Standalone EQuIS Data Processor (EDP)
User Guide
For EPA Region 2 EDP version 6.6 and EDD format version 4

Contents

1.0 Introduction

The EQuIS Data Processor, or EDP, is today's answer to the many data quality issues that plague data managers. The latest in EarthSoft' s family of data checking software, EDP sets a new standard for simplicity in data quality management while adding a host of new features and capabilities that allow the user the utmost in data checking flexibility.

There are two desktop modes for using the EQuIS Data Processor; Standalone EDP, Professional EDP. Standalone EDP is used primarily by data providers such as laboratories or field staff to check data quality prior to data submittal. Professional EDP is linked directly to the EQuIS 5 database and can be used by EQuIS power users to check data quality and then load the data into the EQuIS database. This manual only address the use of Standalone EDP

EDP checks all of the following data quality issues:

1. Required Fields
2. Field Lengths
3. Data Types
4. Valid Dates
5. Reference Values
6. Duplicate Rows
7. Range Checking
8. Orphan Rows

2.0 Standalone EDP – Version 6.6

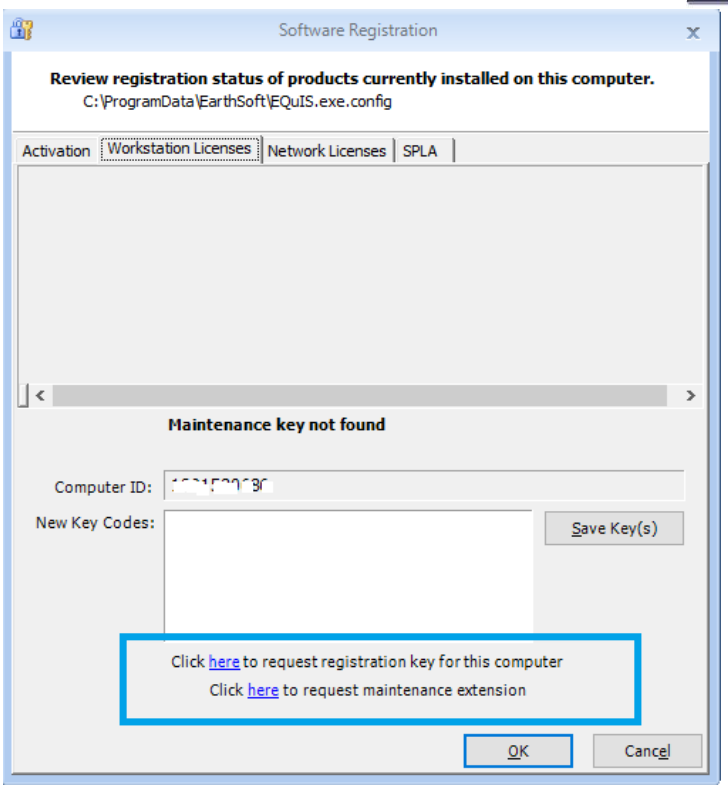
The Standalone EQuIS Data Processor, or Standalone EDP, is used to check data without having access to the EQuIS 5 database. All of the functionality found in Standalone EDP is also found in Professional EDP. The following Standalone EDP sections will outline the features found in both Standalone EDP and Professional EDP.

All modes of EDP support formats for many fields of environmental data observation and acquisition. From the familiar "4-File" analytical laboratory format to field activities such as drilling and sampling to automated surface water sampling, EDP can check data files quickly and easily.

You need to know the EQuIS format or EDD format that your data resides in, what reference values you will use to check the data, and if there is an enumeration file associated with your format file.

There are several EQuIS formats included with the EQuIS Data Processor software. The appropriate format you will need to use is determined by the type of data to be imported. After determining the EDD format, you are ready to begin. For this exercise, you will be using the EPA Region 2 EDD format version 4.

Start Standalone EDP by selecting **Programs > EarthSoft > EQuIS Data Processor** from the Start menu. If you are running the EQuIS Data Processor in evaluation mode, click the OK button on the EQuIS Data Processor Evaluation screen. Otherwise, click on the link that is on the "Software Registration" screen as below:



You can click one of the links that are on the "Software Registration" screen to request registration key or maintenance extension if you already had the registration keys. You will need to fill out an electric form and submit it to EarthSoft, and then you will receive emails to confirm your registration and your registration keys.

After you've done the registration process, the EQuIS Data Processor will open to the main window. (see image below).

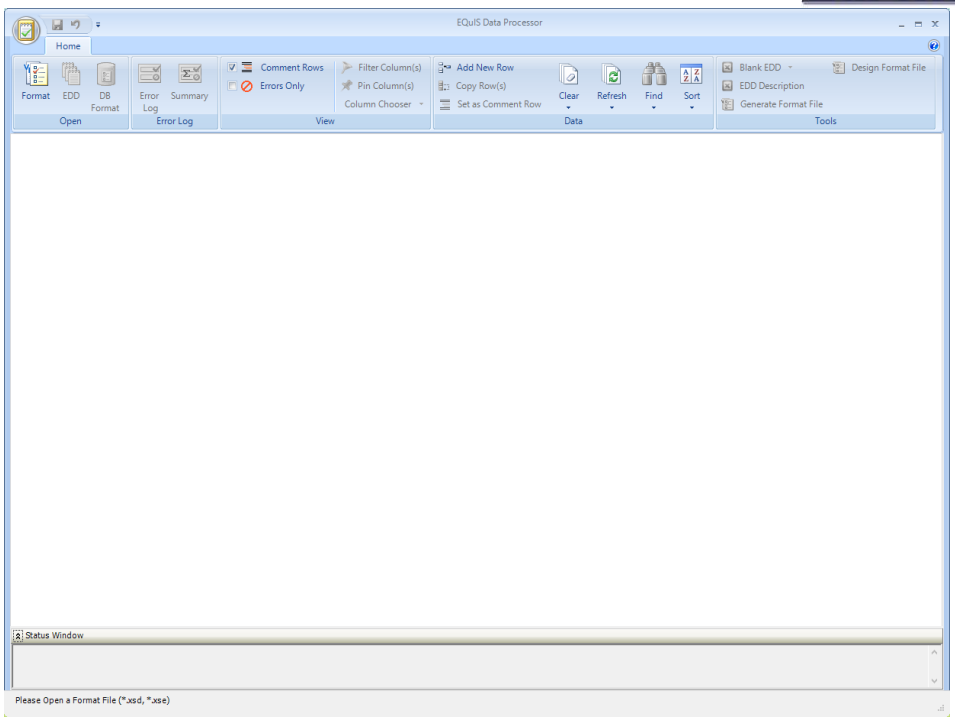


Figure 1: EDP

2.1 Format File – Version 4

The Format File is the essence of data checking in EDP. The Format File contains the definitions for each individual section belonging to the EDD format. For example, the **Chemistry** section contains the laboratory "4-File" sections: **Sample_v4, SampleParameter_v4, TestResultQC_v4, Batch_v4.**

There are three or four files that make a format file; the format definition file (xsd) file, custom handler (vb) file, the enumeration (enum) file and the reference values (rvf) file. Together these files determine how your data will be checked.

