



Water Quality Planning Bureau

EQuIS Data Processor Guidance Manual

**Data Management Section
Water Quality Planning Bureau
Planning, Prevention and Assistance Division**

January 2010

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Document History			
Revision #	Revision Date	Revised By	Notes
1.0	1/6/2010	Jolene McQuillan	Initial document development
1.1	4/3/2014	Jolene McQuillan	Added clarification to Section 3.7 about submitting data package.

Acronyms		
File Extensions	.txt	Text File
	.xls	Excel Spreadsheet
	.zip	Compressed File
Acronyms	DEQ	Montana Department of Environmental Quality
	EDD	Electronic Data Deliverable
	EDP	EQuIS Data Processor
	EPA	Environmental Protection Agency
	FTS	File Transfer Service
	MT-eWQX	Montana EQuIS Water Quality Exchange
	STORET	Storage and Retrieval Database
	WQPB	Water Quality Planning Bureau
WQX	Water Quality Exchange	

1.0 EQuIS Data Processor Overview

The purpose of this guidance manual is to provide instructions on how to use the EQuIS Data Processor (EDP). The EDP is a standalone application that must be used by data providers to check their EDD files prior to submission to MT-eWQX. The EDP performs a series of formatting checks on the EDD and then identifies any records that have errors. The EDP checks data for the following:

- Required Fields
- Field Length
- Data Types
- Valid Reference Values
- Duplicate Rows
- Range Checking
- Record Parent-Child Relationships

If errors are detected, the application allows the data provider to correct the errors directly in the EDP. After all errors have been corrected, the EDP must be re-run to ensure that no errors remain. EDD files that pass through the EDP error-free should also result in an error-free import into the MT-eWQX database, as long as the EDD submittal process is followed. The EDP does not compare the data in the EDD to the data in the MT-eWQX database, so it is possible to receive an error when submitting to MT-eWQX if the data in your EDD does not relate to data in the database.



All MT-eWQX materials referenced in this guidance manual are available from DEQ's MT-eWQX Support website located at <http://deq.mt.gov/wqinfo/datamgmt/MTEWQX.mcp>.

2.0 EDP Installation

To use the EDP application, the following four steps must be completed in the order shown:

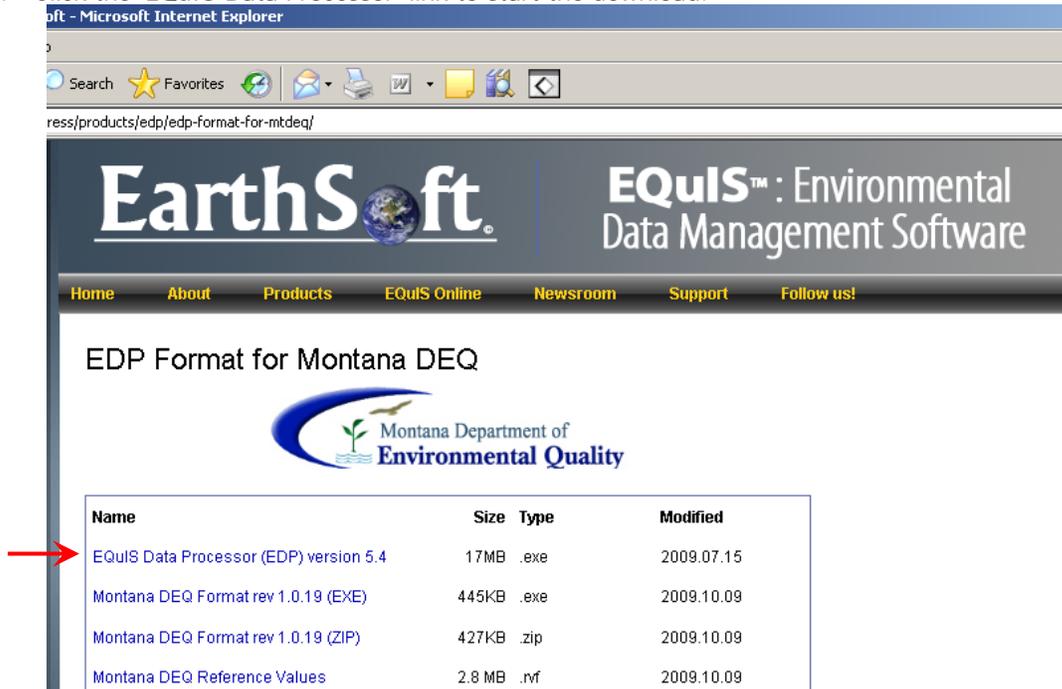
1. Download and install the EDP application
2. Download the Montana DEQ Format
3. Download the Montana DEQ Reference Values
4. Register the EDP Application

The download page for the EDP application and associated files can be accessed from the MT-eWQX Support website. By clicking the Download EDP link under Step 2, you'll be directed to the EDP download page, hosted by EarthSoft, the developer of the EDP and the MT-eWQX database.

2.1 Download and Install the EDP Application

From the EDP Download page hosted by EarthSoft:

1. Click the 'EQUS Data Processor' link to start the download.



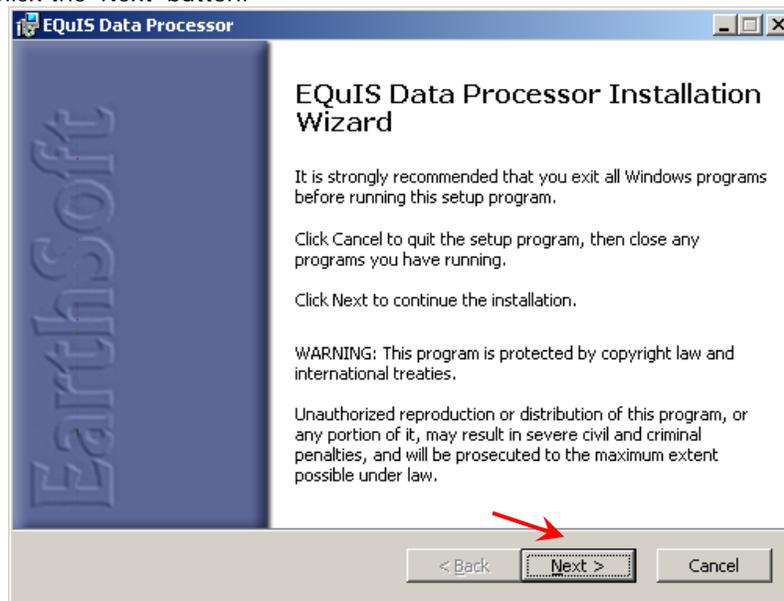
2. Select 'Run' when asked if you want to run or save the file.



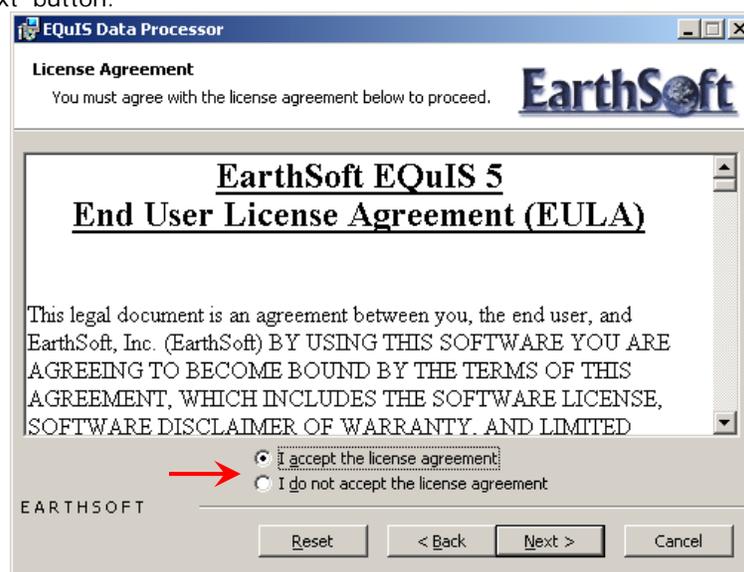
3. Select 'Run' again when asked if you want to run the software.



4. The installation wizard will launch. Note that during installation you should have no other programs running. Click the 'Next' button.



5. The License Agreement screen will appear. Select 'I accept the license agreement' radio button and click the 'Next' button.



6. Enter full name and organization. Select the 'Anyone who uses this computer' radio button and click the 'Next' button.

EQiS Data Processor

User Information
Enter the following information to personalize your installation.

