optional Internal	
EPA 544	SETH	ethylated MC-LR, d_5		Surrogate	
EPA 544	SMLF	microcystin-LR-d_5		Alternate Surrogate	
EPA 545	3311	anatoxin-a		Analyte	0.03 µg/L
EPA 545	3302	cylindrospermopsin		Analyte	0.09 µg/L
EPA 545	IURA	uracil-d_4		Internal	
EPA 545	IPHA	L-phenylalanine-d_5		Internal	
EPA 545	ICYL	cylindrospermopsin-d_5		Alternate Internal	
EPA 546	3301	total microcystin		Analyte	0.3 µg/L
EPA 546	CVTM	%CV		Coefficient of Variation	
EPA 552.3	2456	HAA5		Analyte	
EPA 552.3	2457	HAA6Br		Analyte	
EPA 552.3	2459	HAA9		Analyte	
EPA 552.3	2455	bromochloroacetic acid	BCAA	QHS	0.3 µg/L
EPA 552.3	9535	bromodichloroacetic acid	BDCAA	QHS	0.5 µg/L
EPA 552.3	9339	chlorodibromoacetic acid	CDBAA	QHS	0.3 µg/L
EPA 552.3	9639	tribromoacetic acid	TBAA	QHS	2.0 µg/L
EPA 552.3	2453	monobromoacetic acid	MBAA	QHS	0.3 µg/L
EPA 552.3	2454	dibromoacetic acid	DBAA	QHS	0.3 µg/L
EPA 552.3	2451	dichloroacetic acid	DCAA	QHS	0.2 µg/L
EPA 552.3	2450	monochloroacetic acid	MCAA	QHS	2.0 µg/L
EPA 552.3	2452	trichloroacetic acid	TCAA	QHS	0.5 µg/L
EPA 552.3	ITCP	1,2,3-trichloropropane	1,2,3-TCP	Internal	

Method Code	Analyte Code	Analyte Name	Analyte Short Name	Analyte Type	MRL
EPA 552.3	IBFB	p-bromofluorobenzene		Alternate Internal	
EPA 552.3	IDBP	2,3-dibromopropionate		Alternate Internal	
EPA 552.3	SBBA	2-bromobutanoic acid		Surrogate	
EPA 552.3	SDBP	2,3-dibromopropanoic acid		Alternate Surrogate	
EPA 552.3	SBPA	2-bromopropionic acid		Alternate Surrogate	
EPA 557	2456	HAA5		Analyte	
EPA 557	2457	HAA6Br		Analyte	
EPA 557	2459	HAA9		Analyte	
EPA 557	2455	bromochloroacetic acid	BCAA	QHS	0.3 µg/L
EPA 557	9535	bromodichloroacetic acid	BDCAA	QHS	0.5 µg/L
EPA 557	9339	chlorodibromoacetic acid	CDBAA	QHS	0.3 µg/L
EPA 557	9639	tribromoacetic acid	TBAA	QHS	2.0 µg/L
EPA 557	2453	monobromoacetic acid	MBAA	QHS	0.3 µg/L
EPA 557	2454	dibromoacetic acid	DBAA	QHS	0.3 µg/L
EPA 557	2451	dichloroacetic acid	DCAA	QHS	0.2 µg/L
EPA 557	2450	monochloroacetic acid	MCAA	QHS	2.0 µg/L
EPA 557	2452	trichloroacetic acid	TCAA	QHS	0.5 µg/L
EPA 557	IMCA	monochloroacetic acid-2-^{13}C		Internal	
EPA 557	IMBA	monobromoacetic acid-1-^{13}C		Internal	
EPA 557	IDCA	dichloroacetic acid-2-^{13}C		Internal	
EPA 557	ITCA	trichloroacetic acid-2-^{13}C		Internal	
EPA 415.3	2920	total organic carbon	TOC	Indicator	1000 µg/L
SM 5310B	2920	total organic carbon	TOC	Indicator	1000 µg/L
SM 5310C	2920	total organic carbon	TOC	Indicator	1000 µg/L

Method Code	Analyte Code	Analyte Name	Analyte Short Name	Analyte Type	MRL
SM 5310D	2920	total organic carbon	TOC	Indicator	1000 µg/L
EPA 300.0	1004	bromide		Indicator	20 µg/L
EPA 300.1	1004	bromide		Indicator	20 µg/L
EPA 317.0	1004	bromide		Indicator	20 µg/L
EPA 326.0	1004	bromide		Indicator	20 µg/L
ASTM D6581	1004	bromide		Indicator	20 µg/L

Note: Internal standards and surrogates do not have MRLS because they are QC data.