The XSD file contains the mapping and definition for the sections of the format file, such as; the mapping of the fields in the format to the data table and fields in the EQuIS database, required fields, primary keys, field length, field description and field type (numeric, text, etc.)

The vb file contains the custom handling and business rules that apply to the format such as the analysis date cannot proceed sample date or reportable_result cannot be 'Yes' where the lab_qualifier is E, G, P, or R. Another example of a business rule is if a certain sample type is encountered then another field must be populated. For example, if you have a sample_type of 'FD', short for field duplicate, then the parent sample field must be populated to avoid an orphan quality assurance/quality control sample.

The enum file is an optional file that allows EDP to enforce a set of lookup values similar to a reference table (rt.) lookup. This allows EDP to control the values for specific fields that are not linked to a reference table in the EQuIS database. The rvf is created as an export from EQuIS Professional, while the enumeration file is created and maintained manually using any text editor. Unlike the. rvf the enumeration file is used in EQuIS Professional EDD as well as standalone EDP.

It should also be noted that the enum file may also be used to narrow a list of reference values to a smaller list. For example, typically a unit field such as elevation units would be linked to the rt_unit table which may contain 100 or more units. However, it may make sense to limit the elevation units to “meters” and “feet” since those are the only valid units for this type of data.

The rvf is created as an export from EQuIS Professional reference tables. This file is only needed when running standalone EDP and it allows EDP to check reference values remotely against values established in EQuIS Professional.

Format Files may be encrypted or unencrypted, and typically include both the format definition file (.xsd or .xse) and a custom handler file (.vb or .vbe). The unencrypted format files may be modified to meet clients specific needs, however these modifications are not supported under the EarthSoft Maintenance agreement. If modifications are made to these formats, it is highly recommended that clients rename the formats to include their company name. The formats are written in XML and may be viewed using a text editor. Many free software applications are available online for viewing and editing XML files. Formats that are unencrypted do not require a license key.

A list of the Standard Format Files that are included with all installations of EDP can be found in Appendix A. A list of the Alternate Format Files that may downloaded with any installation of EDP can be found in Appendix B.

2.2 Opening a Format File

The first time EDP is launched, a format file must be selected before a data file can be loaded.

To open a Format File:

1. Click on the Format button (located in the Open group on the Home tab). **NOTE**: The default location for system formats is ~\Program Files \EarthSoft\EQuIS\System. The default location for custom formats is ~\Program Files \EarthSoft\EQuIS\Formats. 
2. Select the **EPAR2.xse** format file and click "**Open**".

Once the format file has been selected and successfully opened, the format’s sections will be listed in the left hand portion of the EDP window. If prompted to open the reference file, select **“EPAR2.rvf”.**

The image below is the EQuIS format version 4, and the EDD format legend in 1-4 points:

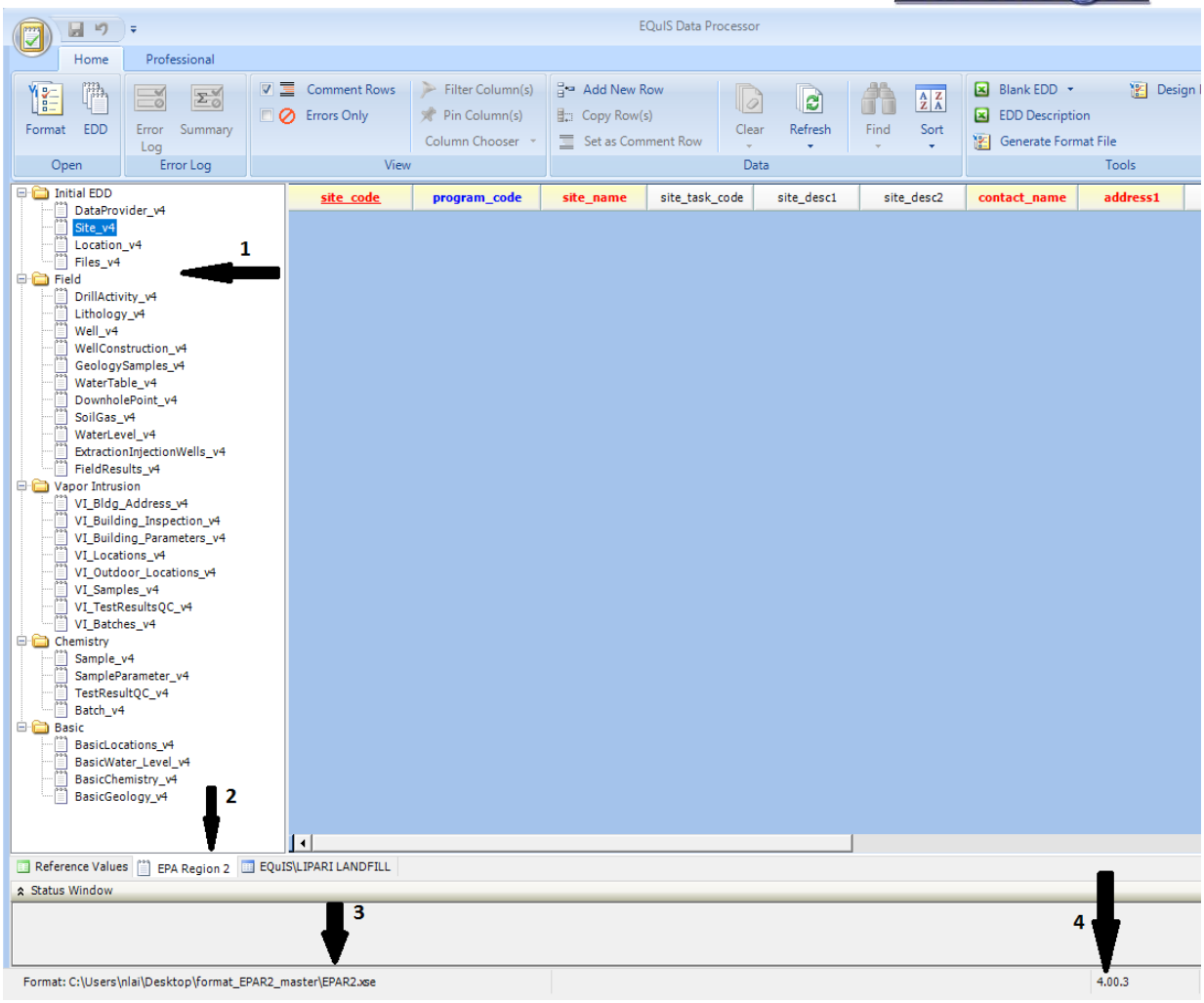


Figure 2: EDP Standalone Legend

(1) –The sections of the format
(2)– The Format Tab
(3) –The directory path to the current format
(4)– The version of the format

Users can identify what format file and the version of the format file has been loaded by selecting the Format Tab. The path to the format file and the version are displayed in the lower left corner. It is recommended that all EDP users check this path and version prior to each use of EDP.

Now that a Reference Value File and Format File have been successfully opened, EDP is ready to load and check a data file.

2.3 Understanding the Format

Standard EarthSoft formats were designed with tools that are available to assist users in understanding the format's requirements. These tools include; tool tips, color coded column headers, and drop down boxes that enforce reference values.