Full Name: Jolene McQuillan

Organization: DEQ

The settings for this application can be installed for the current user or for all users that share this computer. You must have administrator rights to install the settings for all users. Install this application for:

Anyone who uses this computer
 Only for me (State of Montana)

EARTH SOFT

< Back Next > Cancel

7. Select the destination folder for the application files. C:\ProgramFiles\EarthSoft\EQuIS is the default location. Click the 'Next' button.

EQiS Data Processor

Destination Folder and Licensing
Select a folder where the application will be installed.

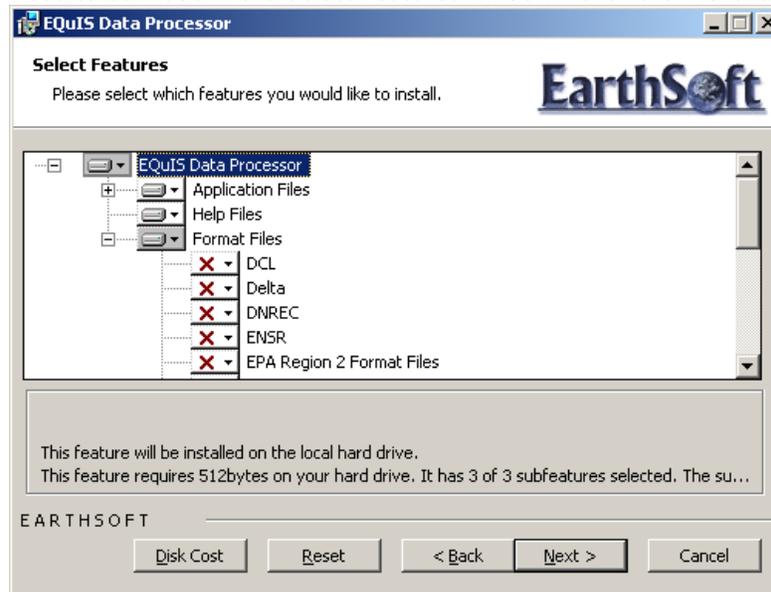
EQiS Data Processor will be installed in the following folder:

Installation Folder
C:\Program Files\EarthSoft\EQuIS\ Browse

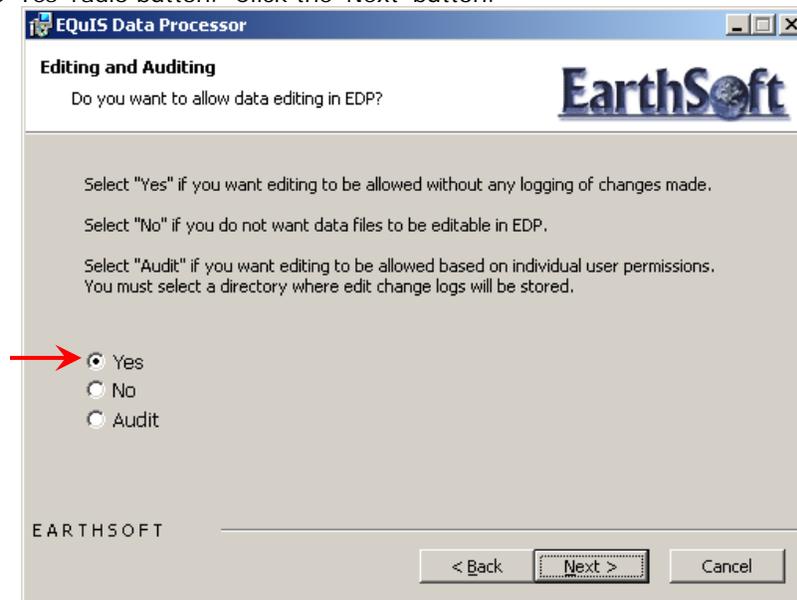
EARTH SOFT

< Back Next > Cancel

8. No changes need to be made in the Select Features window. Click the 'Next' button.



9. Select the 'Yes' radio button. Click the 'Next' button.



10. Click the 'Next' button to begin the installation. When the installation is complete, you will be presented with a window that verifies the EDP has been successfully installed. Click the 'Finish' button to exit the installation.



2.2 Download the Montana DEQ Format

From the EDP Download page hosted by EarthSoft:

1. Click the 'Montana DEQ Format (EXE)' link to start the download. **NOTE:** If you have trouble downloading the .exe version of the format, see the steps at the end of this section for downloading the .zip version.

Name	Size	Type	Modified
EQiS Data Processor (EDP) version 5.4	17MB	.exe	2009.07.15
Montana DEQ Format rev 1.0.19 (EXE)	445KB	.exe	2009.10.09
Montana DEQ Format rev 1.0.19 (ZIP)	427KB	.zip	2009.10.09
Montana DEQ Reference Values	2.8 MB	.rvf	2009.10.09

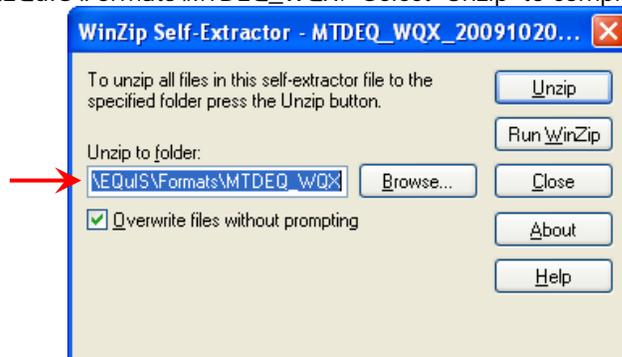
2. Select 'Run' when asked if you want to run or save the file.



3. Select 'Run' again when asked if you want to run the software.

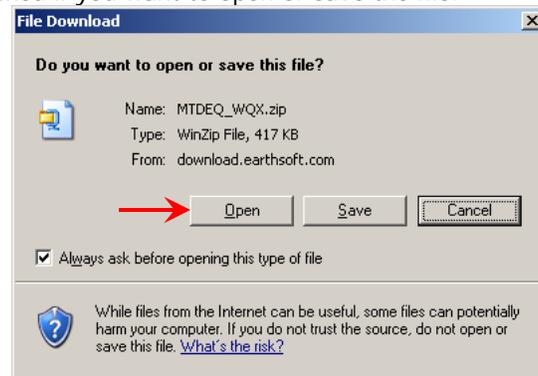


4. The following window will appear. Verify the format will be installed to C:\Program Files\EarthSoft\EQulS\Formats\MTDEQ_WQX. Select 'Unzip' to complete the installation.

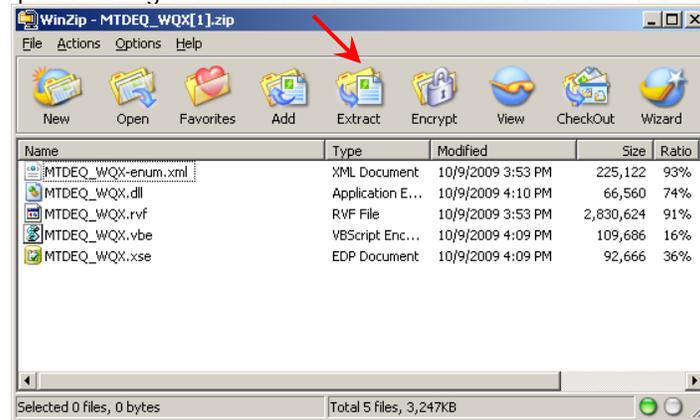


NOTE: If you have trouble downloading the .exe version of the format, download the .zip version of the format. Here are the instructions for downloading the .zip version:

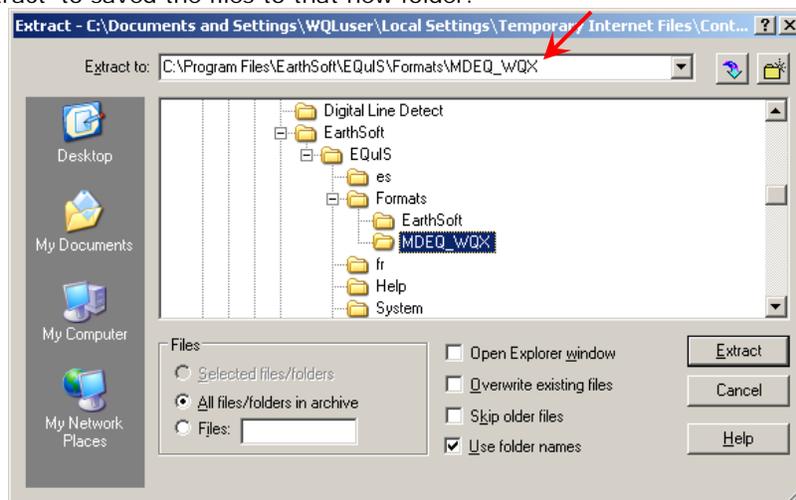
1. Click the 'Montana DEQ Format (ZIP)' link to start the download.
2. Select 'Open' when asked if you want to open or save the file.