E. Large PWS Scheduling Reminder

The Safe Drinking Water Accession and Review System (SDWARS) indicates that your public water system (PWS) listed below is scheduled to monitor for the Unregulated Contaminant Monitoring Rule (UCMR4). You received this automated email reminder because you are a SDWARS contact for the PWS listed below.

PWS ID:
PWS Name:

Before monitoring for UCMR4, please review your sampling locations to make sure they are listed correctly in SDWARS, the Federal UCMR4 reporting system. If everything is correct, no **further action is required.** If they are incorrect, it is imperative that any inventory changes are made before you sample or the laboratory posts data in SDWARS. Remember to answer the additional data elements questions at the time of sampling. These questions can be found by selecting "Schedule/Data Elements" from the left side menu, selecting the AM2 monitoring requirement (to input treatment information), then clicking on the sampling event. Then, if necessary, selecting the AM3 monitoring requirement (to answer cyanotoxin questions), then clicking on the sample event.

If you need help logging onto or navigating the SDWARS database, please contact the UCMR Message Center at (800) 949-1581 or UCMR4@glec.com.

Thank you.

F. Large System Data Elements Reminder

Hello @Model.Contact.FirstName @Model.Contact.LastName,

One or more data elements are missing from CDX/SDWARS for your PWS (@Model.PWS.PWSCode). You are required to respond to all the data element questions, with the exception of comments which are optional. Specifically, data elements must be entered for AM2 distribution system locations (including disinfectant types, disinfectant residuals and treatment information) and AM3 (including disinfectant types, cyanotoxin information and treatment information). Comments may be entered for AM1, AM2 or AM3, for instance, if you wish to explain missing data.

You can log into the SDWARS application in CDX at: @Model.CdxWebRootUrl. To enter data elements: 1) select "Schedule/Data Elements" from the left-side menu; 2) select a monitoring type; 3) click on a sampling date button to display a drop-down menu of the data elements; 4) select a specific data element; 5) enter your response(s); 6) save your changes; 7) repeat #2 through 5 for each monitoring type, sampling date and data element.

If you have questions on how to log into CDX, please contact the CDX Help Desk at @Model.CdxHelpDeskPhone or @Model.CdxHelpDeskEmail. If you have questions about UCMR or SDWARS data entry, or feel that you received this email in error, please contact UCMR Message Center at (800) 949-1581 or ucmr4@glec.com

Thank you.

This is an automated notification from the UCMR4 SDWARS application. You are receiving this notification because you are identified as a PWS Contact in the SDWARS database by either you or a colleague. If you would like to stop these notifications, you (or your colleague) need use the SDWARS application and log into your PWS role where you will find a Contacts option on the left-side navigation. For your Contact record, un-check the Receive Auto Email Notification(s) box for Any Missing Additional Data Notifications.

G. Example Large PWS Results Notification Email

Subject:

> Lab Posted Data Notification

Body:

> A laboratory has approved data for your PWS to review. You have 60 days to review and approve or reject this data before the system automatically approves it.

You can log into the SDWARS application in CDX at:

@Model.CdxWebRootUrl

If you have questions on how to log into CDX, please contact the CDX Help Desk at @Model.CdxHelpDeskPhone or via email at @Model.CdxHelpDeskEmail. If you have UCMR Questions/SDWARS Data Entry (including if you feel that you received this email in error), please contact UCMR Message Center: (800) 949-1581 or via email at UCMR4@glec.com.

Thank you.

This is an automated notification from the UCMR4 SDWARS application. You are receiving this notification because you are identified as a PWS Contact in the SDWARS database by either you or a colleague. If you would like to stop these notifications, you (or your colleague) need use the SDWARS application and log into your PWS role where you will find a Contacts option on the left-side navigation. For your Contact record, un-check the Receive Auto Email Notification(s) box for Lab Posted Data Notifications.

H. UCMR 4 Inventory and Resampling for Laboratories

This document provides laboratories that are approved by EPA to support the fourth Unregulated Contaminant Monitoring Rule (UCMR 4) with a brief overview of inventory and resampling for large PWS clients. Assessment monitoring (AM 1) is not included in this document because the inventory (entry points) and resampling processes follow the traditional approach.