In each format file provided by EarthSoft, there are tool tips in the column headers. To access these tool tips, simply hold your mouse over the column headers name. These tool tips may be used to assist the user in determining what values should be used to populate each field as well as determining which reference value table is used to populate the field.

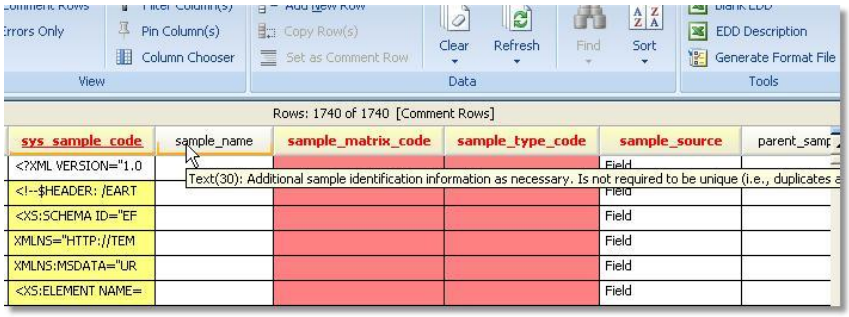


Figure 3: EDP Tooltip Example

Another aid in understanding a format is the color coding that is used to indicate what each column represents. These defaults are:

•**Red** – Column headers with red font (default color) are required fields.

•**(Underlined) Red** – Required primary key fields are identified by underlined red font column header. Recall that primary key fields are required and must be unique.

•**Blue** – Reference value fields are identified using a default blue font. It should further be noted that required fields may also be reference value fields, when this occurs the column header will appear in a red font.

The default font colors may be modified in the Options Tool in EDP. For details on making these modifications see the Options section of this manual.

An additional tool that has been provided to assist users are drop down lists that appear when the curser is placed over any Reference Value or Enumeration Value field. These drop-down lists include the approved reference values from the reference table indicated in the tool tip explained above or from the enum file. If an error indicating a 'Missing Reference Value' exists, one of the values from the drop down may be selected from the lists to resolve errors.

2.4 Reference Value File

The Reference Value file specifies what reference values, or valid values, may be allowed in the data file. It is simply a lookup list that says, in effect, these are the values which you may choose from for a particular field.

When EDP starts and a Reference Values File is selected, the "Reference Values" tab shows the various tables and values defined within those tables. Values displayed are not editable in the

Reference Values Tab

In order to assist clients in loading the appropriate set of reference values for each format, users do not have to manually open the reference value file. Rather, each time a user opens a format file EDP will look in the same folder as the format file for a file with the extension- **RVF** (the reference value file). If a file is present, it will be opened and used. If an *.RVF file is not located or if there are more than one *.rvf in the same directory as the Format File, then the user will be prompted to browse to the appropriate *.RVF file.

For example, if a user loads the 4-file format (C:\Program Files\EarthSoft\EQuIS\System\EFWEDD.XSD), EDP will check the C:\Program Files\EarthSoft\EQuIS\System\ folder for an *.RVF file. If the file is found, it will be loaded. If not, then the user will be prompted to open another *.RVF file of their choice.

If multiple *.RVF files exist in the \\EarthSoft\EQuIS\System\ folder, the user will be prompted to select which *.RVF file they would like to use. This is useful when laboratories and other data providers are supporting multiple clients with different reference values files.

The image below is the EPAR2.rvf is opened in the EDP.

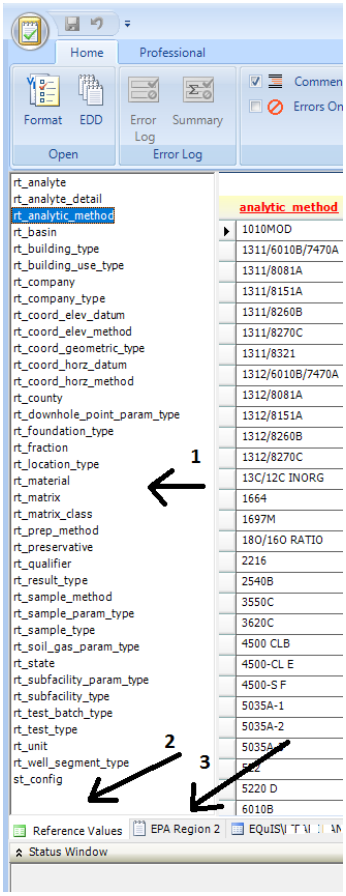


Figure 4: Reference Values window showing a list of reference values tables.

(1) –Reference Tables
(2) –Reference Values Tab
(3)– Current format

Therefore, when using EDP, it is important to verify that the correct Reference Value File is being used.

2.5 Data Files

The data files, often referred to as Electronic Data Deliverables (EDDs), are the files that contain the data to be checked. The EDDs must be in an electronic, tabular format that adheres to the layout and rules specified by the Format File.

The data file may be a tab-delimited (.txt) or comma -separated (.csv) file, Excel files (.xls), as well as zipped EDD files (.zip) may also be loaded. Some formats maybe set up to accept an XML formatted dataset.

2.5.1 Loading Individual Data Files

Individual Data files can be loaded into the EQuIS Data Processor by highlighting the section to load the data file into and then using one of the following methods:

•Click Open > Data File from the Application menu (the button) 
•Right-click a section and select “Load Data File”.

When multiple sections exist within a given Format File, the data file selected is loaded into the currently selected section. By default, when EDP is opened, the first section of the format is highlighted. If the users select **File > Open** immediately after opening a format file, the data will be loaded into that section of the format regardless of the file’s content. For example, in the EDD Format File, the section **Initial EDD** is the first section listed. A data file opened through the File menu will be loaded into this section regardless of whether it is appropriate for this format or not if another section was not selected.

To open a data file in txt format:

1. In the **Initial EDD** section, select **“DataProvider_v4”**

2. Select the **Application menu**  **> Open > EDD Data File**. An alternate method of opening a data file is to right-click on the desired section and select "Load Data File" from the popup menu.
3. Browse to the data file that you saved, for example “DataProvider_v4.txt”
4. Click "OK".
5. Load the remaining data files in the folder to the appropriate section using the previous instructions.

The data check occurs in the background while the data file is being loaded. After all of the data files have been loaded, you will review any errors that EDP has detected.

To ensure that all of the business rules are properly processed by EDP it is recommended that the Data Files are loaded in the order that the sections appear in the format. This order represents the Parent/Child Relationship between the data in the data files. For example, Sample_v4 should be loaded before TestResultQC_v4 and Batch_v4. If the files are not opened in order, it is

recommended that the user select the refresh button 

frequently while correcting data errors.

2.5.2 Load and Append Multiple Data Files

When loading data files, it is also possible to load multiple data files into the same section of the format file in the same "EDP session". You can check multiple data files simultaneously in EDP by using the "Load and Append" utility. For example, if you receive multiple data files that include Field Sample data, you may load all of these files into the Sample_v4 section of the format. Note that this functionality is only enabled once a data file has already been loaded. To do this:

Right-click on the Sample_v4:
1.Select "Load and Append Data File".
2.Browse to the file that you have more Sample data

Using the "Load and Append" utility appends the new data file to the end of the original data file.