3. WinZip should open showing the format files. Select 'Extract' to save the files.



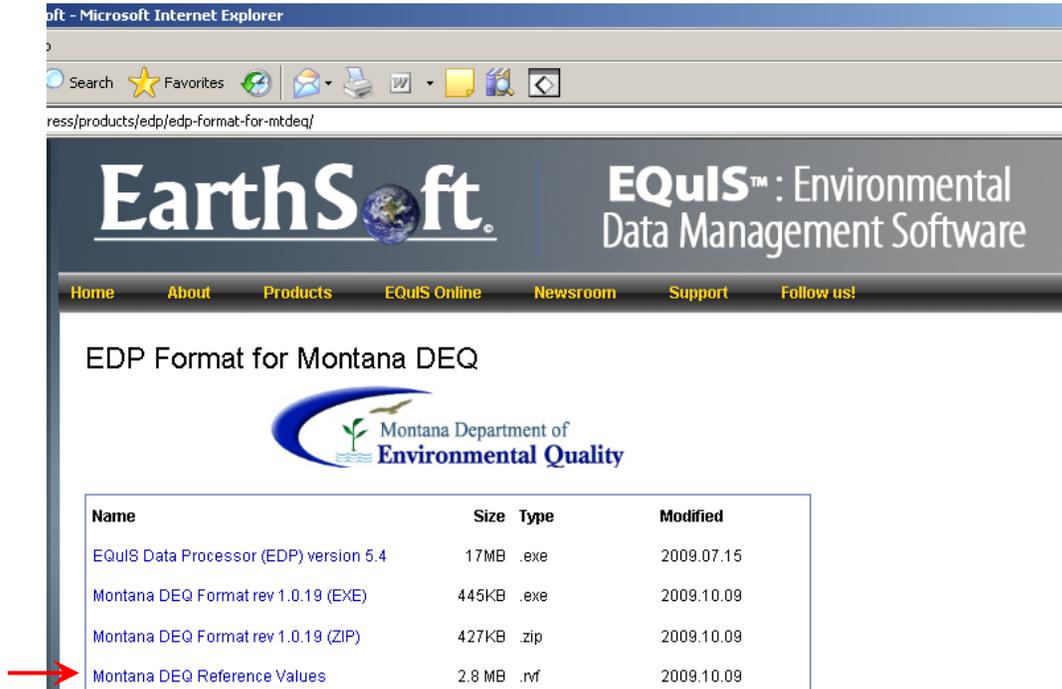
4. Browse to C:\Program Files\EarthSoft\EQuIS\Formats and create a new folder called MTDEQ_WQX. Select 'Extract' to save the files to that new folder.



2.3 Download the Montana DEQ Reference Values

From the EDP Download page hosted by EarthSoft:

1. Click the 'Montana DEQ Reference Values' link to start the download.



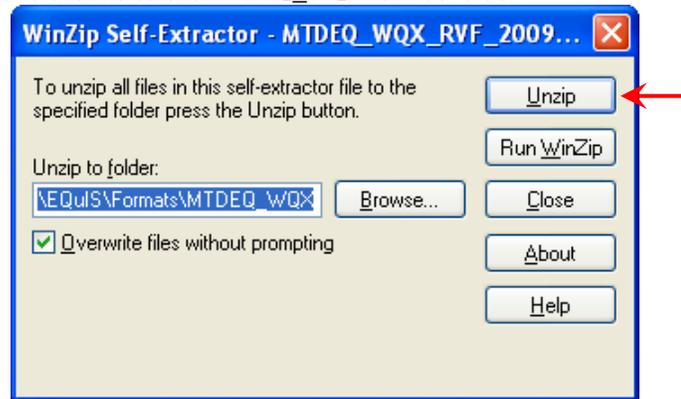
2. Select 'Run' when asked if you want to run or save this file.



3. Select 'Run' when asked if you want to run this software.



4. Select 'Unzip' to save the file to the MTDEQ_WQX format folder.

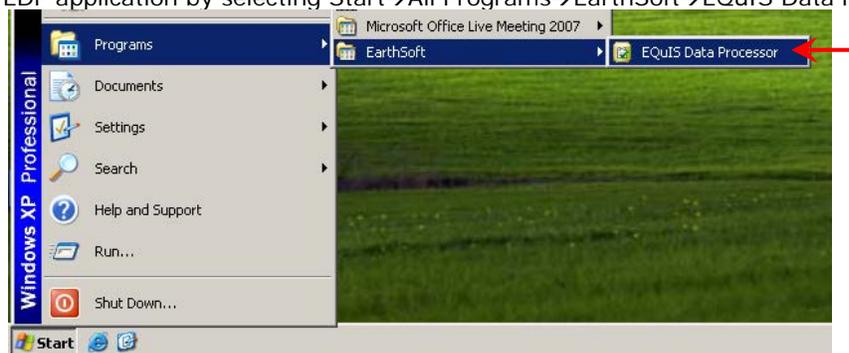


5. Select 'OK' after the file has been successfully saved.

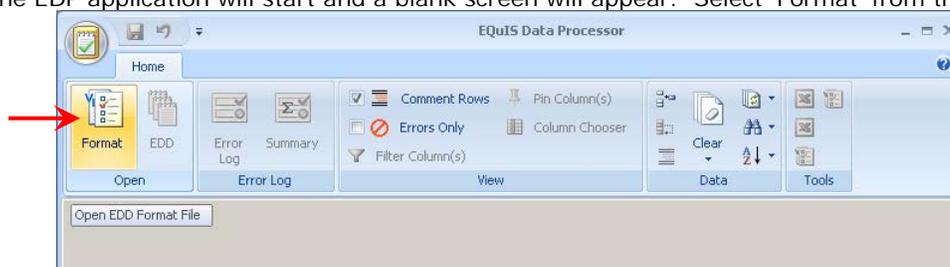
2.4 Register the EDP Application

Once installed, the EDP application and Montana DEQ format must be registered.

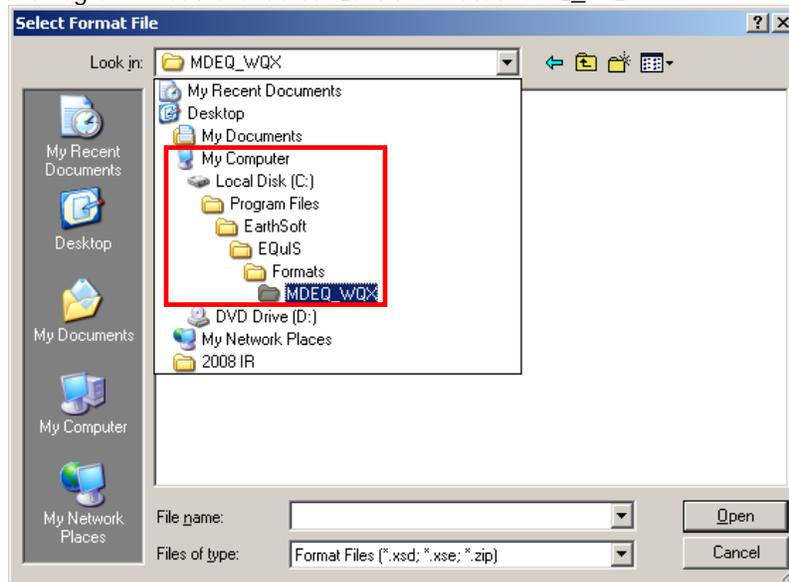
1. Start the EDP application by selecting Start→All Programs→EarthSoft→EQuIS Data Processor.