UCMR 4 Assessment Monitoring: AM 2

UCMR 4 Haloacetic Acid (HAA) Groups

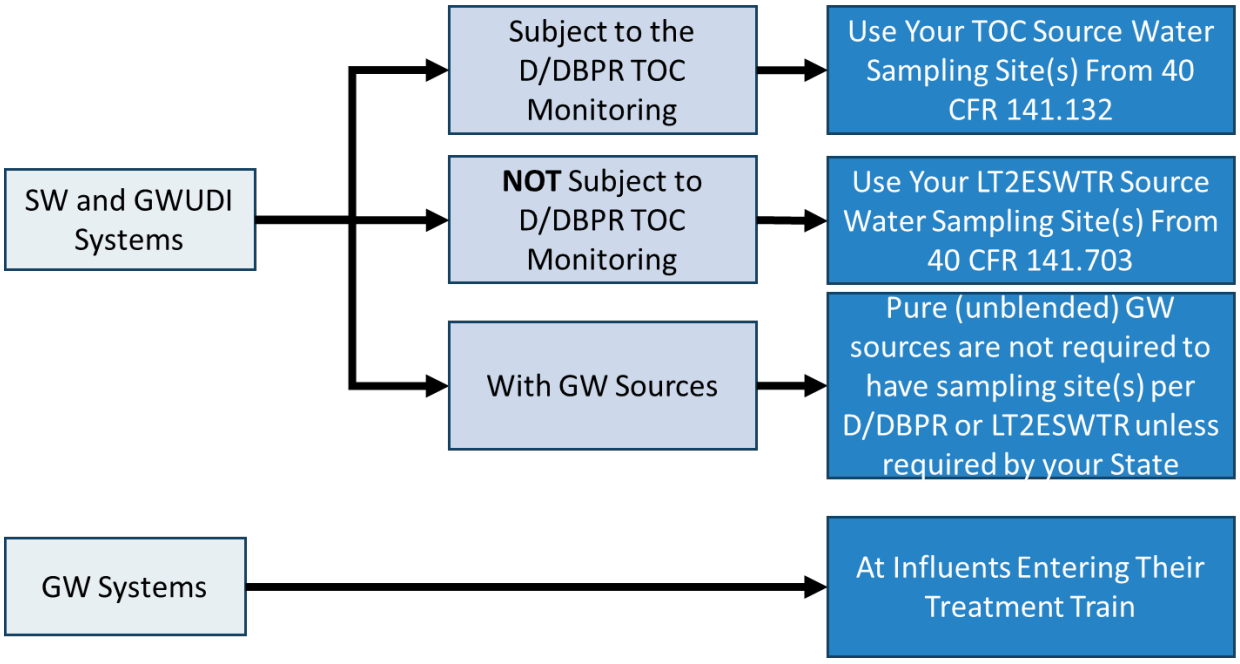
- HAA results will be reported for three groups: HAA5, HAA6Br and HAA9.
- Quality HAA sample (QHS): the results of individual HAAs prior to summation that are submitted for quality control purposes. ALL QHSs and associated QC must pass within a sample (same collection date) for summation.

HAA Groups			
dichloroacetic acid (DCAA)	HAA5 (MCL 0.060 mg/L)		HAA9
monochloroacetic acid (MCAA)			
trichloroacetic acid (TCAA)			
monobromoacetic acid (MBAA)		HAA6Br	
dibromoacetic acid (DBAA)			
bromochloroacetic acid (BCAA)			
bromodichloroacetic acid (BDCAA)			
chlorodibromoacetic acid (CDBAA)			
tribromoacetic acid (TBAA)			

- The UCMR 4 HAAs should be sampled at the D/DBPR locations where HAA5 is sampled for compliance. The following table is based on the federal D/DBPR requirements. However, the primacy state requirements may differ. **The PWS should sample the D/DBPR locations that are currently required by their primacy state.**

Source Water Type	Population	Number of UCMR 4 HAA Sampling Locations based on the Number of D/DBPR Locations where HAA5 is Sampled for Compliance	
		Routine Monitoring	Reduced Monitoring
SW and GWUDI (Subpart H)	< 500	1	1
	500 - 3,300	1	1
	3,301 - 9,999	2 DSS	2 DSS
	10,000 - 49,000	4 DSS	2 DSS
	50,000 - 249,999	8 DSS	4 DSS
	250,000 - 999,999	12 DSS	6 DSS
	1,000,000 -4,999,999	16 DSS	8 DSS
	≥ 5,000,000	20 DSS	10 DSS
Ground Water	< 500	1	1
	500-9,999	2 DSS	1
	10,000-99,999	4 DSS	2 DSS
	100,000-499,999	6 DSS	2 DSS
	≥ 500,000	8 DSS	4 DSS

- **Total Organic Carbon (TOC) and Bromide (Br) (HAA indicators)**
  - TOC and Br should be monitored at the following locations in source water prior to treatment (see diagram below) at the same time as HAA samples (or as close as is feasible).
  - Entry points associated with 100% purchased water (consecutive connections) do not need to be sampled for TOC and Br.



