California Laboratory Intake Portal Technical Documentation for EDP/EDD

California State Water Resources Control Board
Division of Drinking Water

Release Date: 03/25/2021

Table of Contents

Background

The California State Water Resources Control Board (CASWRCB) Division of Drinking Water (DDW) regulates approximately 7,500 public water systems throughout the State of California. Part of this regulatory oversight ensures that required water quality sampling has been conducted and that follow-up actions are taken when the concentrations of certain chemicals exceed set limits. To streamline its regulatory oversight, DDW has implemented a change to the electronic submission of water quality analyses. This change ensures that data from laboratories flow to DDW's database of record, the Safe Drinking Water Information System (SDWIS). This process will not only allow for quicker compliance determinations but will also provide for improved data quality by ensuring that minimum data validations have been met.

To enable this change, DDW has employed the use of EQuIS™ software from vendor EarthSoft to intake water quality data from laboratories through an online portal called the California Laboratory Intake Portal (CLIP). All analytical data must be submitted in the form of electronic data deliverables (EDDs) using the CA_SDWIS_Lab_Analytical_Data Format as described in this document. In the current version, microbial analyses are not included in the EDD requirement. This effort will be undertaken within the next year.

Files needed for EDD submissions are available from DDW on the following webpage:
https://earthsoft.com/products/edp/edp-format-for-caswrcb-ddw/

Link Text	File Name	File Description
EQuIS Data Processor (EDP) EDP x.xx.x	EDP_x.xx.x_install_x64.zip	Software application to check data quality and correctness prior to submittal.
CA_SDWIS_Lab_Analytical_ Data Format	CA_SDWIS_Lab_Analytical_ Data.zip	This is the format file that will be used for CLIP.
CASWRCB Reference Values File (RVF)	CA_SDWIS_Lab_Analytical_ Data.rvf	The file of valid lookup values for CLIP.
Technical Documentation for EDP/EDD	(A copy of this same document)	This document contains instructions on: - How to install the Standalone EDP application. - How to register for a license for the CA_SDWIS_Lab_Analytical_Data Format and open the CA_SDWIS_Lab_Analytical_Data Format and CASWRCB Reference Values File in Standalone EDP. - How to populate a CA_SDWIS_Lab_Analytical_Data EDD with analytical data for the CLIP Program. - How to check for and correct errors within an EDD using Standalone EDP. - How to submit an EDD to CLIP. (Note: This section contains the necessary naming convention for the EDD files.) How to re-submit EDDs that were already loaded to CLIP but had errors.
Blank EDD	CASWRCB_DDW _BlankEDD.xlsx	This is a blank EDD file that can be populated with analytical results. The file can be opened in Microsoft Excel.
Example EDD	CASWRCB_DDW_Example EDD.xlsx	A hypothetical example of how the contents of a completed Lab EDD for the CLIP Program should appear before submission and upload.
Composite Example EDD	CASWRCB_DDW_Composit e_ExampleEDD.xlsx	A hypothetical example, guidance, and data entry rules specifically for composite sampling.
Alternate Method Example EDD	CASWRCB_DDW_Alternate _ExampleEDD.sdwis.xlsx	A hypothetical example of how the contents of a completed EDD for the CLIP Program should appear using the alternate method of populating an EDD.
EDD Data Dictionary	CASWRCB_DDW_Data Dictionary.xlsx	This file defines each field in the CA_SDWIS_Lab_Analytical_Data Format and includes guidance for entering data.
Reference Value Tables	CASWRCB_DDW_Reference ValueTable.xlsx	This file includes a complete list of all the valid lookup values needed for populating the CA_SDWIS_Lab_Analytical_Data, current as of the date on the webpage.
Electronic Subscriber Agreement Form	CLIP_Electronic_Subscriber _Agreement_Form.pdf	Form to print, sign, and mail to DDW. Agreement for data submitters and legally responsible officials of electronic submittal requirements and responsibilities. Required to activate user account to submit EDDs.
Change Request Form	CASWRCB_DDW_ChangeRe questForm.xlsx	Form to request data error corrections of previously submitted EDDs

Reference Values Request Form	CASWRCB_DDW_Reference _Values_Request_Template .xlsx	Use this file to request new reference values be added to CASWRCB DDW's database if they cannot be found in the existing list. The completed form must be emailed to DDW-CLIP@Waterboards.ca.gov.

The EQuIS Data Processor (EDP) Standalone application is used primarily by data providers, such as laboratories, to check data quality prior to data submittal.

EDP checks the following data quality issues:

- Required Fields
- Field Lengths
- Data Types
- Valid Dates
- Reference Values
- Duplicate Rows
- Range Checking
- Orphan Rows

This first section provides instructions on how to set up EDP Standalone on your laptop/workstation. The licensing is laptop/workstation-specific, so you will have to repeat these steps on each laptop/workstation that has EDP Standalone installed. This only needs to be done once per laptop/workstation.

1.0 EDP INSTALLATION

Laboratories that submit drinking water data to DDW can download the EDP software from the CLIP Resource Page: https://earthsoft.com/products/edp/edp-format-for-caswrcb-ddw/

1. Download and save the installation file to your machine.
     a. Hardware and System requirements for EDP Standalone:
          i. Operating System Requirements: Windows 10+
          ii. Recommended Hardware: Minimum 1 GHz processor (at least 2 GHz), 135 MB free hard disk space, Minimum 1 GB RAM (at least 2 GB recommended)
          iii. Other Software Requirements: Microsoft .NET Framework 4.7.2+
2. Follow the instructions in the "Unblocking Downloaded Files" section below.
3. Unzip the file by right clicking on the .zip and selecting "Extract All…".
4. Within the unzipped folder, run the .exe Application installer by double-clicking on the .exe file or by right clicking on the file and selecting "Run".
5. An installation wizard will open. Follow the prompts to install the EDP application.

When downloading files from the Internet or other location, Windows may set an attribute on the file to "Blocked". When this happens, it may not load properly into your application. Please unblock the downloaded EDP package and format file prior to unzipping the files or running the installers.

1. When you download a file, save it to a known folder where you have update permissions (e.g., the "Downloads" folder).
2. After downloading the file, check to see if it has been blocked by Windows by right clicking on the downloaded file, then select "Properties". A file properties dialog will open, and if the file has been blocked, you will see the "Unblock" button in the lower right of the "General" tab.
3. Click the "Unblock" button and then select "OK".

## 2.0 REGISTERING FOR AN EDD FORMAT

NOTE: This only needs to be done once for each laptop/workstation.