2.5.3 Clear Tables

If you accidentally load a data file into the wrong section, you can clear all data rows by right-clicking on the section name and selecting "Clear Table". Alternately, if you would like to clear all of the data loaded into all of the sections of the format, you may select Clear> Clear EDD from the data group.

2.5.4 Loading Data Files in different file extension

A. Excel file

When using Excel files with EDP, the workbook tabs must be named with the EDD section's name. For example, the workbook tab that contains Sampling information must be named "Sample_v4", for Test Results QC, the workbook tab must be named "TestResultQC_v4" …etc.
See image below shows the tabs of the data workbook:

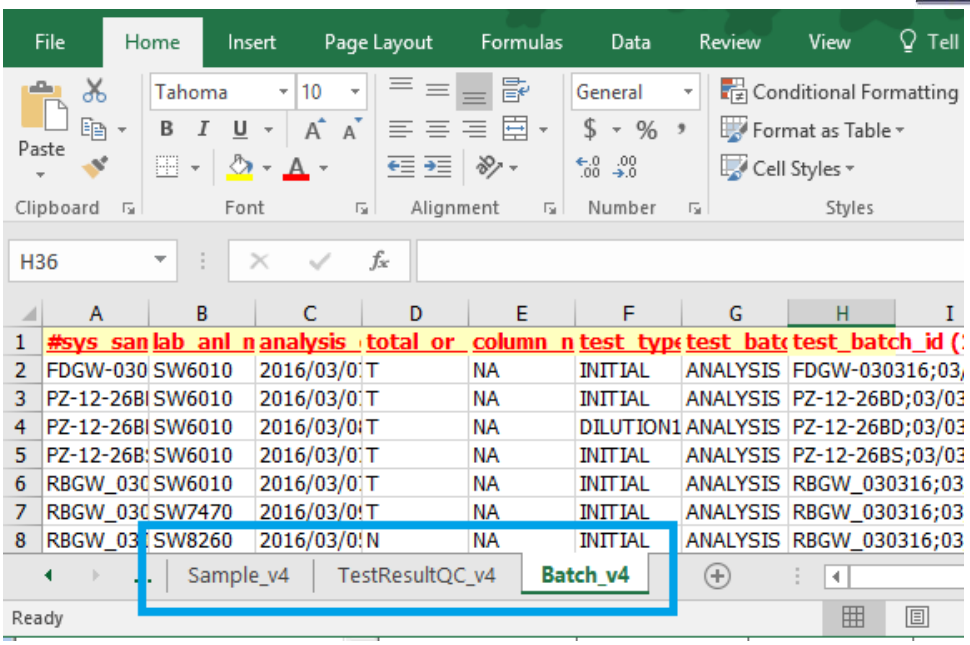


Figure 5: Excel Workbook with Sections named properly for opening all sections directly into EDP.

The Excel file (.xls) may use any nomenclature. EarthSoft recommends including the format name at the end of the file name. However, to successfully load all of the sections of the EDD at once the worksheets must be named according to the EDD section name.

B. Loading Zipped Data Files

Zipped data files can also be used with EDP. Any of the standard types of files (e.g., .txt, .csv, .xls) can be zipped and opened at the same time with EDP. When using Zipped data files with EDP, the data files (in the *.zip file) must be named with the EDD format's section name. For example, the zipped file shown below contains data files which use the EDD format name as file name.

Additional information may be included in the data file's name, such as the sample delivery group number, as long as that information is separated from the section name by a period (.). For example, '**Sample_v4.txt**' is an acceptable name for loading data.

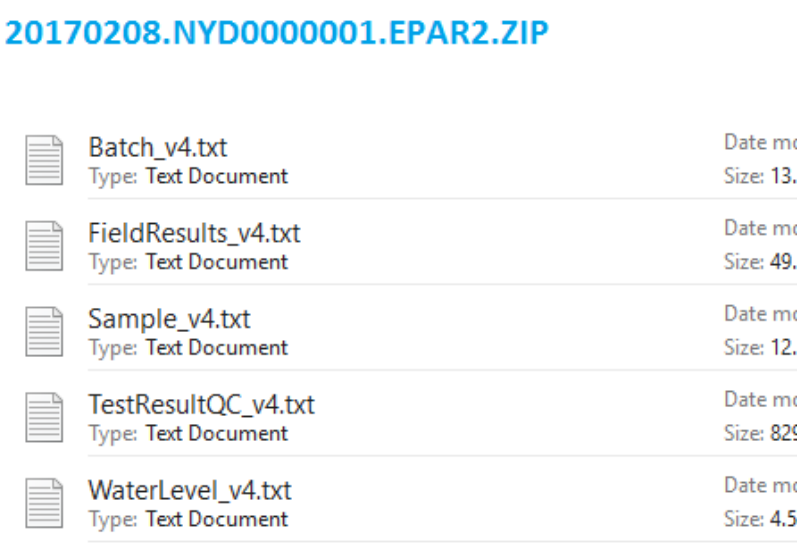


Figure 6: Zipped file's with the EPA Region 2 EDD format's section names as individual flat file names.

Regardless of whether the user is opening Excel, or Zipped files, notice that the file name (*.xls, *.zip) may use any nomenclature, but the sheet name (for Excel), and the individual file name (for zipped files) must use the EDD format's section names.

2.6 Finding and Resolving Errors

Once a data file has been loaded into EDP, any cell in the data grid that does not satisfy the checking requirements identified in the Format File are highlighted in colors that indicate the type of error. Users may obtain additional details about what each error is by holding their curser over the highlighted cell in the data grid. For additional information on changing these color codes see the Options section of this manual.

In addition to denoting the cell and/or row in which the error(s) occur in the grid, the line number along the left side of the data grid may also signify any line in which an error has occurred by appearing in bold red text.

Also, you can identify which sections of the formats contain at least one error because they will be highlighted in red. Notice that all data files that were checked contain errors as the format names are highlighted in red.

2.7 Error Log Reports

You can view a summary report of all of the errors in the data files by reviewing the Error Log or Error Summary reports.

The Error Log Report is a report that can be created to show what line in each section of the format contains exactly what error. The Error Log Report maintains EDP's error color coding to make error resolution easier.

The Error Summary Report may also be created to show a summary of all of the errors in the data files. Each row of the Error Summary Report contains the number of rows where the specified error

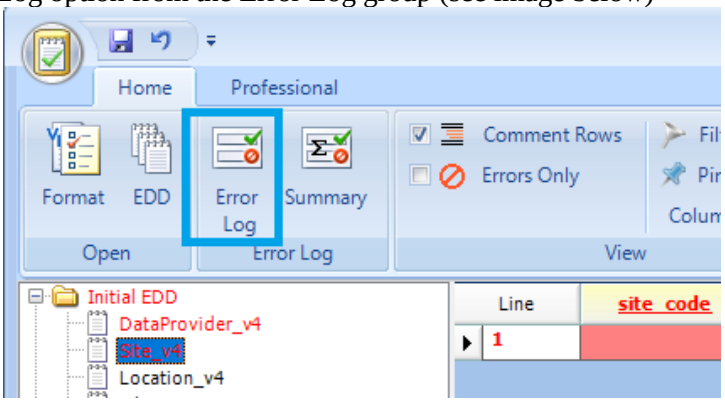
occurred in each section of the format. The Summary Report does not maintain the color coding.