- **Resamples**
  - **HAAs:** Resample location(s) that did not produce valid results for ALL QHSs within a sample (same collection date).
  - **TOC and Br:** Resample location(s) that did not produce valid results. QC for TOC and Br will not be submitted to SDWARS but the labs must follow sample receipt and QC requirements as prescribed in the method(s). Please resample if all the criteria are not met.
    - **Example:** A PWS has four HAA distribution system locations and two source water (TOC/Br) locations. One of the HAA locations is invalid (e.g., TBAA failed) and one of the source water locations is invalid for TOC only. **Only resample those locations and methods that are invalid**. The sampler should re-collect the HAA and TOC samples at the same time (or as close as is feasible).
    - **Example:** The same PWS (described above) has two HAA locations that are invalid. Only resample those locations.
  - If a PWS misses the first sampling event, the PWS can contact the UCMR_Sampling_Coordinator@epa.gov to reset the schedule for the next month or another month/year. Once the first sampling event has been collected and is acceptable/valid, the monitoring schedule cannot be changed. Therefore, if a PWS is unable to sample at a location or obtain a valid result for future sampling events, a comment should be entered into SDWARS.

- **One Sample for HAA5 Compliance and UCMR 4 HAAs**
  - The PWS may use a single lab to support D/DBPR compliance monitoring and UCMR 4 HAA monitoring, even if the lab is out of state, if that lab is certified/accredited by the state for D/DBPR compliance

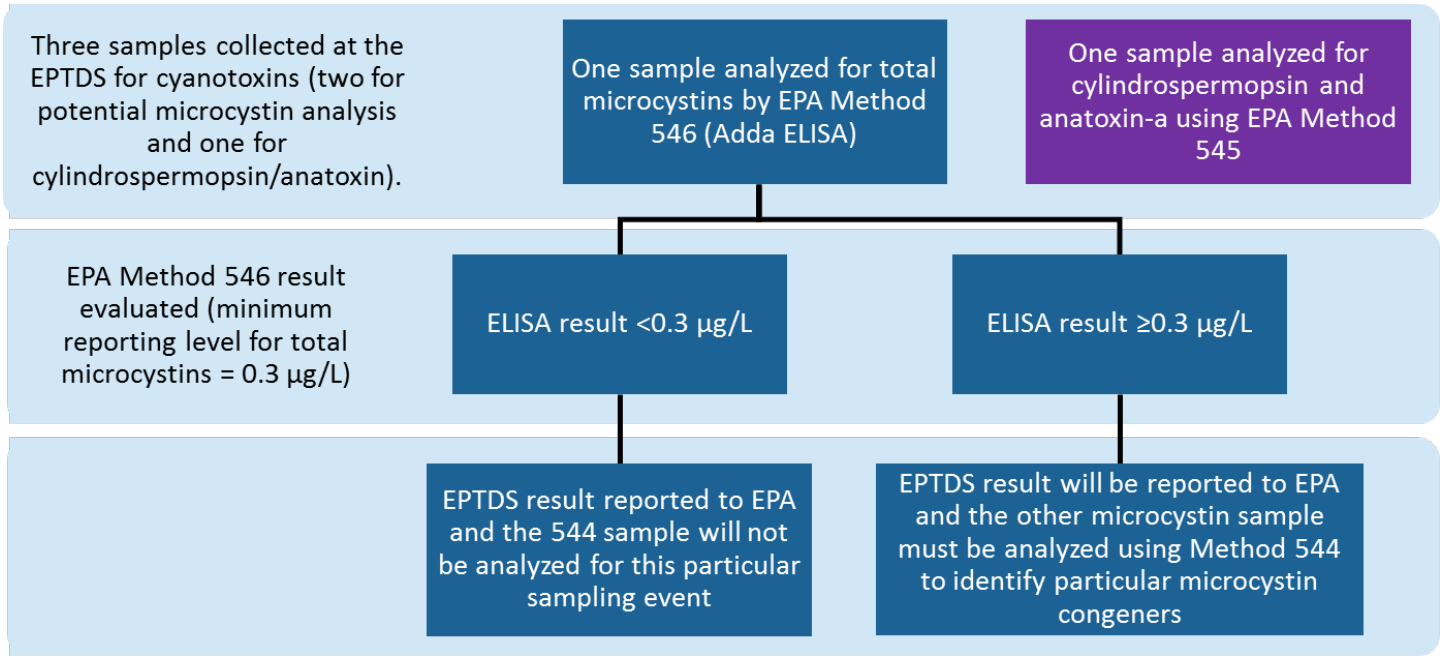
monitoring for EPA Method 552.3 or 557 AND approved by EPA through the UCMR 4 Laboratory Approval Process for EPA Method 552.3 or 557.