1. At the CLIP Resource Page, you will be able to obtain the most current CA_SDWIS_Lab_Analytical_Data Format file and CASWRCB Reference Values File (RVF).
2. Click the "CA_SDWIS_Lab_Analytical_Data Format" and "CASWRCB Reference Values File (RVF)" hyperlinks to download and save the files to this folder path on your machine: *C:\Program Files\EarthSoft\EQuIS\Formats*.
3. Open the EDP application from the Start menu by selecting All Programs, scroll to the EarthSoft folder and select "EQuIS EDP Standalone".
4. When the application opens, click the "Format" button in the top left of the EDP "Open" ribbon.
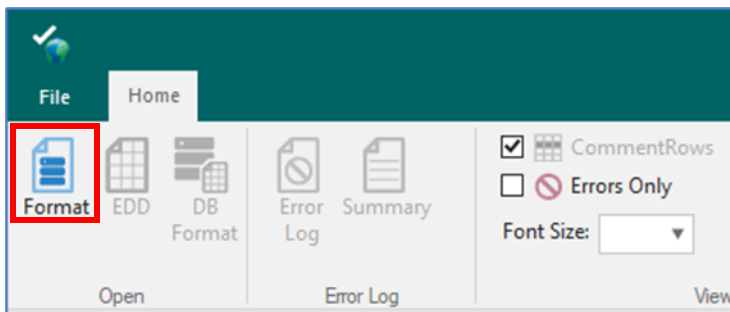

5. In the popup window, navigate to *C:\Program Files\EarthSoft\EQuIS\Formats*, and open the CA_SDWIS_Lab_Analytical_Data.zip file.
6. You will immediately be prompted to register. Click the Register button in the popup window. A "Software Registration" window will open.
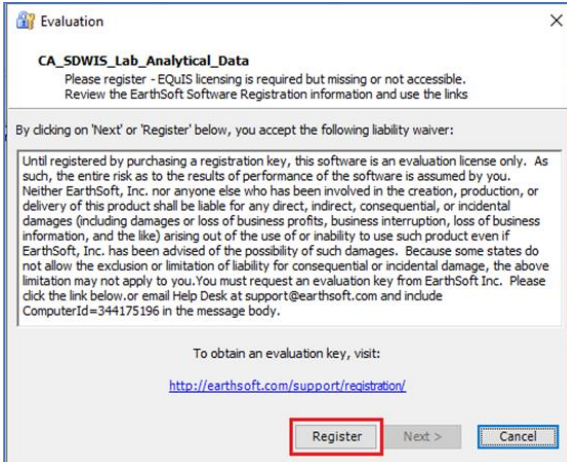
7. In the next window, there are several registration options and tabs. Select the "Workstation Licenses" tab.
8. Click the "Click here to request the registration key for this computer" link, which will open the EarthSoft "Software Registration" request form in your web browser. Note: Your Computer ID will appear different from the screenshot below.
    a. If the link does not work, or if you are outside of the EDP application, you can request keys using this direct link:
       https://webkey.earthsoft.com/registration/edp_caswrcb_ddw.asp
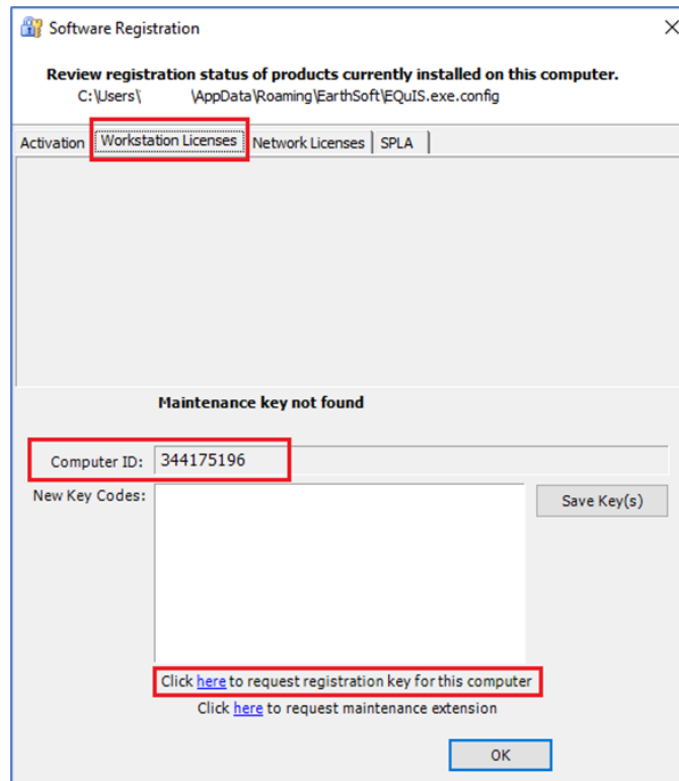
9. Fill in the required information in the form and submit the request. Required Information includes:
   a. Contact Name
   b. Your Company
   c. Your Email Address
   d. Company City
   e. ELAP Certification ID
   f. Computer ID
10. When complete, scroll to the bottom of the page and click the "Submit" button.
11. You will be brought to a webpage signifying that your submission was successful.

12. Within a few minutes, you will receive two auto-generated emails from registration@earthsoft.com:
    a. One email informing you that the request has been received and is being processed.
    b. One email with the registration keys to apply.
13. Copy and paste the registration keys from the email into the "New Key Codes" box in the "Workstation Licenses" tab of the Software Registration window from Step 5. Note: To get to the Software Registration window again, repeat Steps 3-6 above.
14. Click the "Save Keys" button.
15. Click "OK".
16. Close and re-open the EDP application as before. From the Start menu, select All Programs, scroll to the EarthSoft folder, and select "EQuIS EDP Standalone".
17. When the application opens, click the "Format" button in the top left of the EDP "Open" ribbon. In the popup window, navigate to *C:\Program Files\EarthSoft\EQuIS\Formats*, and open the *CA_SDWIS_Lab_Analytical_Data.zip* file. If the registration was successful, the format will open, and no registration window will appear.

3.0 CREATING A CLIP USER ACCOUNT

To login and upload an EDD to CLIP, you must have a user account created in the portal.

Production Portal: https://caddw.equisonline.com/
Test Portal: https://caddwtest.equisonline.com/

1. If you haven't already, fill out the Electronic Subscriber Agreement Form and mail it to the address indicated on the form.
2. Create your user account by clicking 'Create New Account' hyperlink underneath the login fields.
3. Create your username and enter your email address on the Create New Account registration form.
4. A confirmation code will be sent to the email address provided. Copy and paste the confirmation code from the email into the resulting popup on the Create New Account registration form.
5. Fill out the rest of the Create New Account registration form and press Register. Your account has been created and is waiting to be activated.
6. Your account request will be reviewed by DDW and if approved, will be active by the next day (An account will remain inactive until DDW receives and verifies your mailed-in Electronic Subscriber Agreement Form)
7. Navigate back to this page and log in to the account using the username and password you created.

4.0 CREATING AN EDD

NOTE: The Files section of the EDD is currently not in use and can be ignored until further notice.