The Error Log and Error Summary Reports are saved as an HTML files, and open automatically in your default browser. Note also that the EDD Format File name and Version information are also reported in both Error Logs. In addition, information related to the EDD Data Files, User Name, and Reference Values File that were used during the error checking process are also listed in both of these logs to facilitate error resolution.

Users may find it useful that Error Logs and Error Summary Reports may also be opened in Microsoft Excel to allow for additional sorting. To do this, browse to the saved Error log in Windows Explorer, right click on the file name and select 'Open with' then select Microsoft Excel.

To view the Error Log, follow these steps:

1. Select the Error Log option from the Error Log group (see image below)



2. Enter a file name (or use the default file name) and click Save.

EDP Error Log

User Name:nlai

Format Name:DataProvider_v4, Site_v4

Format Version:4.00.3

EDD File(s):

Reference Values File: Database

Run Date: 2/8/2018 1:04:47 PM

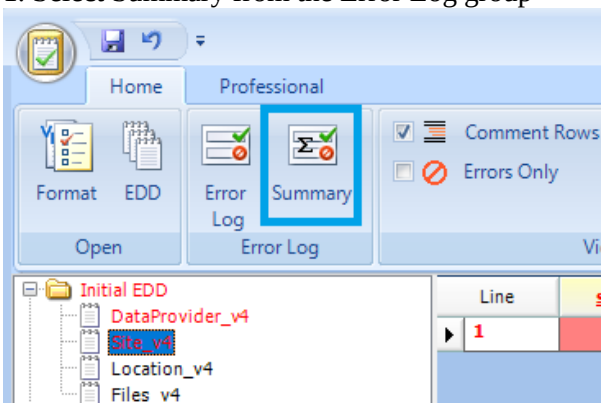
18 total errors:

Table	Line	Column	Value	Message	Type
DataProvider_v4	1	data_provider_code	[NULL]	Missing required field	ERROR
DataProvider_v4	1	data_provider	[NULL]	Missing required field	ERROR
DataProvider_v4	1	data_contact_name	[NULL]	Missing required field	ERROR
DataProvider_v4	1	data_contact_address1	[NULL]	Missing required field	ERROR

Figure 7: EDP Error Log Report

To view the Error Summary, follow these steps:

1. Select Summary from the Error Log group



2. Enter a file name (or use the default file name) and click Save.

2.8 Error Resolution

As you now know, errors that are found in EDP are highlighted with a specified color to signify what the error is. These data errors can be corrected within EDP if the Auditing feature was enabled during installation of EDP. These modifications may be made to any cell within the data file after it is loaded by simply highlighting the cell and typing the modification.

Before beginning it is important to understand that edits made to data files within EDP are **not** automatically saved. If users are modifying data files using the edit feature available in EDP then users should save their data files frequently during their EDP Session. Modifications made to data in EDP may be saved by selecting Save -> Data file from the Application menu.

2.8.1 Column Headers Errors

You may have noticed that many of the are attributed to the two header rows that are contained in each of the data files. These two rows contain column header information that is useful to ensure that the correct data populates each column and to check that the appropriate data file was loaded into the correct section of the format.

You can instruct EDP to ignore any header rows by selecting the header rows in the data grid, right-click while the rows are highlighted and select "Set as Comment Row". You will need to complete this step for each section of the format. To do this:

1. Select the header row error in the section. Such as Sample_v4
2. Highlight the header rows, right-click and select "Set as Comment Row".

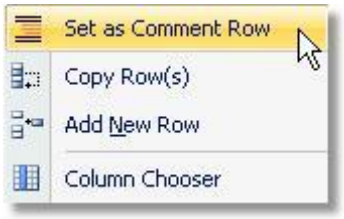


Figure 8: Set as Comment Row

The text in the first two rows becomes italicized and includes a pound sign (#) directly before the first letter of the column header. The colors of the cells in these rows also change indicating that they are no longer problematic. Repeat this step for the remaining loaded files.

The step of setting a row as a column header may be skipped if the data file's comment rows include this pound sign (#) prior to being loaded into EDP.

Line	sys_sample_code	sample_name	sample_matrix_co	sample_type
1	#sys_sample_code	sample_name	sample_matrix_code	sample_type_
2	#Text[40]	Text[30]	Text[10]	Text[20]

Figure 9: Example of Pound Sign (#) Comment Indicator

After you identify "Comment Rows" in the remainder of the data files, you can choose to not view the Comment Rows. On the View group, there is an option for Comment Rows. Note the check next to the word "Comment Rows". If you click on the "Comment Row" option, the check is removed and the Comment Rows will not be displayed. You can always choose to view the Comment Rows by making the same selection again.

After identifying the "Comment Rows", all errors should be removed from the sections.

2.9 Data Errors

Next, we need to check the data errors. The EDD format will highlighted cells to show errors, you can also click "Errors Only" to see only the error rows. In this document, we can look some of the error messages, such as the items below:

1. "Orphan Row" error in the parent_sample_code of the Sample_v4 section indicates that the parent_sample_code has not been defined. This error indicates that the parent_sample_code is not related to a sys_sample_code of an 'N' or Normal Environmental Sample from the sys_sample_code field. By showing all records in the EDD (Select Errors Only from the view group). To check this error, you can check the entries in the sys_sample_code field comparing with the Parent_sample_code field, maybe the spelling for one of these fields are not matched.

2. "Valid Value Not Found". We will see this error when the values in the specific field are not in the reference values tables. You may need to check the reference values. **TIP:** If you do not know which reference value table to use, hold your mouse over the column header in the format and the tool tip will tell you which reference values table to refer to for additional troubleshooting.
To check your reference values, click on the Reference Values tab. In this document, we have problem with the chemical name of the Cas number 7440-32-5 for Sodium. Click the rt_analyte

table and sort on the chemical_name and scroll down to locate the entry for Sodium. Note that the CAS number for Sodium = 7440-23-5.

3. To correct the error, click back to the EPA Region2 EDD format tab and select the section. Locate the problems with the CAS numbers and replace the incorrect values with the correct values from the preceding step. Use the Refresh Table option from the Data group to ensure that the changes are accepted. If the values are not found in the reference table, email to the data administrator to add the new value.

NOTE: If all errors have been corrected and the 'Errors Only' feature has been selected, no data will appear. You can review all the data by unselecting the "Errors Only" feature.
Save changes to the original data file using the Save -> EDD option on the Application menu.

2.10 Sign and Submit

After using the tools outlined above to resolve all of the issues in a set of Data Files, the data is ready to be submitted for loading into the EQuIS 6 database. The Sign and Submit tool was designed to facilitate submittal of data to EQuIS Enterprise EDP. Sign and Submit option packages the data files with the correct naming convention which allows easy submittal of data packages. Use of the Sign and Submit feature requires a user name and password that can be created by the data providers.