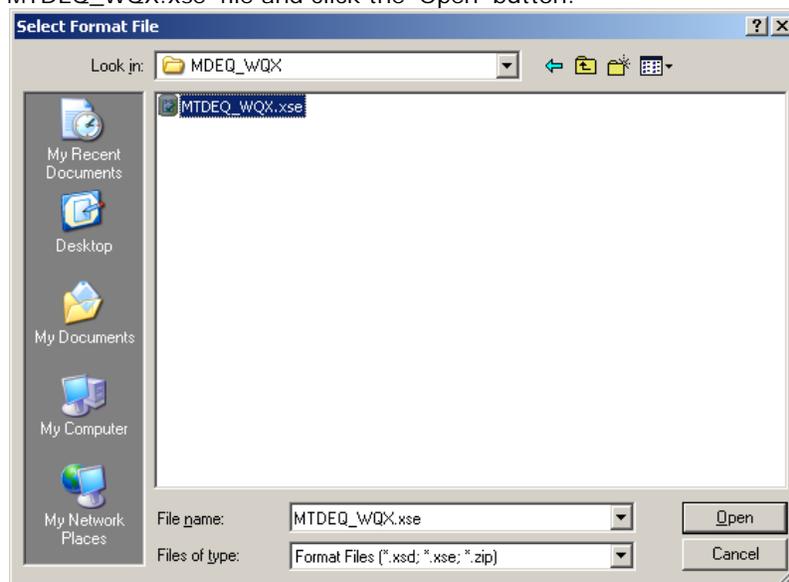
2. The EDP application will start and a blank screen will appear. Select 'Format' from the menu.



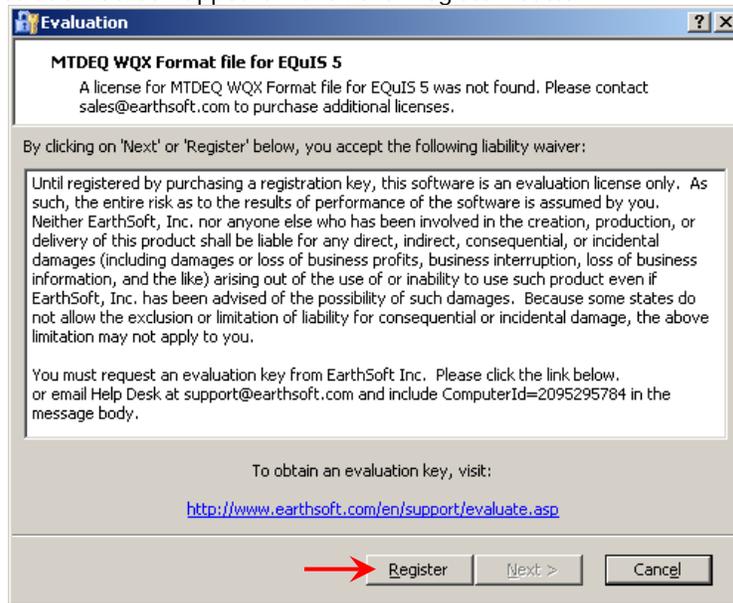
3. Browse to C:\Program Files\EarthSoft\EQuIS\Formats\MDEQ_WQX.



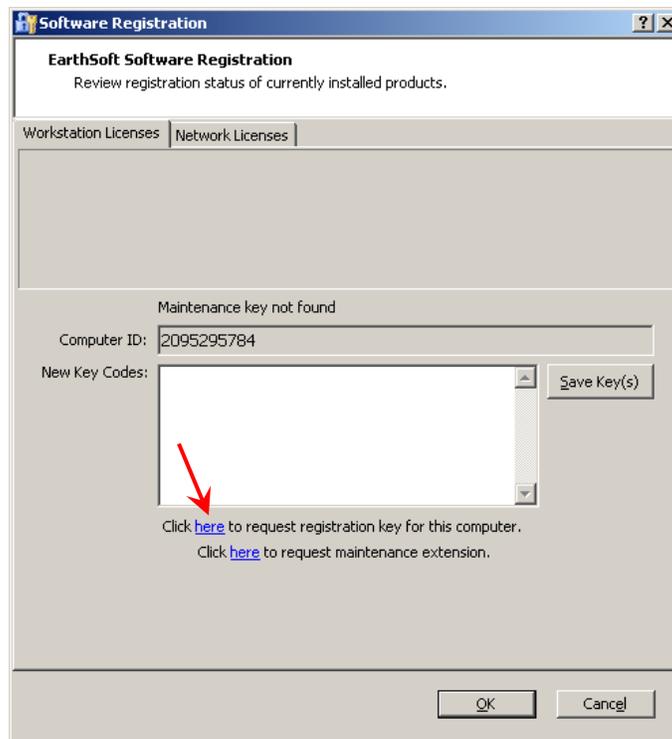
4. Select the 'MTDEQ_WQX.xse' file and click the 'Open' button.



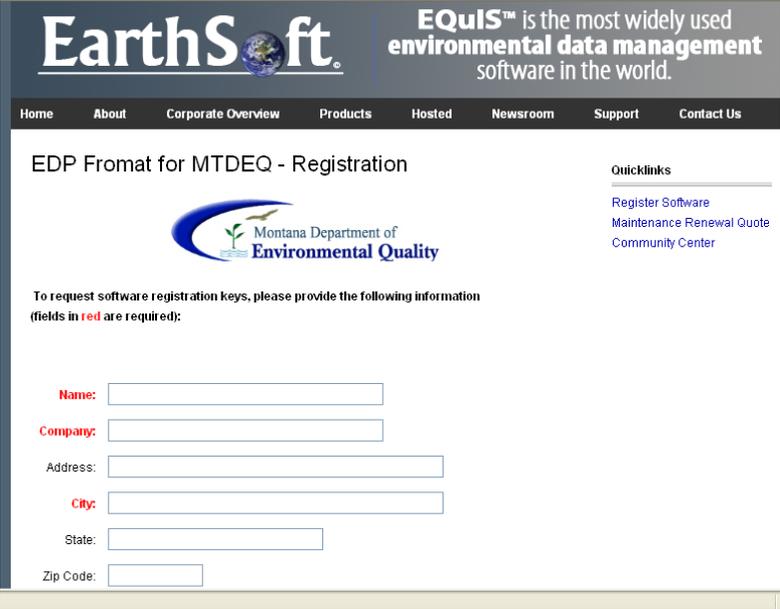
5. The EDP Registration Screen appears. Click the 'Register' button.



6. Click the link to request registration key for this computer, which is found under the New Key Codes box.

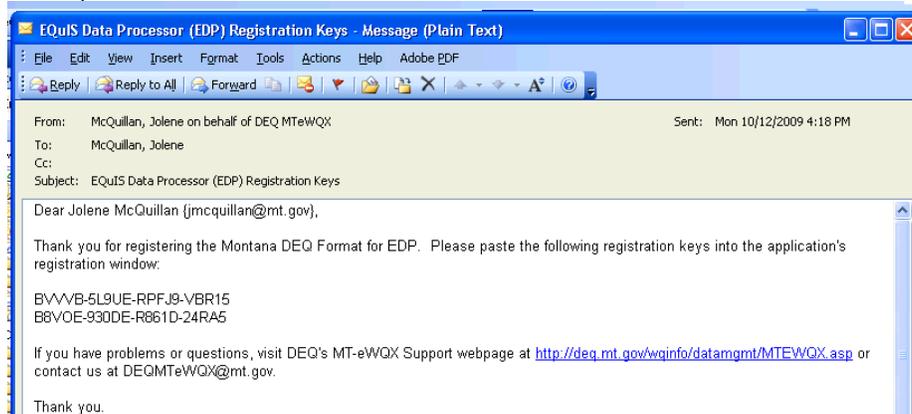


7. An internet window will open and the 'EDP Format for MTDEQ – Registration' website will appear. Enter the requested information and select 'Submit'. The Computer ID field should automatically be populated. The registration keys you will receive are associated with your Computer ID, so if you change computers you'll need to download and install EDP again and request new keys.