There are three ways to create an EDD. Any of the options below will work:

1. LIMS (Laboratory Information Management System)
   a. Input the analytical results into your LIMS:
      i. Follow the process to use your LIMS.
      ii. From your LIMS, generate a CA_SDWIS_Lab_Analytical_Data format EDD.
      iii. Save the file following the guidance in Section 3.1
      iv. Follow the steps in Section 4.0 to validate your results in EDP prior to submission (optional, but highly encouraged to prevent rejected submissions)
2. Microsoft Excel Spreadsheet
   a. Input the analytical results into a Microsoft Excel spreadsheet:
      i. Open the Blank EDD file in Microsoft Excel, which can be obtained from https://earthsoft.com/products/edp/edp-format-for-caswrcb-ddw/
      ii. When you have finished entering in your data, save the Excel file following the guidance in Section 3.1
   b. If you are unsure of the PS-Code for which you are submitting results, you can find the Water System ID or PS-Code from the CLIP Laboratory Dashboard under the PS-Code widget. If still unsure, you can email the CLIP Team at DDW-CLIP@waterboards.ca.gov.

i. Follow the steps in Section 4.0 to validate your results in EDP prior to submission (optional, but highly encouraged to prevent rejected submissions)

3. EDP Standalone
   a. Open the EDP application from the Start menu by selecting All Programs, scroll to the EarthSoft folder and select "EQuIS EDP Standalone".
   b. When the application opens, click the "Format" button in the top left of the EDP "Open" ribbon. In the popup window, navigate *C:\Program Files\EarthSoft\EQuIS\Formats*, and open the *CA_SDWIS_Lab_Analytical_Data.zip* file.
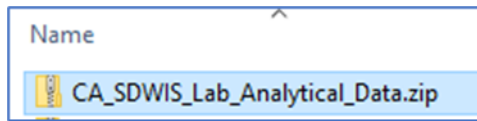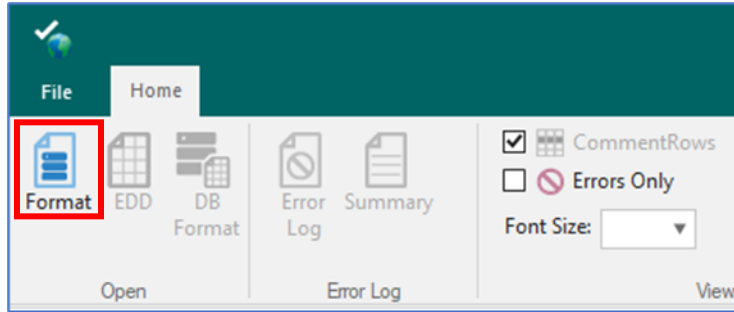
   c. Verify that the correct reference values are loaded by clicking on the Reference Values tab in the lower left of EDP, right above the "Status Window". You should see a file ending in *CA_SDWIS_Lab_Analytical_Data.rvf*.
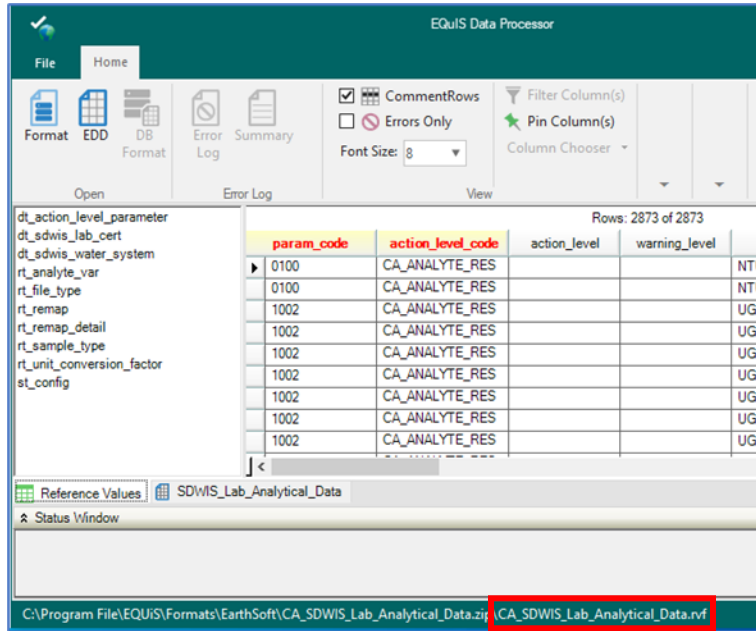
   d. If you cannot find a valid reference value to use in your EDD, email the Reference Value Request form to DDW-CLIP@waterboards.ca.gov to request that a new reference value

be added to California Water Board's CLIP database. California Water Board will review the request and if the reference value is approved, a new RVF will be provided to you.

     i. The Reference Value Request form can be downloaded from the CLIP Resource Page.

e. To switch the RVF that is used, click on the File tab, select "Open", and then click on "Reference Values (*.rvf)". A window will appear directing you to navigate to a new RVF on your machine.
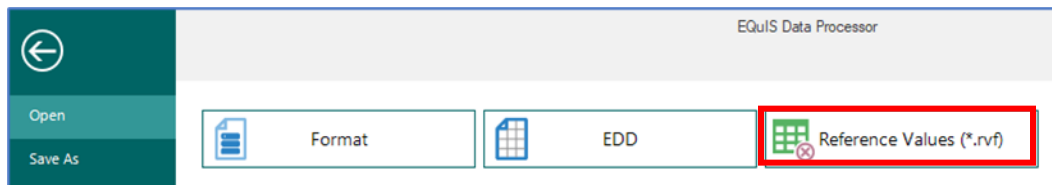

f. Once the format and reference values have been loaded, in the left-hand pane, click on the Chems_Rads format section to begin data entry.

     i. To add a new result, click the "Add New Row" button

     ii. Information can be entered directly into each cell by typing or by selecting valid values from the drop-down menus.

g. Save the EDD at any time by clicking File > Save button. If saving for the first time, by default, the EDD will be saved as a .zip that contains a .txt file of the EDD.

h. As you enter data into fields, EDP will automatically highlight errors or issues with the data entry. Correct any errors that are highlighted prior to saving a final EDD.

i. When you have finished entering/correcting your data, save the final EDD following the guidance in Section 3.1

4.1   File Saving + File Naming Convention Requirements

Once all errors have been corrected and the EDD is ready for submission, you can save the EDD by clicking on the "Save" button (floppy disk icon) in the top left toolbar of EDP.

You do not need to change the "Save as type" from the default "All Files (*.*)". By default, the EDD will be saved as a .zip that contains a .txt file of your EDD.

You can change the "Save As Type" to Excel, CSV, or TXT. Depending on the file type, follow the requirements below when saving an EDD.