To use the Sign and Submit feature, after data files have been loaded and all of the errors have been resolved,

1. Select Sign and Submit from the Application Menu. This will open the Sign and Submit window.

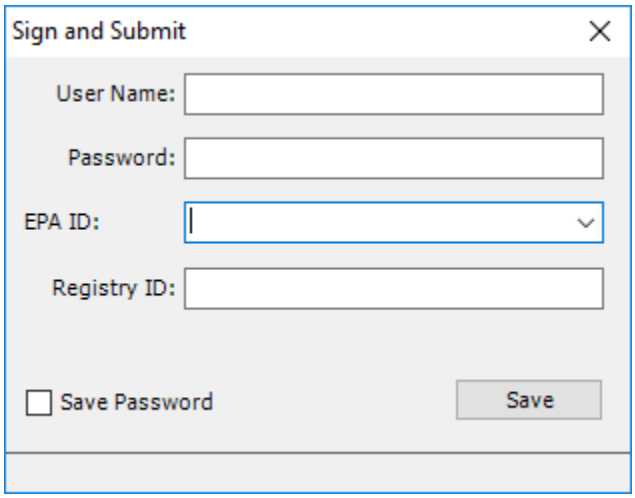


Figure 10: Sign and Submit Window

2. Enter your User Name and Password as well as the EPAID that applies to the data package being submitted. The Registry ID will be automatically populated based on the selected EPA ID.
NOTE: The EPA ID and Registry ID are extremely important for Enterprise Data Submittals; however, the data entered into these sections of the Sign and Submit screen may be modified by the user as needed.

3. Click the Submit button.

4. Users will be prompted to provide a filename and location where you would like to save the file. The Sign and Submit feature will save an archived ("zipped") file named with the current date, a period, the Program Code, a period, the Registry ID, a period and the Format File name used to create the EDDs. (Example file name: '20180207.1100000000.EPARegion2EDD.zip'). The content of the Zipped file includes text files named for the sections of the format used to create them.

5. Select Save. Once the zipped EDD Package has been saved the following screen will appear.

Figure 11: Sign and Submit Verification Window

6. Select OK

After the zipped file has been created the EDD Package is ready to be submitted to your regulator for loading into EQuIS Professional EDP or EQuIS Enterprise EDP.

2.11 EDP Tools

There are several tools available in EDP to assist users in resolving errors and reviewing data.

2.11.1 Sort

Use the Sorting button  to sort the data in ascending or descending order. For example, if you want to sort the result data based on chemical name, you can highlight the chemical name column and click on the sorting button.

2.11.2 Filter

Use the Filter Column(s) button  to narrow the data set for easier viewing. By clicking on the filter icon, each column is enabled with a pull-down menu which allows you to filter on the available values for that field.

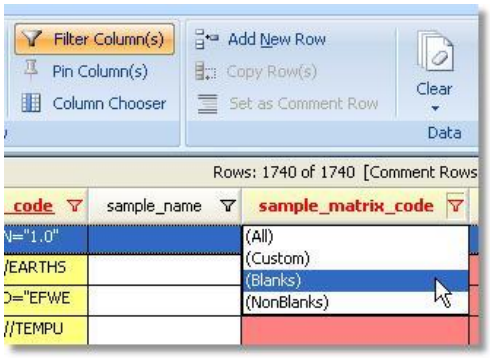


Figure 12: Filtering columns.

For example, if you are interested in reviewing the results for sample B-31_20000325, click on the Filter icon and using the pull-down menu enabled for the sys_sample_code field, select the value B-31_20000325. Now, you can review all of the results gathered for the sample in question.

2.11.3 Pin

Use the Pin button to assist with viewing large data sets. By clicking on the Pin icon, a "pin" is enabled adjacent to each field. The Pin icon allows certain fields to remain stationary while viewing the associated related fields for each record (this is analogous to freeze panes in Excel). For example, if you want to look at the test data for the matrix spike duplicate sample (B-45_20000325_MSD), click on the Pin icon. You will notice that a small "pin" appears adjacent to each field name. To more easily review the test data for B-45_20000325_MSD, click on the pin in the sys_sample_code field. As you scroll to the right, the sys_sample_code field remains stationary so you can review the data associated with each sample.

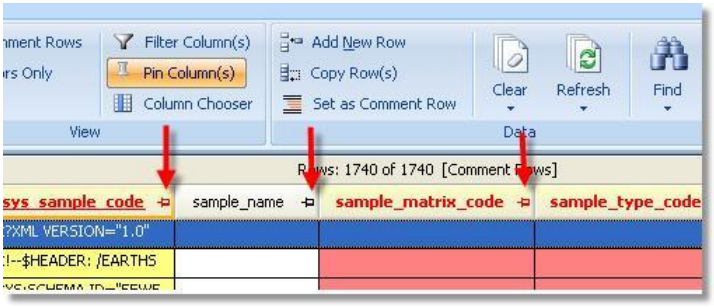


Figure 13: Pinning Columns.

2.11.4 Find and Replace

Use the Find button to find or replace multiple fields with new data. To use this, select any field within the column you would like to search. Then select the Find button, and the **Find and Replace** window opens. This will allow you to enter the text to be found (and the text to replace the original text with if desired).

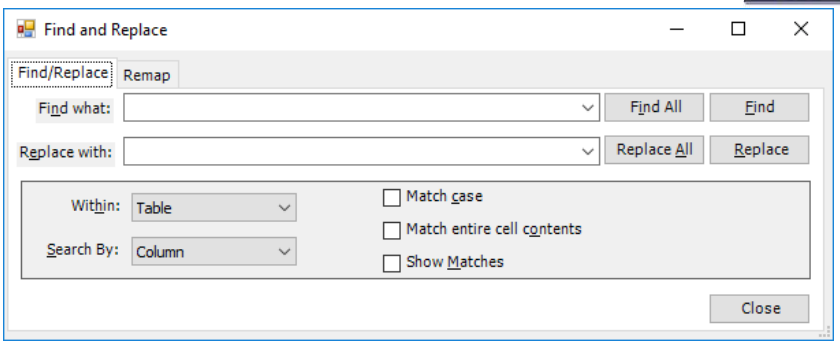


Figure 14: Find and Replace Window

TIP: Recent selections are available for reuse under the drop-down arrow(s).

The Find and Replace tool can be focused on a selection of the available rows in a displayed data file by selecting these rows prior to the opening the Find and Replace option and choosing "Selection" from the drop-down menu in the "Within:" option. Additional choices are "Table" for the entire data file screen displayed, and "All**"** for all EDD tables open.

- **Search by:** provides options to search by rows or columns.

Other options include **Match Case** and **Match entire cell contents**, which should be used when an exact match is desired. These options also eliminate the inclusion of partial matches, which could create new errors. For example, when changing a Method from E300.0 to E310.1, selecting **Match entire cell contents** will prevent the modification of a Batch ID or Lab QC Sample ID that may also include the text "E300.1". With this setting, only the method cells containing E300.1 as the sole content will be selected.

• **Show matches** will open a detail box that will list the matches found
• **Replace** will replace the items one at a time.
• **Replace All** will replace all items found.