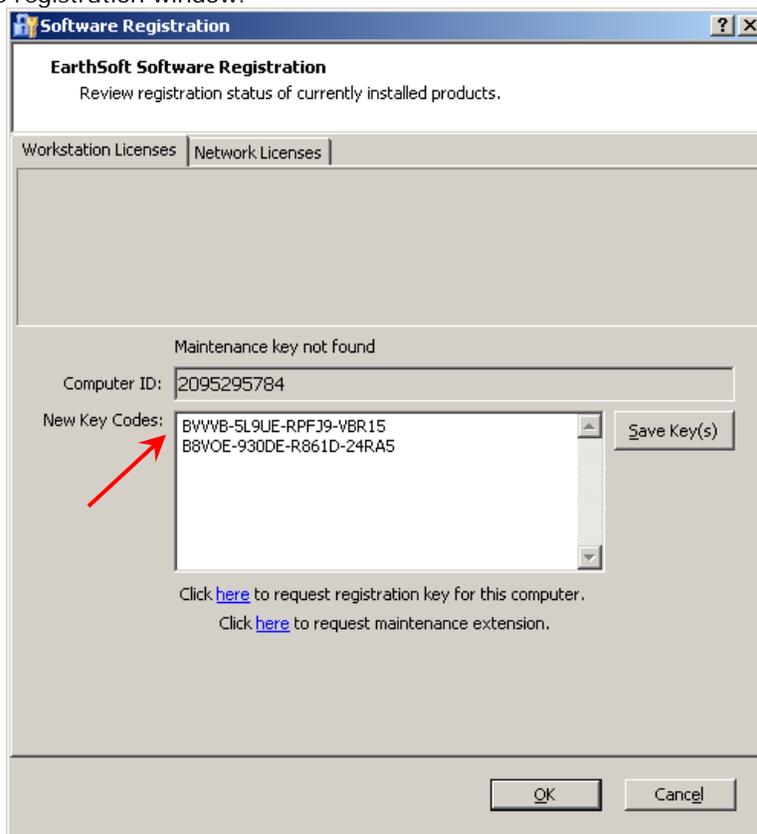


The screenshot shows the EarthSoft EQUIS website. The header includes the EarthSoft logo and the tagline "EQUIS™ is the most widely used environmental data management software in the world." Below the header is a navigation menu with links: Home, About, Corporate Overview, Products, Hosted, Newsroom, Support, and Contact Us. The main content area is titled "EDP Fromat for MTDEQ - Registration" (note the typo "Fromat"). It features the Montana Department of Environmental Quality logo and a "Quicklinks" section with links to "Register Software", "Maintenance Renewal Quote", and "Community Center". A message states: "To request software registration keys, please provide the following information (fields in red are required):". Below this are several input fields: "Name:" (red), "Company:" (red), "Address:" (white), "City:" (red), "State:" (white), and "Zip Code:" (white).

8. After the registration form is submitted, you should receive a confirmation email indicating your request of being processed. Keys will be sent to the email address provided in the form typically within 48 hours. If the form is submitted during typical business hours, keys should be received within a couple hours.



- Copy the keys from the email and paste them into the 'New Key Codes' field on the registration window. If you closed out of EDP while waiting for the keys to arrive, follow steps 1-5 above to return to the registration window.



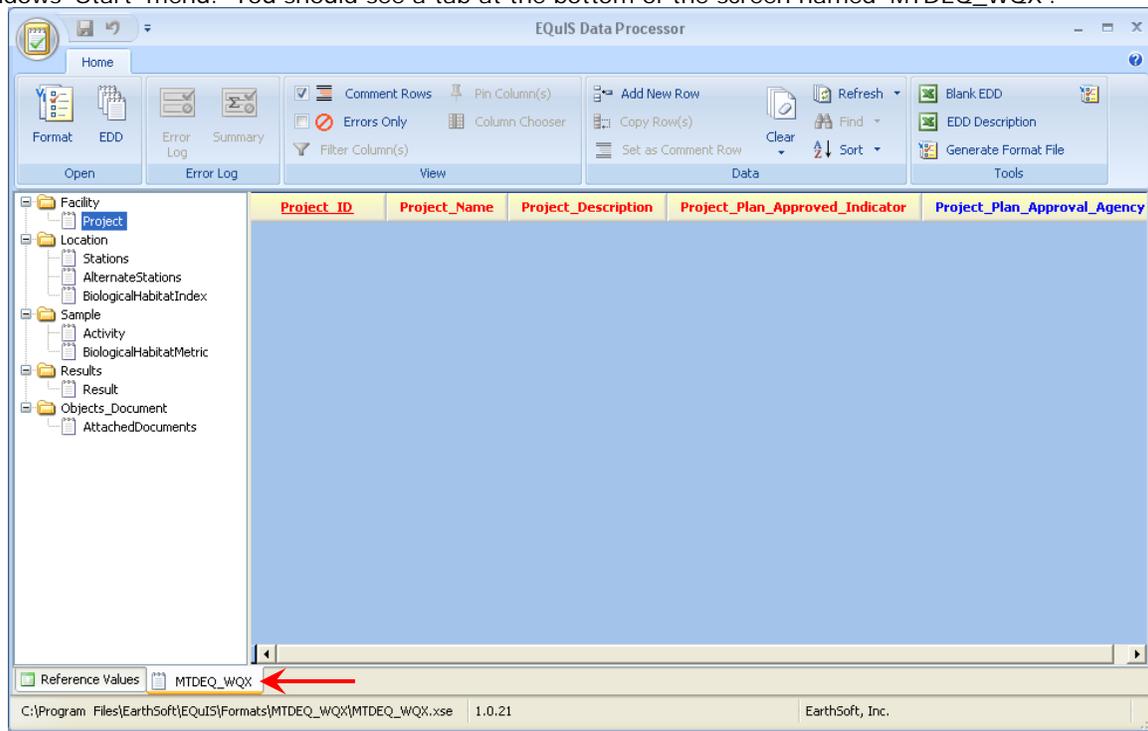
- After the keys have been entered, select 'Save Key(s)'. A screen stating that the registration succeeded should appear, select 'OK'.



- The EDP and Montana DEQ format is now registered and ready to use. To start using the EDP, select 'Format' from the menu, browse to C:\Program Files\EarthSoft\EQuIS\Formats\MDEQ_WQX, and open the MTDEQ_WQX.xse file.

3.0 Using the EDP

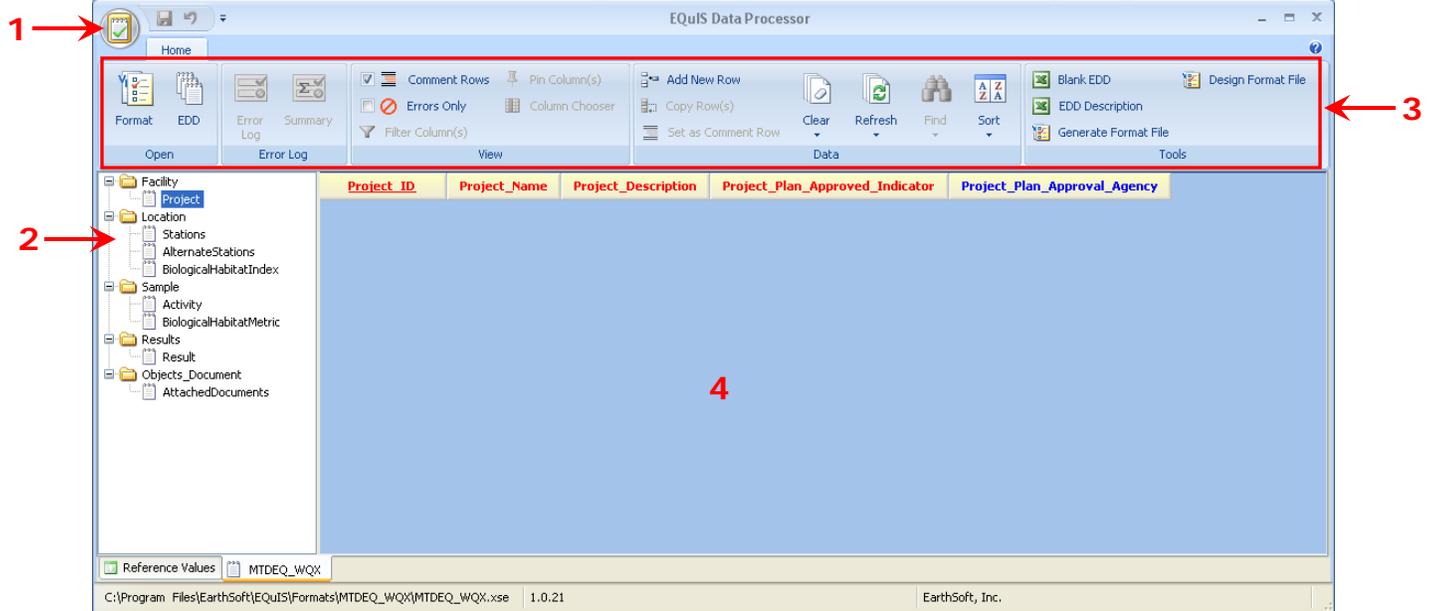
To start the EDP application, select Start→All Programs→EarthSoft→EQulS Data Processor from the Windows 'Start' menu. You should see a tab at the bottom of the screen named 'MTDEQ_WQX'.



If you didn't select a format after registering the application in Section 2.4, you probably won't see the MTDEQ_WQX tab and you'll need to select a format now. To select the format follow steps 2-4 in Section 2.4 above. Once a format has been selected, EDP will remember the format and always open it when the application is started.