1. Excel (.xls or xlsx)
   a. Worksheet tab containing CLIP data must be named "Chems_Rads".
   b. Filename can be anything appropriate for your lab records.
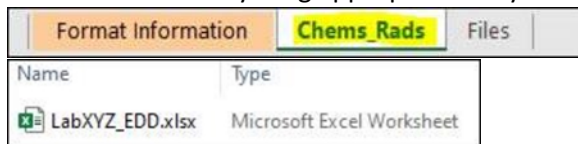
2. Comma Separated Value (.csv)
   a. File name must contain the suffix "_Chems_Rads".

Name	Type
LabXYZ_EDD_Chems_Rads.csv	Microsoft Excel Comma Separated Values File

3. Raw (.txt)
   a. Filename must contain the suffix "_Chems_Rads".

Name	Type
LabXYZ_EDD_Chems_Rads.txt	Text Document

4. Packaged ZIP (.zip)
   a. .zip filename does not need the suffix "_Chems_Rads".
   b. File inside the zip folder must follow the requirements above depending on the file type.

4.2   Important Considerations

Below is a legend for the column headers in EDP and in the CA_SDWIS_Lab_Analytical_Data_Blank.xlsx file.

Key
Required
Lookup
Lookup And Required

Format Name: CA_SDWIS_Lab_Analytical_Data
Format Version: 1.00.25

1. Field Color Codes
   a. **Red font and Underlined** is part of the Primary Key to make the record unique. These fields are required.
   b. **Red font** is required. Some required fields also use controlled vocabulary, which can be accessed by clicking on the drop-down menu in the cell.
   c. **Blue font** indicates use of controlled vocabulary (reference values), which can be accessed by clicking on the drop-down menu in the cell.
2. Sample Types
   a. The Reference Value Tables on the CLIP Resource Page contains a 'Sample_Type' tab. This tab displays the Sample_Type_Codes available when reporting water quality data.
      i. RT – Routine
         - To be used for most water quality results. The exceptions for this are explained below for selections SP and FB.
      ii. SP – Special
         - To be used when DDW staff have collected water quality samples. The Chain-of-Custody provided by DDW staff will have a notation that Sample_Type_Code "SP" should be used when electronically reporting the data.

iii. FB – Field Blanks
- To be used when reporting field reagent blanks for Polyfluoroalkyl Substances (PFAS) analyses. Please reference Section 3.4 below for more details.

3. Missing Reference Value
   a. If you cannot find a valid reference value to use, complete the Reference Values Request form ([CLIP Resource Page](#)) and email the form to [DDW-CLIP@waterboards.ca.gov](#) to request that a new reference value be added to the CLIP database. DDW will review the request and if the reference value is approved, a new RVF will be emailed to you.

4. Analyte Code – Method Code – Unit of Measure Association
   a. Each analyte code selected must be paired with a valid method code and unit of measure, otherwise, an error will display. CLIP is setup with valid Analyte-Method-Unit associations. The valid method codes and unit of measure for each analyte code are in the Reference Value Tables file.
   b. Using EDP will help you dynamically determine correct pairings when using the latest .RVF file.
   c. Please note that only one unit of measure is specified for each analyte method pair. You must ensure to report data in the unit of measure specified.

5. Field Specifications / Comment Row
   a. When you hover over a field name/column header in EDP, or refer to Row 2 in the Excel file, the maximum field length (e.g., 40 characters) and field data type (e.g., Text, Numeric, Date-Time) are displayed. Please maintain these field lengths and data types when populating the EDD. Data that exceeds the field length size or that does not match the field data type will be rejected by the system and require further review and editing.

6. Date-Time Fields
   a. All 'time' fields in the EDD do not accept seconds in the input value. DDW requires that data providers report hours and minutes (HH:MM) only. When viewing the Example EDD or an EDD you created in Microsoft Excel, the seconds will be displayed. If the seconds are zero, no error should appear. If there are non-zero seconds included in the time, you will receive an error log from Enterprise with the following error message:

   A full DATETIME value (with non-zero seconds) cannot be inserted into a SMALLDATETIME column.

   Related time fields in the EDD Format:
   - Collection_Time
   - Analysis_Start_Time
   - Analysis_Complete_Time

7. Qualified Data
   a. Qualified data (i.e., data with flags) can be accepted, however, it should be noted that data submitted to CLIP is used for compliance determinations. If the data cannot stand on its own or could be called into question, it may be best to discuss the results with the

water system and/or DDW to determine if another sample should be collected and analyzed.

8. Analysis Start Date & Analysis Start Time
   a. The Analysis Start Date is defined as the day analysts start the sample preparation for the analysis.
   b. The Analysis Start Time is defined as the time analysts start the sample preparation for the analysis.
9. Analysis Complete Date & Analysis Complete Time
   a. The Analysis Complete Date and Analysis Complete Time are not required, but optional.
   b. The Analysis Complete Date and Analysis Complete Time do not include QC review. Regulatory requirements for reporting begin once the analysis ends.
10. Alkalinity
    a. Report analytes of alkalinity and alkalinity ions as $CaCO_3$.
11. Internet Browser Cache
    a. Clear browser cache if you experience odd behaviors in Enterprise. Often a cache clearing will solve an issue – particularly if user permissions have changed or a site is upgraded.

4.3   Reporting Composite Data

Some of the monitoring requirements in drinking water regulations permit public water system owners to reduce the total number of samples that must be analyzed by allowing compositing. These samples can be collected from one or, in some cases, several locations within the water system and are combined at the laboratory to form a composite sample.

One common use of composite sampling is to satisfy the initial monitoring requirements for radionuclides. The radionuclide regulations require four quarterly samples for any new drinking water source. These samples are taken from one sampling point, in different quarters, and then are composited together for a single analysis. The individual samples will have different collection dates than the composite sample, but all records will have the same results.

Example

Sample	Collected	Lab Received	Analysis Start	Analysis Complete	Result
Sample #1	1/12/2020	1/13/2020	n/a	n/a	n/a
Sample #2	4/12/2020	4/13/2020	n/a	n/a	n/a
Sample #3	7/12/2020	7/13/2020	n/a	n/a	n/a
Sample #4	10/12/2020	10/13/2020	n/a	n/a	n/a
Composite	n/a	n/a	11/5/2020 10:30AM	n/a	1 pCi/L

The EDD will be configured with child samples and a parent sample. In the example above, Samples #1 through #4 are the child samples and the Composite sample is the parent sample.

When populating the EDD fields for the child samples, all analytical related fields must be copied over from the parent sample. Practically, the child samples do not have any analytical results as they are only collected and stored, but for the EDD to be processed and accepted (with some analytical fields being required and conditionally required) those fields cannot be left blank or null. CLIP will process the

child/parent records with a single analytical result that was associated to the parent sample (composite result).

Important: The current EDD will only accept composite samples where the samples were taken within a single water system consisting of one or more locations. The EDD will <u>not</u> be accepting samples taken from <u>multiple</u> water systems.