2.12 Export Blank EDD Template (.xls)

Many users have their data providers create EDDs using Excel Workbook templates. Built into EDP is an easy tool for creating these templates. To do this:

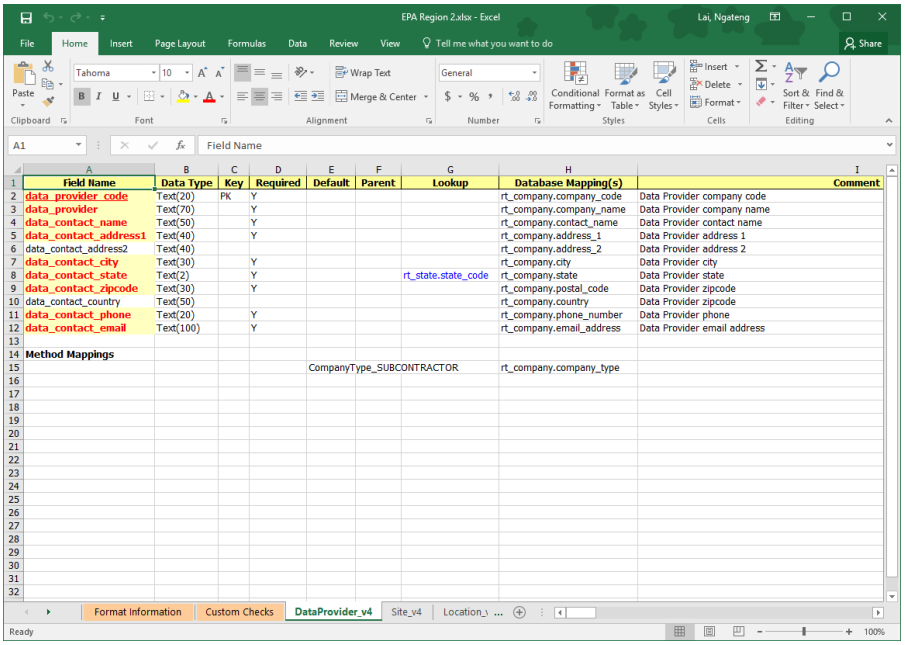
1. From the Tools group select Blank EDD
2. Excel will open and an EDD template will be created. The template includes the column header color coding and tool tips described in a previous section.

Users who create their own custom formats find this tool extremely useful. However, it should be noted that EarthSoft does not support custom formats, therefore custom formats will not be covered in this document.

2.13 Export EDD Description

The EDD Description option allows users to export detailed description of a format. This detail includes data types, key fields, required fields, field description and the database mapping.

To review the descriptions in Excel, select EDD Description from the Tools group. Excel will open and the descriptions will be displayed.



Field Name	Data Type	Key	Required	Default	Parent	Lookup	Database Mapping(s)	Comment
data_provider_code	Text(20)	PK	Y				rt_company.company_code	Data Provider company code
data_provider	Text(70)		Y				rt_company.company_name	Data Provider company name
data_contact_name	Text(50)		Y				rt_company.contact_name	Data Provider contact name
data_contact_address1	Text(40)		Y				rt_company.address_1	Data Provider address 1
data_contact_address2	Text(40)						rt_company.address_2	Data Provider address 2
data_contact_city	Text(30)		Y				rt_company.city	Data Provider city
data_contact_state	Text(2)		Y			rt_state.state_code	rt_company.state	Data Provider state
data_contact_zipcode	Text(30)		Y				rt_company.postal_code	Data Provider zipcode
data_contact_country	Text(50)						rt_company.country	Data Provider zipcode
data_contact_phone	Text(20)		Y				rt_company.phone_number	Data Provider phone
data_contact_email	Text(100)		Y				rt_company.email_address	Data Provider email address
Method Mappings								
				CompanyType_SUBCONTRACTOR			rt_company.company_type	

Figure 15: EDD Description in Excel.

2.14 Generate Format Files

The Generate Format Files option allows user to select an existing Access database that has been set up as a format file. This option will generate an *.xsd. As described previously in this document the *.xsd contains the field specifications and definitions. The *.xsd will also use the primary key fields defined in the Access database to create the primary key fields for the format. It does not contain the database mapping. This option will not create the reference values file (*.rvf) and enumeration file (*.xsd) or the conditional checks file (*.vb). This option can be used to create a skeleton of a format. This is a good starting point for generating user specific formats.

To use this option a user would create an Access database with at least one table which contains the fields, field lengths, types, descriptions as well as a primary key. If more than one table is included in the database this option will create multiple sections for the format. Once the database has been created the user would open EDP and select Generate Format File from the Tools group. First the user will be prompted to Select and Access Database, once selected click Open. The next screen will prompted the user for a new format file name. Once the new format file name has been entered the user selects the Save button and the format will be created. To view the newly created format, select the Format option from the Open group.

Please note that the format will not import data into the EQuIS database until the database mapping has been added to the newly created format.

2.15 Appearance

The default appearance of Column Headers, Errors, and Informational Messages may be modified by users to enhance the user experience. This functionality is available through the Application menu -> Options button. To modify any of these items' appearance:

1. Select the Application menu  then the Options button
2. Expand the node (+) to the left of Appearances
3. Select an attribute you would like to modify. Such as the 'Reference Value Cell Errors' under Errors-> Cell Errors in the Appearance tree located in the left of the Options screen.
4. Click in the cell that appears in the right hand portion of the Options window next to 'BackColor'.
5. Click on the Down Arrow to display the colors selection options for cell background colors.
6. Select a color
7. Select OK

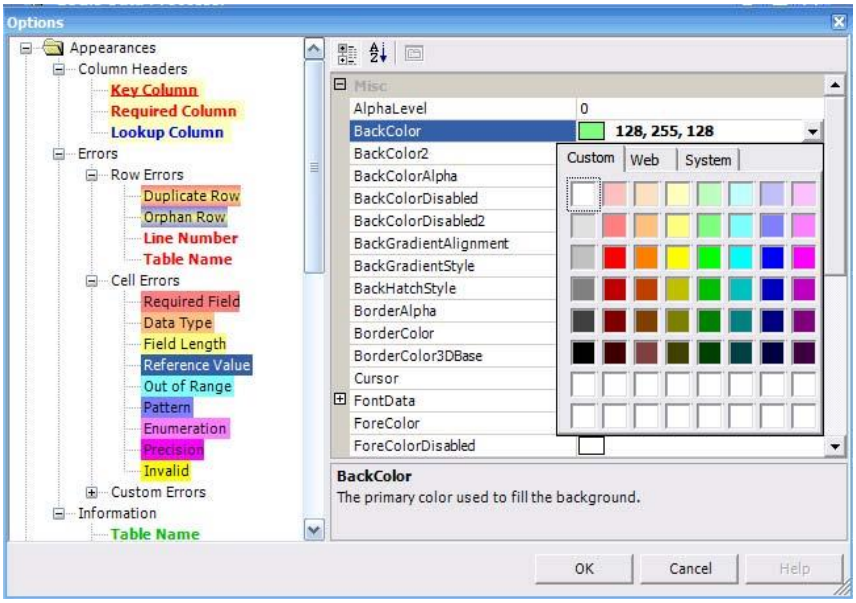


Figure 16: Example of Modifying Appearance in the Options Window.

This process may be repeated for any Appearance setting that are applied to cells in EDP.

3.0 Appendix A – Standard Format Files

There are several formats that are installed by default with the any type of EDP. By default, these standard formats are located in the /Program Files/EarthSoft/EQuIS/System directory and are free of charge.