- If the lab does not fulfil these above requirements the PWS can still coordinate their sampling but will have to take two different samples and send to two different labs.

UCMR 4 Assessment Monitoring: AM 3

Cyanotoxins

- The following diagram illustrates the cyanotoxin analysis order.
- Do NOT analyze EPA Method 544 until you have analyzed EPA Method 546 (ELISA). Note: The results from EPA Method 544 can only be loaded into SDWARS if EPA Method 546 has been added with a result ≥ MRL and passed QC.



- **Resamples**
  - If a sample is invalid, it should be resampled if it can be re-collected prior to the next scheduled sampling event (~2 weeks). In those cases, where it proves impractical to resample, PWSs should enter a comment in SDWARS outlining the circumstances of the missing result.
    - **Example:** A PWS sample has an EPA Method 546 result ≥ 0.3 µg/L but method 544 is invalid due to a QC error. If re-collection cannot happen prior to the next scheduled sampling event, a resample for 544 is not required. The results for method 546 should be reported.
    - **Example:** A PWS sample for method 546 is invalid upon sample receipt. If re-collection can happen prior to the next scheduled sampling event, it is recommended to resample both 546 and 544.
    - **Example:** A PWS sample for method 544 is invalid upon sample receipt. If re-collection can happen prior to the next scheduled sampling event, it is recommended to resample both 546 and 544. If re-collection cannot happen in this timeframe, proceed with method 546.
  - If a PWS misses the **first** sampling event, the PWS can contact the UCMR_Sampling_Coordinator@epa.gov to reset the schedule for the next month or another month/year (do not take samples for the second sampling event – week 3 or 4). However, once the first

sampling event has been collected and is acceptable/valid, the monitoring schedule cannot be changed. Therefore, if a PWS is unable to sample at a location or obtain a valid result for future sampling events, a comment should be entered into SDWARS. The PWS is not required to add additional sampling events to the end of their schedule.

- EPA recommends that water systems take duplicate samples (as they do for small systems) to reduce the probability for sampling and QC errors.

UCMR 4 Data Elements

Below is a list of UCMR 4 Data Elements, definitions, and drop down options that will be provided in SDWARS. For data uploading requirements, please also refer to the Flat File Upload Specifications document in SDWARS.

Data element	Definition
1. Public Water System Identification (PWS ID) Code	The code used to identify each PWS. The code begins with the standard 2-character postal State abbreviation or Region code; the remaining 7 numbers are unique to each PWS in the State. The same identification code must be used to represent the PWS identification for all current and future UCMR monitoring.
2. Public Water System Name	Unique name, assigned once by the PWS.
3. Public Water System Facility Identification Code	An identification code established by the State or, at the State's discretion, by the PWS, following the format of a 5-digit number unique within each PWS for each applicable facility (i.e., for each source of water, treatment plant, distribution system, or any other facility associated with water treatment or delivery). The same identification code must be used to represent the facility for all current and future UCMR monitoring.
4. Public Water System Facility Name	Unique name, assigned once by the PWS, for every facility ID (e.g., Treatment Plant).
5. Public Water System Facility Type	That code that identifies that type of facility as either: **CC** = consecutive connection **DS** = distribution system **IN** = source water influent **SS** = sampling station **TP** = treatment plant **OT** = other
6. Water Source Type	The type of source water that supplies a water system facility. Systems must report one of the following codes for each sampling location: **SW** = surface water (to be reported for water facilities that are served entirely by a surface water source during the twelve-month period). **GW** = ground water (to be reported for water facilities that are served entirely by a ground water source during the twelve-month period). **GU** = ground water under the direct influence of surface water (to be reported for water facilities that are served all or in part by ground water under the direct influence of surface water at any time during the twelve-month sampling period), and are not served at all by surface water during this period. **MX** = mixed water (to be reported for water facilities that are served by a mix of surface water, ground water and/or ground water under the direct influence of surface water during the twelve-month period).
7. Sampling Point Identification Code	An identification code established by the State, or at the State's discretion, by the PWS, that uniquely identifies each sampling point. Each sampling code must be unique within each applicable facility, for each applicable sampling location (i.e.,