Acceptable

Sample	PS-Code (<u>single</u> water system and <u>one</u> location)	PS-Code (<u>single</u> water system and <u>multiple</u> locations)
Sample #1	CA1000000_001_001	CA1000000_001_001
Sample #2	CA1000000_001_001	CA1000000_001_002
Sample #3	CA1000000_001_001	CA1000000_001_003
Sample #4	CA1000000_001_001	CA1000000_004_004
Composite data goes to:	PS-Codes listed above	PS-Codes listed above

For further guidance on the Composite Data Entry rules, please see the example file in the CLIP Resource Page.

4.4   Reporting Polyfluoroalkyl Substances Data

Special instructions for Polyfluoroalkyl Substances (PFAS)

In "Drinking Water Sample Collection Guidance for Per- and Poly-Fluoroalkyl Substances (PFAS)" document, DDW specifies the use of a field reagent blank sample and recommends the collection of a field duplicate sample from the source, at the same time that the field sample (source sample) is collected. These samples are defined as follows:

1. Field Sample – The Field Sample is the sample collected from the source at a location prior to any treatment, to qualify as a "source sample". Samples may be collected after treatment to confirm PFAS concentration in the water delivered to customers.
2. Field Duplicate – The Field Duplicate (FD) is a sample collected from the source at the same time and place under identical circumstances as the Field Sample and treated the same throughout field and laboratory procedures. (It is recommended that field duplicate samples be collected.)
3. Field Reagent Blank – A Field Reagent Blank (FRB) is analyzed to assess the potential for PFAS cross contamination being introduced during the sampling process. The FRB consists of a pre-preserved sample bottle filled by the laboratory with PFAS-free water and shipped to the site with the other sample bottles. For each FRB, an empty sample bottle (with no preservative) must also be included. At the sample site, the sampler will open the FRB and pour it into the empty sample bottle. An FRB must be collected at each sample site (i.e., each source being sampled) and placed in the ice chest used to store and transport samples. (It is required that field reagent blank samples be collected.)

When Field Duplicates and Field Reagent Blanks are analyzed, two special considerations must be considered to successfully report the data.

1. To report results for Field Reagent Blank and/or Field Duplicate analyses, it is required to change the "Lab_Sample_ID" to differentiate it from the "Lab_Sample_ID" of the Field Sample. As an example, for the data in the table below, if the "Lab Sample ID" was the same for all three rows (i.e., 876543), the EDD would be rejected since the EQuIS software would recognize two rows as duplicates. It is recommended to add "FB" and "FD" to the end of the "Lab_Sample_ID" to achieve a uniqueness for Field Reagent Blanks and Field Duplicates.
2. When reporting Field Reagent Blank analyses, choose FB (Field Blank) as the "Sample_Type" as shown below.

Important: Currently, DDW is accepting data for Field Reagent Blanks and Field Duplicates for PFAS analyses only. Do not submit Field Reagent Blanks or Field Duplicates for any other chemical analyses.

Lab_Sample_ID	Sample _Type	Analyte _Code	Analysis_ Method_ Code	Less_Than _ Indicator	Reporting _ Level	Reporting_ Level_Units	Result	Result_ Units
LabSampID-02087	RT	2801	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2802	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2803	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2804	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2805	EPA 537.1	N	2	NG/L	6.2	NG/L
LabSampID-02087	RT	2806	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2807	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2808	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2809	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2810	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2811	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2812	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2813	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2814	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2815	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2816	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2817	EPA 537.1	Y	2	NG/L		
LabSampID-02087	RT	2818	EPA 537.1	Y	2	NG/L		
LabSampID-02087_FB	FB	2805	EPA 537.1	Y	2	NG/L		
LabSampID-02087_FD	RT	2805	EPA 537.1	N	2	NG/L	6.5	NG/L

4.5   Reporting Chlorine Residual Data

In the EDD, there are two fields to capture chlorine residual data, "Free_Chlorine_Residual" and "Total_Chlorine_Residual". The unit of measure for these chlorine residual fields is expressed as mg/L (ppm). Chlorine residual data noted on the Chain of Custody should be transferred to the EDD. This is particularly important for Total Trihalomethane (Analyte Code 2950 - TTHM) and Total Haloacetic Acids (Analyte Code 2456 - Total Haloacetic Acids (HAA5)) data reporting.

The chlorine residual data can be entered in one of two ways as shown below:

1. Chlorine data are reported only on the first row for a specific Lab_Sample_ID in the EDD.

Lab_Sample_ID	PS_Code	Free_ Chlorine_ Residual	Total_ Chlorine_ Residual	Sample_ Comments	Analyte_ Code
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2450
LabSampleID-02077	CA1234567_DST_800			DBP	2451
LabSampleID-02077	CA1234567_DST_800			DBP	2452
LabSampleID-02077	CA1234567_DST_800			DBP	2453
LabSampleID-02077	CA1234567_DST_800			DBP	2454
LabSampleID-02077	CA1234567_DST_800			DBP	2456
LabSampleID-02077	CA1234567_DST_800			DBP	2941
LabSampleID-02077	CA1234567_DST_800			DBP	2942
LabSampleID-02077	CA1234567_DST_800			DBP	2943
LabSampleID-02077	CA1234567_DST_800			DBP	2944
LabSampleID-02077	CA1234567_DST_800			DBP	2950

2. Chlorine data are reported on every row for a Lab_Sample_ID in the EDD.

Lab_Sample_ID	PS_Code	Free_ Chlorine_ Residual	Total_ Chlorine_ Residual	Sample_ Comments	Analyte_ Code
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2450
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2451
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2452
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2453
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2454
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2456
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2941
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2942
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2943
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2944
LabSampleID-02077	CA1234567_DST_800	0.2	2.1	DBP	2950

4.6   Reporting Radionuclide Data

When reporting results for radionuclide analytes listed below, it is required to also report the MDA95 (Minimum Detectable Activity at the 95% confidence level) and the Counting Error. The MDA95 value is to be reported in the "Reporting_Level" field and the Counting Error is required to be reported in the "Radiological_Count_Error" field.

The Reference Value Tables on the CLIP Resource Page contains a "Radionuclides" tab. This tab displays the radionuclide analytes that must have MDA95 values and Counting Errors reported. It also lists the exceptions for this requirement when it comes to uranium analyses. When an analytical method is used for uranium that yields results in mass (μg/L) instead of particle activity (pCi/L), the MDA95 value and Counting Error are not required.