Format Name	Format Files	Section Names
Action Levels	ActionLevels.xsd	ActionLevel ActionLevelParameter
EPAR2	EPAR2.xse	**Initial EDD** DataProvider_v4 Site_v4 Location_v4 File_v4 **Field** DrillActitvity_v4 Lithology_v4 Well_v4 Wellconstruction_v4 GeologySamples_v4 WaterTable_v4 DownholePoint_v4 SoilGas_v4 WaterLevel_v4 ExtractionInjectionWells_v4 FieldResults_v4 **Vapor Intrusion** VI_bldg_Address_v4 VI_Building_Inspection_v4 VI_Building_Parameters-v4 VI_Locations_v4 VI_Outdoor_Loations_v4 VI_Samples_v4 VI_TestResultsQC_v4 VI_Batches_v4 **Chemistry** Sample_v4 SampleParameter_v4 TestResultQC_v4 Batch_v4 **Basic** BasicLocations_v4 BasicWater_Level_v4 BasicChemistry_v4 BasicGeology_v4

Format Name	Format Files	Section Names
EQEDD	EQEDD.xsd EQEDD.vb	Subfacility_v1 Task_v1 Location_v1 LocationParameter_v1 DrillActivity_v1 Lithology_v1 Well_v1 WellConstruction_v1 GeotechnicalSample_v1 WaterLevel_v1 WaterTable_v1 DownholePoint_v1 ExtrationInjectionWells_v1 Purge_v1 BasicResults_v1 FieldSample_v1 SampleParameter_v1 LabSample_v1 TestResults_v1 TestResults_QC_v1 TestBatch_v1 HistoricalLocation_v1 HistoricalWaterLevel_v1 HistoricalChemistry_v1 HistoricalGeology_v1
ESBasic	ESBasic.xsd ESBasic.vb	ESBasic
EZEDD	EZEDD.xsd EZEDD.vb	EZEDD
EZLithology	EZLithology.xsd	EZLithology
Geology EDD	GeologyEDD.xsd GeologyEDD.vb	Site Location Well SiteLoc LocationParameter AlternatePosition DownholePoint DrillActivity Drill Parameter GeologySample GeoSampleParameter Atterberg StaticProps Lithology WaterLevel WaterTable WellConstruction WellDatum

Format Name	Format Files	Section Names
Reference Values	refvals.xsd	All Reference Tables in EQuIS 6 Database
Water Level	waterlevel.xsd	WaterLevel

4.0 Appendix B – Additional Format Files

Additional formats may be installed with any type of EDP. These formats are listed below and by default are installed in the C:/Program Files/EarthSoft/EQuIS/Formats directory. These formats may be licensed by contacting the organization that designed the formats, or by contacting EarthSoft.

Format Name	Format Files	Section Names
Audomated Data Review (ADR)	ADR.xse ADR.vbe	eQAPP A3 A1
Delaware Natural Resources and Environmental Control (DNREC)	DNREC.xse DNREC.vbe DNREC-enum.xsd	Facililty_v1 Task_v1 Subfacility_v1 Location_v1 LocationParameter_v1 DrillActivity_v1 Lithology_v1 Well_v1 WellConstruction_v1 GeoSample_v1 WaterLevel_v1 WaterTable_v1 DownholePoint_v1 ExtrationInjectionWells_v1 Purge_v1 FieldSample_v1 SampleParameter_v1 LabSample_v1 TestResult_v1 TestResultQC_v1 TestBatch_v1 HistoricalLocation_v1 HistoricalWaterLevel_v1 HistoricalChemistry_v1 HistoricalGeology_v1

Format Name	Format Files	Section Names
EPAR4	EPAR4.xse EPAR4.vbe EPAR4-enum.xsd	EPAR4_Site_v1 EPAR4_Location_v1 EPAR4_Well_v1 EPAR4_SiteLoc_v1 EPAR4_LocationParemeter_v1 EPAR4_AlternatePosition_v1 EPAR4_DownholePoint_v1 EPAR4_DrillActivity_v1 EPAR4_GeologicSample_v1 EPAR4_GeoSampleParameter_v1 EPAR4_Atterberg_v1 EPAR4_StaticProps_v1 EPAR4_Lithology_v1 EPAR4_WaterLevel_v1 EPAR4_WaterTable_v1 EPAR4_WellConstruction_v1 EPAR4_WellDatum_v1 EPAR4_FieldResults_v1 EPAR4_FSample_v1 EPAR4_TST_v1 EPAR4_RES_v1
EPAR5	EPAR5.xse EPAR5.vbe EPAR5-enum.xsd	EPAR5SITE_v3 EPAR5LOC_ v3 EPAR5DRA_ v3 EPAR5LTH_ v3 EPAR5WEL_ v3 EPAR5WSG_ v3 EPAR5GSMP_ v3 EPAR5TBL_ v3 EPAR5DHP_ v3 EPAR5EIW_ v3 EPAR5SoilGas_ v3 EPAR5SMP_ v3 EPAR5TRS_ v3 EPAR5TRSQC_ v3 EPAR5BAT_ v3 EPAR5HistLOC_ v3 EPAR5HistWTR_ v3 EPAR5HistCHEM_ v3 EPAR5HistGEO_ v3

Format Name	Format Files	Section Names
Geotracker	GeotrackerEDF.xse GeotrackerEDF.vbe	EDFSAMP EDFTEST EDFRES EDFQC EDFCL GEO_XY GEO_Z GEO_WELL WELL_CONSTRUCTION EDFFlat EDFCLFlat
gINT	gINT.xse gINT_vbe	PROJECT POINT CPT LITHOLOGY REMARKS SAMPLE TESTS WELL
gINT_Lab	gINT_Lab.xse gINT_Lab.vb	PROJECT POINT CPT LITHOLOGY REMARKS SAMPLE ATTERBERG ATTB READINGS COMPACTION COMP READINGS CONSOL READINGS CONSOLIDATION DIRECT SHEAR DSHR READINGS FALL HEAD K FHK READINGS FINE SG READINGS HYD READINGS HYDROMETER LAB SPECIMEN SIEVE SV READINGS UNC READINGS UNCONF COMPR WC DENSITY WELL

Format Name	Format Files	Section Names
Multiple Facility EDD	Facility.vb Facility.xsd	dt_facility dt_coordinate dt_location rt_group rt_group_member
RockWorks	RockWorks.xse RockWorks.vbe	
RUSS	RUSS.xse RUSS.vbe	
West Virginia Department of Enviromental Protection (WVDEP)	WVDEP.vbe WVDEQ.xse	WV_DATAPROVIDER_V2 VW_SITE_V2 WV_SUBSITE_V1 WV_LOCATION_V2 WV_WELL_V1 WV_DRILLACTIVITY_V1 WV_LITHOLOGY_V1 WV_WELLCONSTRUCTION_V1 WV_GEOLOGICSAMPLE_V1 WV_WATERTABLE_V1 WV_DOWNHOLEPOINT_V1 WV_FIELDRESULTS_V2 WV_WATERLEVEL_V2 WV_SAMPLECOLLPROC_V2 WV_SAMPLEINFO_V2 WV_TESTRESULTS_V2