3.1 EDP Main Window

The EDP main window contains all the tools you'll need to use to load, review, and update your EDD file.



1) Home Menu

The home menu has options to:

- Open an EDD or format
- Save an EDD
- Sign & Submit
- Register the EDP application
- Exit the application

2) Sections of the EDD Format

The left pane contains the sections of the EDD format. These correspond to the worksheets in the Excel version of the EDD. Once an EDD is loaded, clicking on each of these sections will bring up the associated data.

3) Tool Bar

The tool bar stretches across the EDP window and has options to:

- Open a Format, EDD, Error Log, or EDD Summary
- Turn comment rows off
- Select only rows with errors
- Turn column filters on
- Pin columns
- Choose which columns to show
- Add a new row to an EDD section
- Clear data from an entire table, an entire EDD, or an entire data package
- Refresh data in a selected row, table, or everything
- Find and replace text
- Sort columns ascending or descending
- Open a new blank EDD or open a description of the EDD

4) Data

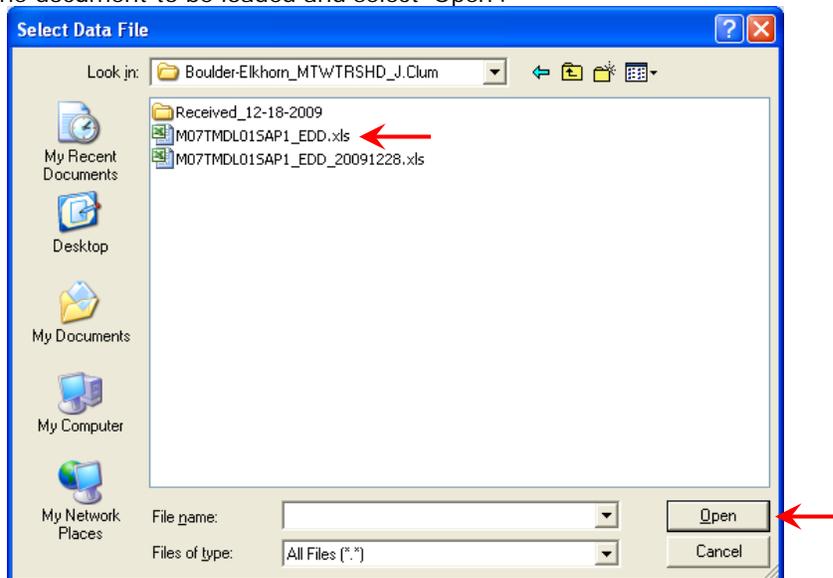
The main portion of the window is devoted to displaying the data associated with each section of the EDD. At the top of the data portion are column headers which have tool tips. To access these tool tips, simply hold your mouse over the column header name. The tool tips give a brief description of the field and include information about field length and whether a field is required, conditional, or optional.

3.2 Loading EDD Files

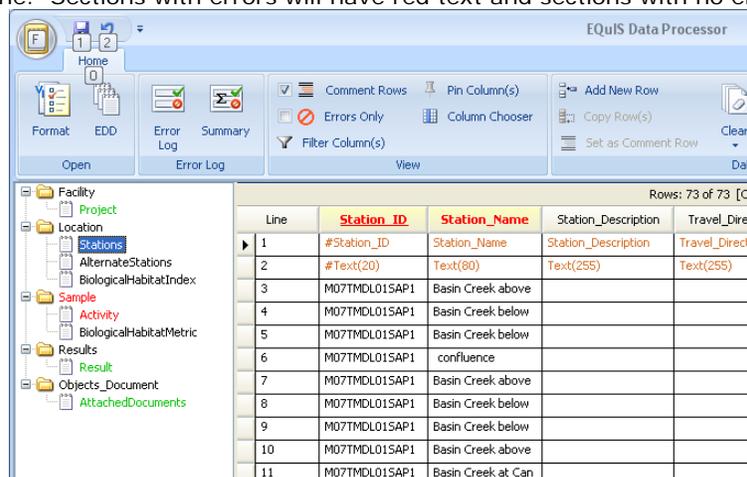
1. Click the 'EDD' button in the tool bar.



2. Browse to the document to be loaded and select 'Open'.



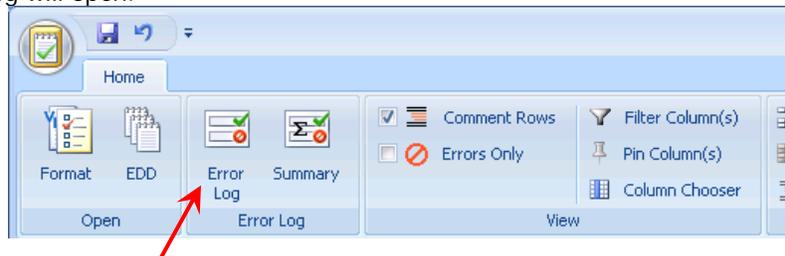
3. The EDP will load the file. Once the file is loaded the data can be displayed by selecting the sections in the left pane. Sections with errors will have red text and sections with no errors will be green.



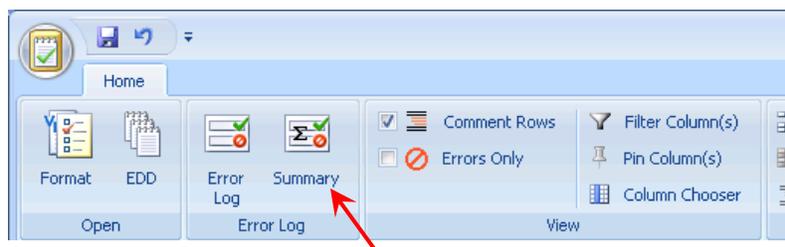
3.3 Error Logs

After an EDD has been loaded, EDP will produce an error log that can be saved as an HTML formatted file. EDP has two types of error logs: a detailed error log that lists details about each error, or an error summary that lists the type and count of each error in the EDD.

1. In the top tool bar, select 'Error Log' to save and view a detailed list of the errors in the current EDD. Use the Browse window to locate the desired location to save the file. After 'Save' is selected the error log will open.



2. Select 'Summary' to save and view a summary of all the errors in the current EDD. Use the Browse window to locate the desired location to save the file. After 'Save' is selected the error log will open.



3.4 Correcting Errors

As described in Section 1.0, the EDP application performs a series of formatting checks on the EDD and then identifies any records that have errors. The fields with errors will be shaded different colors depending on the type of error. A description of the error is provided when the cursor is placed over the field. In the example below, the Activity_Type value in row 3 is not a valid value.

 A screenshot of the EDP application interface. The title bar says 'EQuIS Data Processor'. The toolbar includes 'Format', 'EDD', 'Error Log', 'Summary', 'Comment Rows', 'Errors Only', 'Filter Column(s)', 'Pin Column(s)', 'Column Chooser', 'Add New Row', 'Copy Row(s)', 'Set as Comment Row', 'Clear', and 'Refresh'. On the left is a tree view with folders like 'Facility', 'Location', 'Stations', 'Sample', 'Results', and 'Objects_Document'. The main area shows a data table with 4 rows. Row 3 is highlighted in pink, and the 'Activity_Type' cell contains 'ROUTINE'. A tooltip box points to this cell with the text 'Value not found in list'.

Line	Project_ID	Station_ID	Activity_ID	Activity_Type	Activity_G
1	#Project_ID	Station_ID	Activity_ID	Activity_Type	Activity_Grc
2	#Text(35)	Text(20)	Text(35)	Text(70)	Text(20)
3	STREFFPRO	K035VNTC01	99991-PHY-D1	ROUTINE	
4	STREFFPRO	K035VNTC01	99991-PHY-D2	QC-FR	

For most errors, there are two correction methods:

1. **Correct directly in EDP:** To get the most out of the EDP application, DEQ recommends correcting errors directly within EDP. Click in the error field and type the correct value. If the field is restricted to a list of valid values, the valid values will be provided in a drop-down list by clicking on the down arrow located on the left side of the field. Once an error is corrected and the cursor is moved out of the field (i.e. user clicks on another field) the shading signifying an error should disappear. If you believe you have corrected an error but the field remains shaded, refresh the EDD by selecting 'Refresh Table' in the tool bar. Selecting refresh will run the formatting checks again.
2. **Correct in original EDD file:** Exit the EDP application and then open the EDD file. Correct the error in the EDD file, resave the EDD, and then re-load the EDD back into EDP to check for additional errors. This method is best if you're dealing with large EDD files that have many of the same errors (such as an incorrect valid value in 1,000 records).