Data element	Definition
	entry point to the distribution system, source water influent or distribution system sample at maximum residence time). The same identification code must be used to represent the sampling location for all current and future UCMR monitoring.
8. Sampling Point Name	Unique sample point name, assigned once by the PWS, for every sample point ID (e.g., Entry Point).
9. Sampling Point Type Code	A code that identifies the location of the sampling point as either: **SR** = source water taken from plant influent; untreated water entering the water treatment plant (i.e., a location prior to any treatment). **EP** = entry point to the distribution system. **DS** = distribution system sample.
10. Disinfectant Type	All of the disinfectants/oxidants that have been added prior to the entry point to the distribution system. Please select all that apply. **PEMB** = Permanganate **HPXB** = Hydrogen peroxide **CLGA** = Gaseous chlorine **CLOF** = Offsite Generated Hypochlorite (stored as a liquid form) **CLON** = Onsite Generated Hypochlorite **CAGC** = Chloramine (formed with gaseous chlorine) **CAOF** = Chloramine (formed with offsite hypochlorite) **CAON** = Chloramine (formed with onsite hypochlorite) **CLDB** = Chlorine dioxide **OZON** = Ozone **ULVL** = Ultraviolet light **OTHD** = Other types of disinfectant/oxidant **NODU** = No disinfectant/oxidant used
11. Treatment Information	Treatment information associated with the sample point. Please select all that apply. **CON** = Conventional (non-softening, consisting of at least coagulation/sedimentation basins and filtration) **INF** = In-line filtration **DFL** = Direct filtration **SFN** = Softening **SSF** = Slow sand filtration **GAC** = Granular activated carbon adsorption (not part of filters in CON, SFN, INF, DFL, or SSF) **POB** = Pre-oxidation with chlorine (applied before coagulation for CON or SFN plants or before filtration for other filtration plants) **RBF** = River bank filtration **PSD** = Pre-sedimentation **BIO** = Biological filtration (operated with an intention of maintaining biological activity within filter) **UTR** = Unfiltered treatment for surface water source **GWD** = Groundwater system with disinfection only **PAC** = Application of powder activated carbon **AIR** = Air stripping (packed towers, diffused gas contactors) **MFL** = Membrane filtration

Data element	Definition
	IEX = Ionic exchange **DAF** = Dissolved air floatation **CWL** = Clearwell/finished water storage without aeration **CWA** = Clearwell/finished water storage with aeration **ADS** = Aeration in distribution system (localized treatment) **OTH** = Other types of treatment **NTU** = No treatment used **DKN** = Do not know
12. Disinfectant Residual Type	Disinfectant residual type in the distribution system for each HAA sample. **CL2** = Chlorine (i.e., originating from addition of free chlorine only) **CLO2** = Chlorine dioxide **CLM** = Chloramines (originating from the addition of chlorine and ammonia or pre-formed chloramines) **CAC** = Chlorine and chloramines (if being mixed from chlorinated and chloraminated water) **NOD** = No disinfectant residual
13. Sample Collection Date	The date the sample is collected, reported as 4-digit year, 2-digit month, and 2-digit day (YYYY/MM/DD).
14. Sample Identification Code	An alphanumeric value up to 30 characters assigned by the laboratory to uniquely identify containers, or groups of containers, containing water samples collected at the same sampling location for the same sampling date.
15. Contaminant	The unregulated contaminant for which the sample is being analyzed.
16. Analytical Method Code	The identification code of the analytical method used.
17. Extraction Batch Identification Code	Laboratory assigned extraction batch ID. Must be unique for each extraction batch within the laboratory for each method. For CCC samples report the Analysis Batch Identification Code as the value for this field. For methods without an extraction batch, leave this field null.
18. Extraction Date	Date for the start of the extraction batch (YYYY/MM/DD). For methods without an extraction batch, leave this field null.
19. Analysis Batch Identification Code	Laboratory assigned analysis batch ID. Must be unique for each analysis batch within the laboratory for each method.
20. Analysis Date	Date for the start of the analysis batch (YYYY/MM/DD).
21. Sample Analysis Type	The type of sample collected and/or prepared, as well as the fortification level. Permitted values include: **CCC** = continuing calibration check; a calibration standard containing the contaminant, the internal standard, and surrogate analyzed to verify the existing calibration for those contaminants. The Low-CV used in EPA Method 546 is equivalent to a CCC. **%CV** = percent coefficient of variation; used in EPA Method 546, the %CV is the standard deviation of the well replicate absorbances divided by the mean of the well replicate absorbances multiplied by 100%. **FS** = field sample; sample collected and submitted for analysis under this rule. **IS** = internal standard; a standard that measures the relative response of contaminants. **LFB** = laboratory fortified blank; an aliquot of reagent water fortified with known quantities of the contaminants and all preservation compounds. **LRB** = laboratory reagent blank; an aliquot of reagent water treated exactly as a