PS_Code	Analyte _Code	Analysis_ Method_ Code	Less_ Than_ Indicator	Reporting _ Level	Reporting _ Level_ Units	Radiological _ Count_ Error	Analysis_Comments
CA1234567_ 001_001	4109	EPA 900.0	Y	3	PCI/L	0.24	GROSS ALPHA PARTICLE ACTIVITY
CA1234567_ 001_001	4006	EPA 908.0	Y	1	PCI/L	0.11	COMBINED URANIUM (Analytical method yields pCi/L; MDA95 and count error required)
CA1234567_ 001_001	4020	EPA 903.1	Y	1	PCI/L	0.13	RADIUM-226
CA1234567_ 001_001	4030	EPA 904.0	Y	1	PCI/L	0.15	RADIUM-228
CA1234567_ 001_001	4010	SM 7500-RA	Y	2	PCI/L	0.14	COMBINED RADIUM (-226 / -228)
CA1234567_ 002_002	4006	EPA 908.1	Y	1	PCI/L		COMBINED URANIUM (Analytical method yields ug/L; MDA95 and count error not required; must be reported in pCi/L)

4.7   Reporting Lead & Copper Rule Data

When reporting Lead & Copper Rule (LCR) data for a water system's compliance with the LCR, it is required to include the Collection Address of the sample AND the PS-Code must be designated to the Distribution System/LCR. CLIP will automatically check the Collection Address requirement when, i.e. CA1234567_DST_LCR.

1. Sample Comments are allowed for entry.
2. Analysis Comments are not allowed for entry.
    a. SDWIS does not have Analysis Comments as an available field for LCR data. *CLIP does not check this under the current version*
    b. If the Analysis Comments field is populated in the EDD for LCR data, the data will not be recorded in SDWIS.
3. Less Than Detection Limit for Purposes of Reporting (DLR)
    a. Analytical values of lead and copper that are less than the DLR should be reported following scenario #3 under Section 4.9 (Evaluation of Reporting Levels).

For Non-LCR Compliance:

When reporting Lead and Copper data that are not for compliance with the LCR, the data must be associated to a non-LCR PS-Code, i.e. CA1234567_001_001 or CA1234567_DST_801.

1. Under Non-LCR submission:
    a. Sample Comments are allowed for entry.
    b. Analysis Comments are allowed for entry.

4.8   Analytes

Below are clarifications and information of specific analyte business rules to consider:

Analyte Name	Analyte Code	Note
CARBON, TOTAL (TOC)	2920	This is synonymous to Total Organic Carbon as noted by "TOC" in the analyte name
NITRATE	1040	Nitrate is to be reported as nitrogen, Nitrate (as N)
NITRITE	1041	Nitrite is to be reported as nitrogen, Nitrite (as N)
NITRATE-NITRITE	1038	This represents Nitrate-Nitrite
PERCHLORATE	1039	The perchlorate DLR changed from 0.004 mg/L to 0.002 mg/L on July 1, 2021
2,3,7,8-TCDD (DIOXIN)	2063	Historically, dioxin data was reported to DDW in the unit of measurement of picograms per liter (pg/L). SDWIS, DDW's database of record, does not have pg/L available. DDW therefore changed the reporting unit of measure for dioxin from pg/L to ng/L. Starting September 1, 2021, all dioxin analytical results must be reported in nanograms per liter (ng/L).
PHOSPHATE, TOTAL	1043	Results are to be expressed as P, not PO4
ORTHOPHOSPHATE	1044	Results are to be expressed as P, not PO4

4.9   Evaluation of Reporting Levels

The Reporting Level field captures the reporting level (RL) that is used when performing analyses. The RL is the lowest concentration at which an analyte can be detected in a sample and its concentration can be reported with a reasonable degree of accuracy and precision. It is recognized that many water systems request laboratories to use a RL that is equivalent to the analyte's DLR. In some cases, a water system may request that a RL lower than an analyte's DLR be used. "Detection limit for purposes of reporting" or "DLR" is set by regulation for each reportable analyte. It is not laboratory specific and it is independent of the analytical method used (in cases where several methods are approved). The DLR cannot be changed by the laboratory. It is expected that a laboratory can achieve a RL that is lower than or equal to the DLR set by the State. Regardless of how data are to be reported, the information provided in the Reporting Level field does not change existing data reporting practices.

1. If using a Reporting Level equal to the DLR and there is a detect:
    a. Use "N" as the Less_Than_Indicator.
    b. Enter the DLR as the Reporting_Level.
    c. Enter the Result.
2. If using a Reporting Level equal to the DLR and there is a non-detect:
    a. Use "Y" as the Less_Than_Indicator.
    b. Enter the DLR as the Reporting_Level.
    c. Leave the Result blank.
3. If using a Reporting Level that is less than the DLR and there is a detect:
    a. Use "N" as the Less_Than_Indicator.
    b. Enter the Reporting_Level.

       c.   Enter the Result.
4.   If using a Reporting Level that is less than the DLR and there is a non-detect:
       a.   Use "Y" as the Less_Than_Indicator.
       b.   Enter the Reporting_Level.
   c.   Leave the Result blank.

Lab_Sample_ID	Analyte_Name	Analyte_Code	Analysis_Method_Code	Less_Than_Indicator	Reporting_Level	Reporting_Level_Units	Result	Result_Units
LabSampleID-02096	Perchlorate	1039	EPA 314.0	N	4	UG/L	5.2	UG/L
LabSampleID-02097	Perchlorate	1039	EPA 314.0	Y	4	UG/L		
LabSampleID-02098	Perchlorate	1039	EPA 314.0	N	2	UG/L	5.2	UG/L
LabSampleID-02099	Perchlorate	1039	EPA 314.0	Y	2	UG/L		

DDW will be evaluating the RLs provided in electronic submittals. The expectation is that a RL will be equal to or less than the DLR of the analyte being reported. It is understood that there may be circumstances where the RL is greater than the DLR (e.g., dilution). In these situations, the data will be accepted but follow-up inquiries may come from the Quality Assurance Section (QAS). For situations in which the RL is not only greater than the DLR but also greater than the MCL (Maximum Contaminant Level), the data will not be accepted until QAS has reviewed and made a decision to either accept or reject the data. In either case, a member of QAS will be reaching out to you for details of the analysis.

5.0 ERROR CHECKING PRIOR TO SUBMISSION

To ensure accurate data are provided to DDW in the correct format required by the database, it is strongly recommended that data providers check their data using EDP prior to submittal via the CLIP Laboratory Dashboard. Once you have finished populating your EDD, follow the steps below to verify that your EDD is error-free. EDP is used to check the EDD against the business rules and reference values set by DDW in the format file.