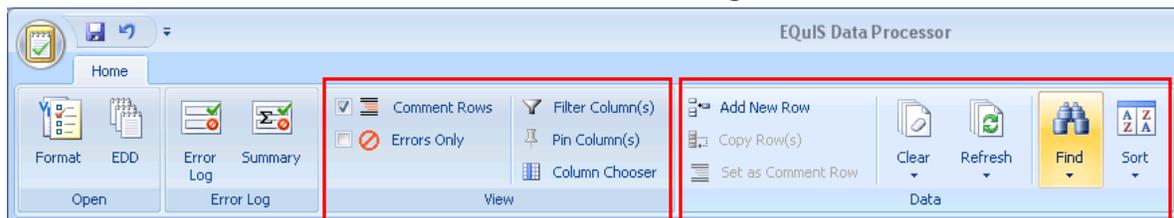
Note: If data providers believe that a new reference value is required, they should follow the process described in Section 3.1.2 of the 'MT-eWQX Guidance Manual' to request that the value be added.

3.4.1 Using Find and Replace

The 'Find and Replace' function allows searching the EDD for specified values and then replacing those values with another value. This function is useful when there are a number of similar values that need to be changed. The 'Find and Replace' function is activated by selecting the binocular icon located in the Data section of the tool bar. The 'Find and Replace' dialog box will appear. Type the value to be replaced in the 'Find What' field and type the new value in the 'Replace With' field. Select 'Find' to view fields with the value and 'Replace' to replace the original value with the new value.



3.4.2 Miscellaneous Tool Bar Features to Assist in Correcting Errors



There are several tool bar features to assist in correcting errors:

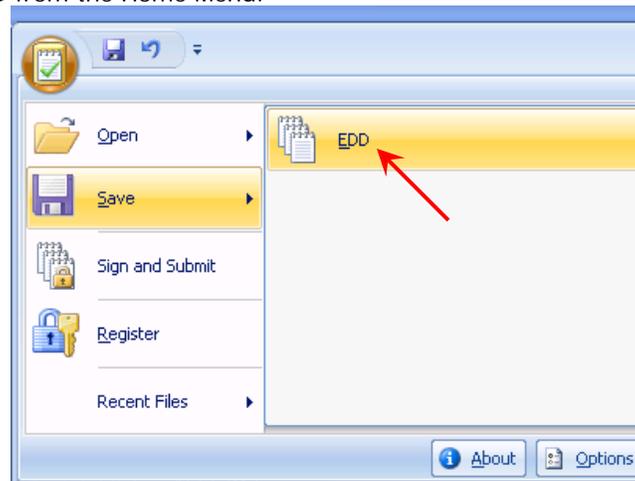
- In the View section of the tool bar:
 - **Comment Rows:** Check the box to show comment rows. Comment rows are non-data rows, typically the two header rows in each section of your EDD. In EDP, comment rows have orange text.
 - **Errors Only:** Check the box to show only rows with errors. This is very helpful when searching for records with errors, especially in larger EDDs.
 - **Filter Columns:** Select 'Filter Columns' to turn on the column filter feature. When on, the filter icon will appear next to each column name. To filter a column, select the filter icon and choose your desired filter option: All, Custom, Blanks, Non-blanks, or an individual column value.
 - **Pin Columns:** Select 'Pin Columns' to turn on the pin column feature. When on, the pin icon (a small push pin) appears next to each column name. To pin a column, click the pin icon next to the column to wish to not move. The pin icon will rotate down and the column will move in front of non-pinned columns.
 - **Column Chooser:** Select the Column Chooser to select which columns you wish to view. A dialog window will appear that allows you to turn on or off each column. Column configurations can also be saved and loaded.

- In the Data section of the tool bar
 - Add New Row: By selecting 'Add New Row', a blank row will be added to the bottom of the current EDD section you're viewing. This allows the user to enter data directly into the EDD via EDP, plus the format rules are applied as the data is entered.
 - Set as Comment Row: If a comment row appears as a data record, highlight the row and select 'Set as Comment Row'. In the Excel version of the EDD, comment rows are marked with a pound sign (#).
 - Find and Replace: See section 3.4.1
 - Sort: After selecting a column, select Sort to sort the records in ascending (A to Z, smallest to largest) or descending (Z to A, largest to smallest) order.

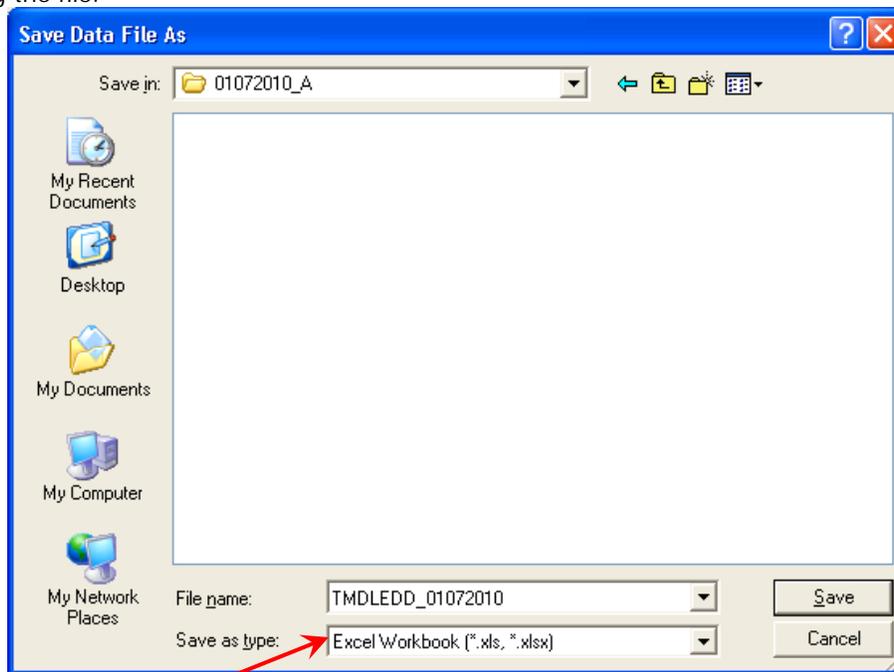
3.5 Saving Changes to the EDD File

Changes made to the EDD directly in the EDP application are not automatically saved to the original EDD file that was loaded. To save the changes made:

1. Select Save→EDD from the Home Menu.



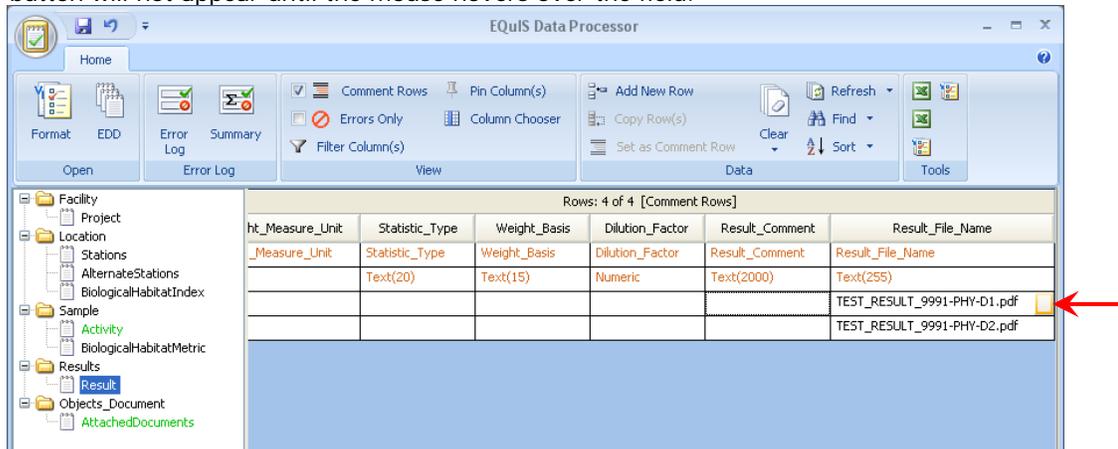
2. Browse to where you'd like to save the file. If you want to save the EDD as an Excel workbook with each section on a separate worksheet, select 'Excel Workbook' from the 'Save as type:' drop-down menu. Enter a file name and select 'Save'. Select 'OK' when asked if you would like to proceed saving the file.