Data element	Definition
	field sample, including the addition of preservatives, internal standards, and surrogates to determine if interferences are present in the laboratory, reagents, or other equipment. **LFSM** = laboratory fortified sample matrix; a UCMR field sample with a known amount of the contaminant of interest and all preservation compounds added. **LFSMD** = laboratory fortified sample matrix duplicate; duplicate of the laboratory fortified sample matrix. **QCS** = quality control sample; a sample prepared with a source external to the one used for initial calibration and CCC. The QCS is used to check calibration standard integrity. **QHS** = quality HAA sample; the results of individual HAAs prior to summation that are submitted for quality control purposes. **SUR** = surrogate standard; a standard that assesses method performance for each extraction.
22. Analytical Results—Sign	A value indicating whether the sample analysis result was: (<) "less than" means the contaminant was not detected, or was detected at a level below the Minimum Reporting Level. (=) "equal to" means the contaminant was detected at the level reported in "Analytical Result— Measured Value."
23. Analytical Result—Measured Value	The actual numeric value of the analytical results for: field samples; laboratory fortified matrix samples; laboratory fortified sample matrix duplicates; and concentration fortified.
24. Additional Value	Represents the true value or the fortified concentration for spiked samples for QC Sample Analysis Types (CCC, EQC, LFB, LFSM and LFSMD). For Sample Analysis Type FS and LRB and for IS and surrogate QC Contaminants, leave this field null.
25. Laboratory Identification Code	The code, assigned by EPA, used to identify each laboratory. The code begins with the standard two-character State postal abbreviation; the remaining five numbers are unique to each laboratory in the State.
26. Sample Event Code	A code assigned by the PWS for each sample event. This will associate samples with the PWS monitoring plan to allow EPA to track compliance and completeness. Systems must assign the following codes: **SEC1, SEC2, SEC3, SEC4, SEC5, SEC6, SEC7** and **SEC8** - represent samples collected to meet UCMR Assessment Monitoring requirements for cyanotoxins; where "SEC1" represents the first sampling period, "SEC2" the second period and so forth, for all eight sampling events. **SEA1, SEA2, SEA3** and **SEA4** - represent samples collected to meet UCMR Assessment Monitoring requirements for the metals, pesticides, alcohols and SVOCs; where "SEA1" and "SEA2" represent the first and second sampling period for all water types; and "SEA3" and "SEA4" represent the third and fourth sampling period for SW and GU sources only. **SEH1, SEH2, SEH3** and **SEH4** - represent samples collected to meet UCMR Assessment Monitoring requirements for the HAAs; where "SEH1" and "SEH2" represent the first and second sampling period for all water types; and "SEH3" and "SEH4" represent the third and fourth sampling period for SW and GU sources only.
27. Bloom Occurrence	A yes or no answer provided by the PWS for each cyanotoxin sample event. Question: Preceding the finished water sample collection, did you observe an algal bloom in your source waters near the intake? **YES** = if yes, select ALL that apply:

Data element	Definition
	YD = yes, on the day the UCMR cyanotoxin sample was collected **YW = yes, between the day the sample was taken and the past week** **YM = yes, between the past week and past month** **YY = yes, between the past month and past 12 months** **YP = yes, more than a year ago** **NO** = have never seen a bloom **DK** = do not know **NA** = purchased consecutive connection (no source water)
28. Cyanotoxin Occurrence	A yes or no answer provided by the PWS for each cyanotoxin sample event. Question: Preceding the finished water sample collection, were cyanotoxins ever detected in your source waters near the intake and prior to any treatment (based on sampling by you or another party)? **YES** = if yes, select ALL that apply: **YD = yes, on the day the UCMR cyanotoxin sample was collected** **YW = yes, between the day the sample was taken and the past week** **YM = yes, between the past week and past month** **YY = yes, between the past month and past 12 months** **YP = yes, more than a year ago** Select ALL that apply (i.e., all that were detected) if you answered **YES** to detecting cyanotoxins in source water: **MIC = Microcystins** **CYL = Cylindrospermopsin** **ANA = Anatoxin-A** **SAX = Saxitoxins** **OTH = Other** **DK = do not know** **NO** = have never detected cyanotoxins in source water **NS** = unaware of any source water cyanotoxin sampling
29. Indicator of Possible Bloom – Treatment	A yes or no answer provided by the PWS for each cyanotoxin sample event. Question: Preceding the finished water sample collection, did you notice any changes in your treatment system operation and/or treated water quality that may indicate a bloom in the source water? **YES** = if yes, select ALL that apply: **DFR** = Decrease in filter runtimes **ITF = Increase in turbidity in filtered water** **ICD = Need for increased coagulant dose** **TOI = Increase in taste and odor issues in finished water** **IOD = Need for increase in oxidant/disinfectant dose** **IDB = Increase in TTHM/HAA5 in finished water** **OTH** = Describe other changes **NO** = no changes observed **DK** = do not know
30. Indicator of Possible Bloom – Source Water Quality Parameters	A yes or no answer provided by the PWS for each cyanotoxin sample event. Question: Preceding the finished water sample collection, did you observe any notable changes in source water quality parameters (if measured)? **YES** = if yes, select ALL that apply to the source water:

Data element	Definition
	TP = Increase in water temperature **ITU = Increase in turbidity** **IAL = Increase in alkalinity** **ITO = Increase in total organic carbon** **ICD = Increase in chlorine demand** **IPH = Increase in pH and/or DPH = Decrease in pH** **ICA = Increase in chlorophyll a** **IPY = Increase in phycocyanin** **INU = Increase in nutrients (example: nitrogen or phosphorus)** **OTH** = Describe other changes **NO** = no changes observed **DK** = do not know

I. "Status" definitions for large PWS

Large PWS Statuses:

- **Hold**: After a lab approves data, it will appear on the PWS review screen with this status. At this point, the data may not be edited and the PWS and lab are the only parties who can view it. The PWS may approve the data to release it to the state and EPA or may return it to the lab if there is an error that the lab needs to correct. If the PWS returns the data to the lab, this result will no longer be viewable to the PWS until the lab approves it again.
- **PWS Approve/State Hold:** This status applies to data that has been approved by the PWS. Data with this status is viewable by the State and EPA.
- **SDWARS Approve/State Hold:** Data will appear in this status if it has been sitting in the PWS hold status for 60 days, SDWARS automatically approves the data and it becomes SDWARS approved and available to the state and EPA.
- **State Reviewed:** Data with this status has been marked as "Reviewed" by the state. The state may choose to do this if they routinely review data and want to be able to filter for only new data they have not reviewed yet.

J. "Status" definitions for laboratories

Lab Statuses:

- **Hold:** When labs first load data and it has passed QC, it will appear on the lab review screen with this status. The lab may edit, delete, or overwrite results in this status. The lab is the only party that can see the data at this time. Data will also appear with this status if a PWS returns data to a lab. Labs can search for data returned to them by using the advanced search options in the Review Data screen and selecting "PWS Return to Lab." Data will remain in the Hold status until the lab takes action to approve it.
- **(QC):** This status applies to the internal standards and surrogates that have missing or failing QC. The lab is the only party that can see data with this status. In order for the lab to be able to approve this data, missing or corrected QC must be uploaded.

- **Lab Hold (QC):** This status applies to the analytes that are reportable to the PWS that have missing or failing QC. In order for the lab to be able to approve this data, missing or corrected QC must be uploaded. The lab is the only party that can see data with this status.
- **Lab Approve/PWS Hold:** Data will appear in this status after the lab has taken action to approve it. At this point the PWS and the lab are the only parties who can view the data. The data can no longer be edited. If a lab needs to edit data that is in Lab Approve/PWS Hold, the PWS may take action to return the data to the lab. If data are returned to the lab from a PWS, the data returns to the Hold status and the lab is the only party who will be able to view the data until it is approved again.
- **PWS Approve/State Hold:** This status applies to data that has been approved by the PWS. Data with this status is viewable by the State and EPA.
- **SDWARS Approve/State Hold:** Data will appear in this status if it has been sitting in the PWS hold status for 60 days, SDWARS automatically approves the data and it becomes SDWARS approved and available to the state and EPA.
- **State Reviewed:** Data with this status has been marked as "Reviewed" by the state. The state may choose to do this if they routinely review data and want to be able to filter for only new data they have not reviewed yet.