1.   Open the EDP application from the Start menu by selecting All Programs, scroll to the EarthSoft folder and select "EQuIS EDP Standalone".
2.   When the application opens, click the "Format" button in the top left of the EDP "Open" ribbon. In the popup window, navigate to *C:\Program Files\EarthSoft\EQuIS\Formats*, and open the *CA_SDWIS_Lab_Analytical_Data.zip* file.
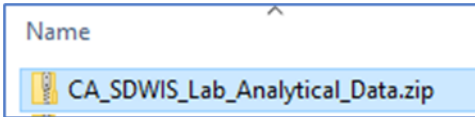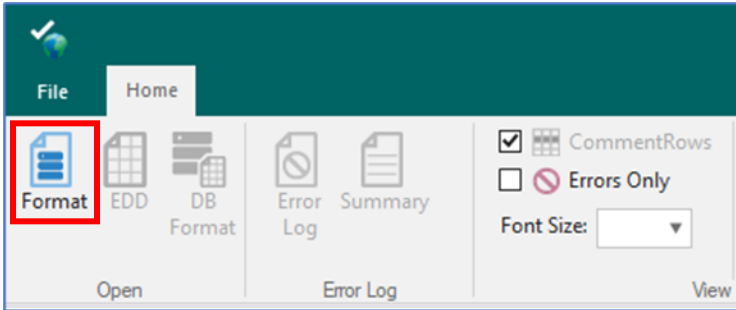
3. Verify that the correct reference values are loaded by clicking on the Reference Values tab in the lower left of EDP, right above the 'Status Window'. You should see a file ending in *CA_SDWIS_Lab_Analytical_Data.rvf*.
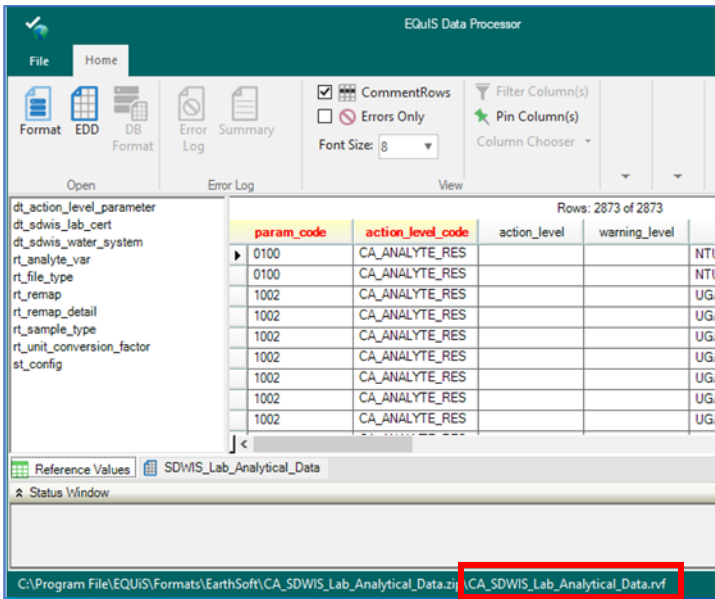
    a. To switch the .RVF that is used, click on the File tab, select "Open", and then click on "Reference Values (*.rvf)". A window will appear directing you to navigate to a new RVF on your machine.
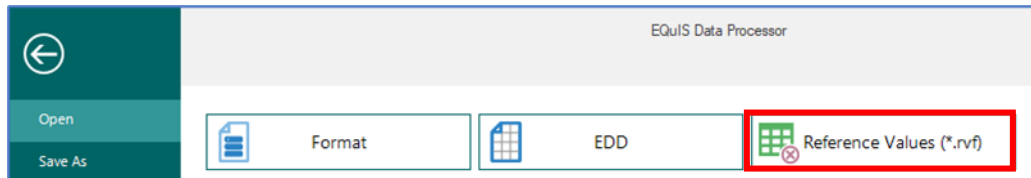

4. Once the format and reference values have been loaded, click on the "EDD" button (located in the EDP "Open" ribbon) to open the EDD file you would like to validate. As the EDD is loading,

EDP automatically checks the EDD against the business rules and reference values set by DDW in the format file. This process may take some time depending on the size of your EDD.

5. Data checking is a background process that occurs while the data file is being loaded into the EDP Standalone application. After the EDD has finished loading, the quality of the data, based on the rules in the format file, is instantly available for your review.

   a. When the EDD finishes loading, if the Chems_Rads section name in the left-hand pane has a Green font color, then no errors were found.

   b. If the Chems_Rads section name in the left-hand pane has a Red font color, then there are errors in that section.

      i. Click on the section(s) name(s) that is in Red font to view the errors. The rows or cells with errors will appear in one of the following colors:

   c. To view the exact error message, hover your mouse cursor over the colored cell or row until the tooltip appears.

   d. Regardless of whether the EDD was loaded from a file or created in EDP, errors can be corrected directly in EDP. After correcting an error, the color that was associated with that cell or row will disappear as soon as you click away from the cell or row.

   e. Optional: You can toggle on the 'Errors Only' checkbox in the Home ribbon to filter your view so that only the records with errors are shown. As you correct errors, the records will disappear from this view one-by-one until all errors have been corrected. To view everything in your EDD, including the non-errored records, simply uncheck the box.
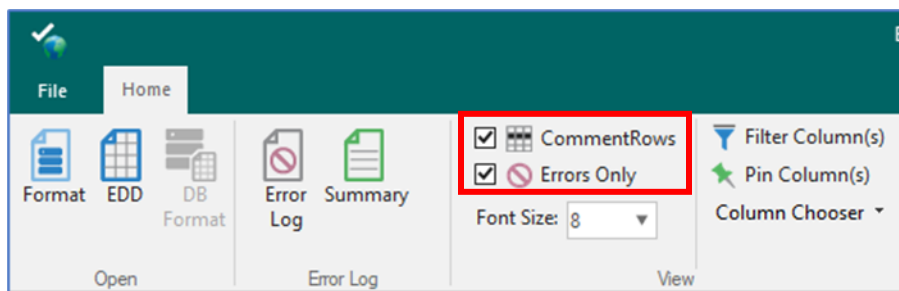
   f. Optional: You can click the Error Log or Summary button in the menu ribbon to view a complete list and description of all the errors found in the EDD. Hover over each button to see which option would suit your needs best.
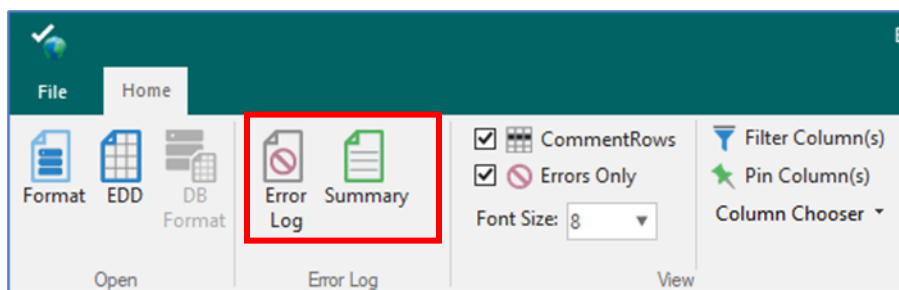
6.0 ALTERNATE METHOD TO POPULATE AN EDD

Providers can enter sample information on a single record, with corresponding analytical result information following that record. If your EDD follows this structure, your EDD File name needs to contain ".sdwis" before the file extension [ex. filename.**sdwis**.xlsx].

For further reference, see the example file in the CLIP Resource Page.

7.0 EDD SUBMISSION

To upload an EDD to CLIP, follow the steps outlined below.

1. Log in to CLIP entering your Username or Email, and Password
   Production Portal: https://caddw.equisonline.com/
   Test Portal: https://caddwtest.equisonline.com/

2. You will be directed to the CLIP Dashboard.

3. The CLIP Dashboard contains several widgets:
   a. EDP EDD Upload
   b. EDP EDD Status
   c. Data Corrections Only: Find EBATCH for Change Request Form
   d. Notices
   e. PS Code and Water System Information
4. Prior to uploading a file through the EDP EDD Upload Widget, the Disclaimer Certification must be read and accepted by checking the checkbox.

5. Select "CA_SDWIS_Analytical_Data" on the Format column.

6. Browse or drop the EDD file in the Upload Box.
7. The Upload Box dialogue will appear displaying the Name, Size, and Status.
8. Click the "Upload" button.
9. Click the "Close" button when the Status shows a green checkmark for upload completion.
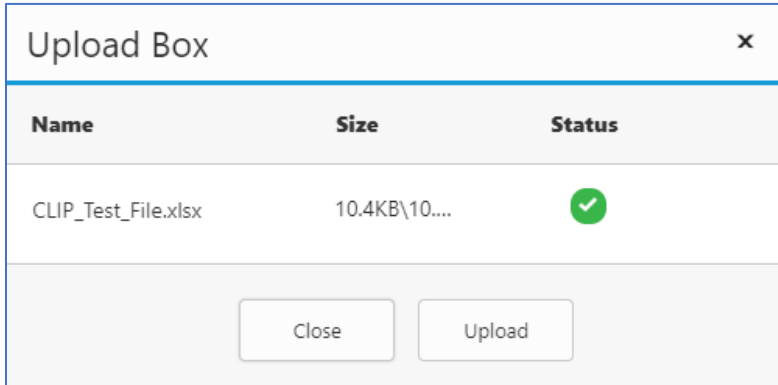
10. Your EDD(s) submission will appear in the EDP EDD Status Widget.
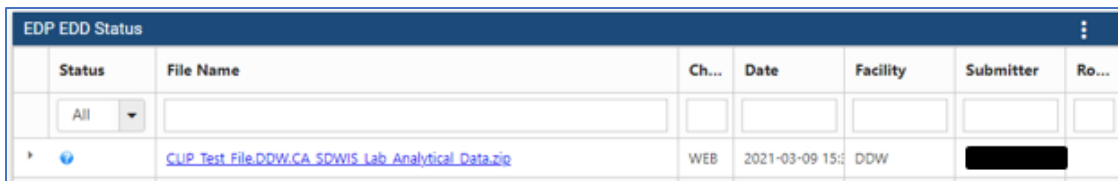
11. You will receive an email notification confirming the submission of your EDD(s).

12. The Status Field will display a colored light reflecting the status of the EDD submission.

    a. Blue – In Progress
    b. Red – Failed
    c. Yellow – Stuck
    d. Green – Success

13. If your submission failed to upload, please review the error log by clicking the link in the submission details.
    a. You will also receive an email notification of the failed submission(s).
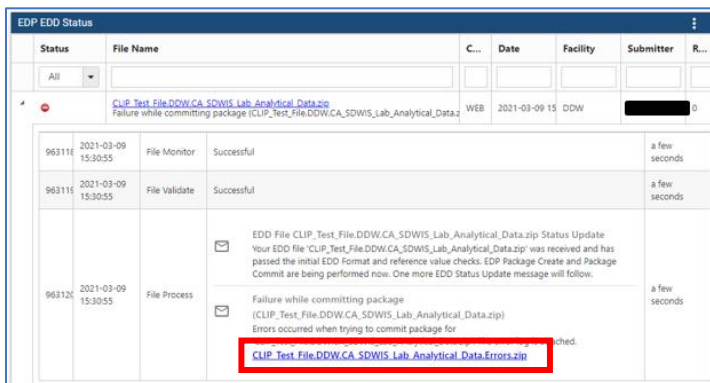
14. If your submission successfully uploaded, there are no further steps. You may continue uploading or log out.
    a. You will also receive an email notification of the successful upload to CLIP.

8.0 EDD RESUBMISSION

In the event an EDD with an error(s) was submitted, accepted, and loaded to CLIP, laboratories will need to resubmit the corrected data to DDW as outlined below. All requests will go through an internal review process by DDW, and if needed, consultation with the water system.
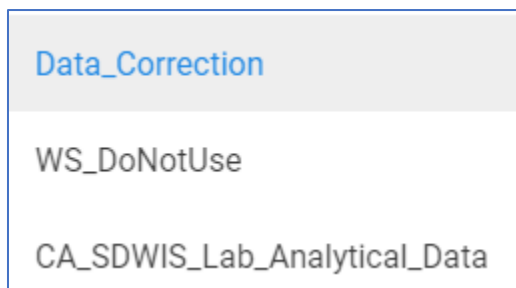
1. Laboratories are required to complete a Change Request Form (CRF) for all EDD resubmissions. The CRF can be downloaded from the CLIP Resources Page.
2. The CRF contains worksheets of data correction categories:
    a. **PS-Code:** incorrect PS-Code
    b. **Analytical Result:** incorrect analytical result value
    c. **Sample Invalidation:** sample determined to be invalid (ex. broken bottle, hold time exceedance, lab accident, invalid sampling protocol, etc.)
    d. **Other:** for any other type of change request scenario not provided in the worksheets, please provide a detailed description
3. E-mail the completed CRF to DDW-CLIP@waterboards.ca.gov
4. If a CRF is approved, data submitters will be
    a. Notified via e-mail by DDW staff or County Health Department (Local Primacy Agency) staff of the approved change request.
    b. Notified via e-mail by the DDW Data Management Unit on the next steps to resubmit as described in Section 8.1.
5. If a CRF is rejected, data submitters will be notified via e-mail by DDW staff or County Health Department (Local Primacy Agency) staff of the rejected change request.

8.1   Resubmission Requirements

Follow the resubmission steps outlined below depending on the approved change request.

For EDD resubmissions in CLIP, use the "Data_Correction" format dropdown.

1. **PS-Code:** submit an EDD containing only data for the revised PS-Code. Do not include previously submitted data that does not need correction.
2. **Analytical Result:** submit an EDD containing only data for the revised analytical result. Do not include previously submitted data that does not need correction.
3. **Sample Invalidation:** no resubmission requirements for data submitters. DDW will make the necessary changes in the State database as non-compliance data.
4. **Other:** this will be dependent on the described change request. DDW will communicate with data submitters on the steps to take for data correction.