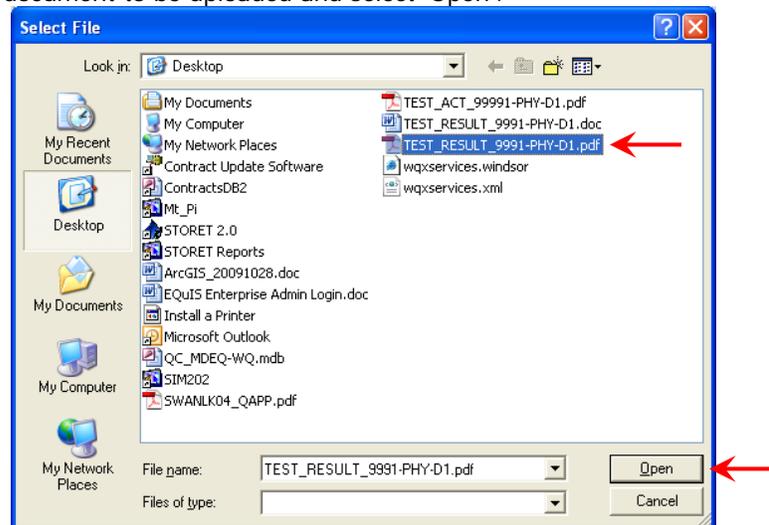
3.6 Using EDP to Attach Documents

Document can be associated with projects, stations, activities, and results. The AttachedDocuments worksheet is used to associate documents to projects, stations, or activities. The Result_File_Name field in the Result worksheet is used to associate documents to results. The Result_File_Name field and the fields in the AttachedDocuments worksheet can be filled out before the EDD is imported into EDP or they can be filled out within EDP. With both methods, the following steps need to be completed in order for the Sign and Submit feature to work properly:

1. After the EDD has been loaded with no errors, go to the Result and/or AttachedDocuments sections that have documents.
2. Select the button in the File_Name field of the Result and/or AttachedDocuments section. The button will not appear until the mouse hovers over the field.



3. Browse to the document to be uploaded and select 'Open'.



4. If it was a document in the AttachedDocuments section, the File_Extension and File_Date fields will also be populated after the document is opened. Now the EDD is ready for the Sign and Submit feature.

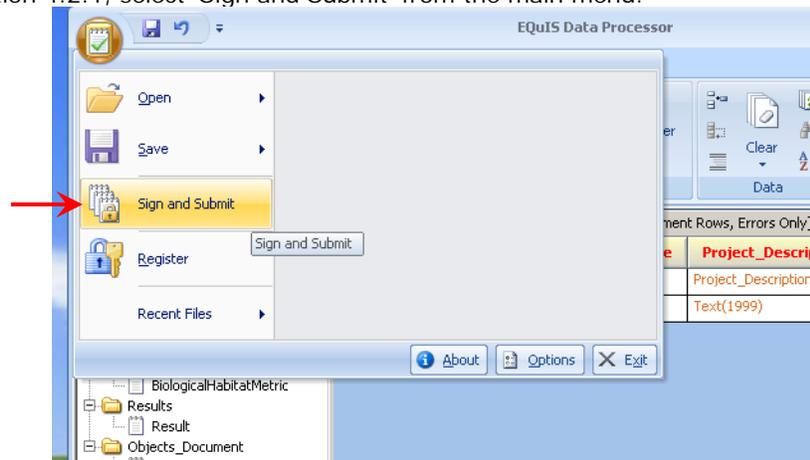
3.7 The Data Package

After an EDD has passed through the EDP with no errors, the data provider is ready to create the final data package. The data package is a single .zip file that consists of the EDD, any attached documents referenced in the EDD, and the data provider's user certificate. Once created, the data package is ready to be submitted to MT-eWQX as described in Section 5.4 of the MT-eWQX Guidance Manual.

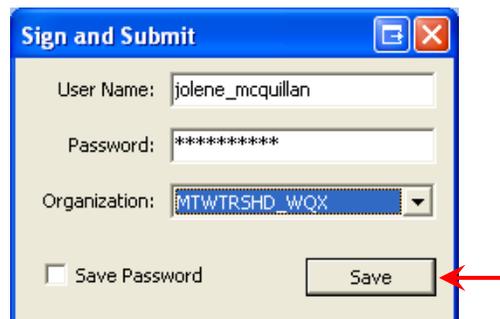
3.7.1 Sign and Submit

The easiest way to create the EDD data package is use the Sign and Submit feature in EDP.

1. Check the Result and AttachedDocuments sections of your EDD to verify if you have documents attached. If you do not, then continue with step 2. If you do, then see section 4.2.1 on how to use EDP to attach documents.
2. After all your EDD(s) have been loaded into EDP error-free and any documents have been attached per section 4.2.1, select 'Sign and Submit' from the main menu.



3. Enter your EQuIS Enterprise user name, password, and organization ID you're submitting data to. Select 'Save'.



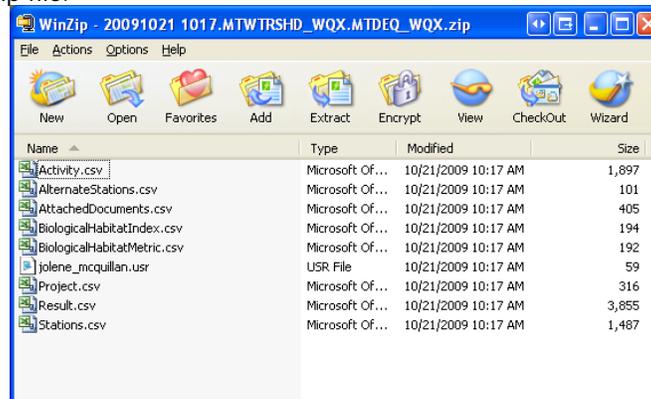
4. EDP will generate a file name for your data package that includes the date, time, organization ID, and EDP format name. Browse to where you'd like to save the data package and select 'Save'. A confirmation window should appear verifying the EDD was signed and submitted.



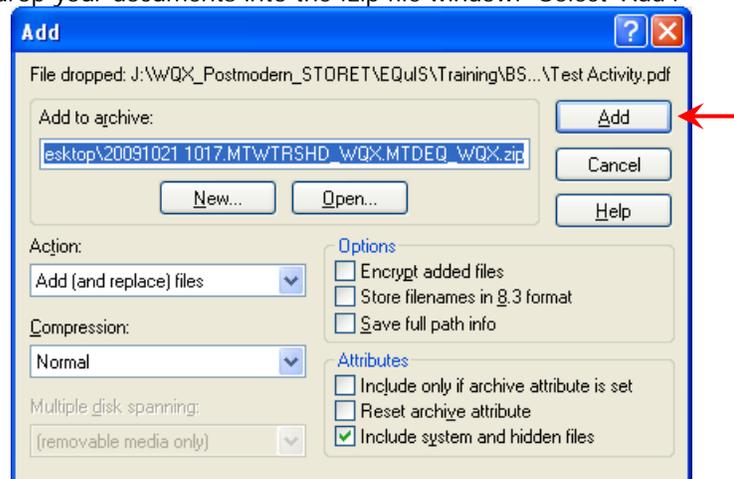
- The .zip file that was just created contains the EDD, your user certificate, and any attached documents if you attached them per section 4.2.1. If you have attached documents that were not attached per section 4.2.1, they'll need to be added to the .zip file separately.

To manually add attached documents:

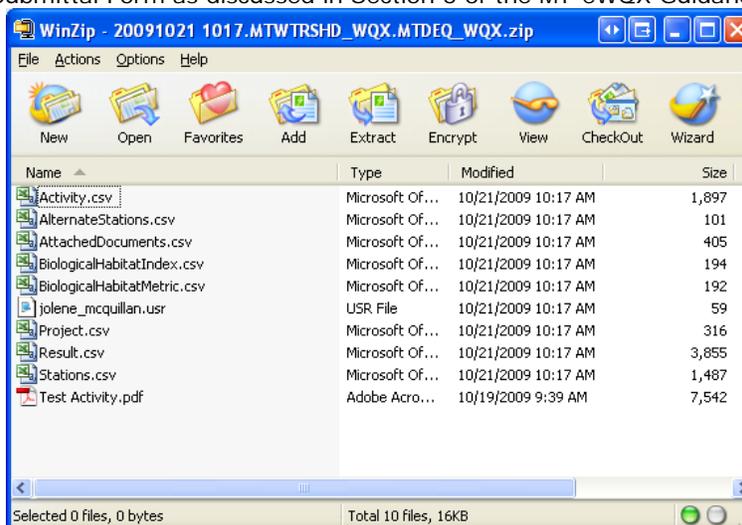
- Open the .zip file.



- Drag and drop your documents into the .zip file window. Select 'Add'.



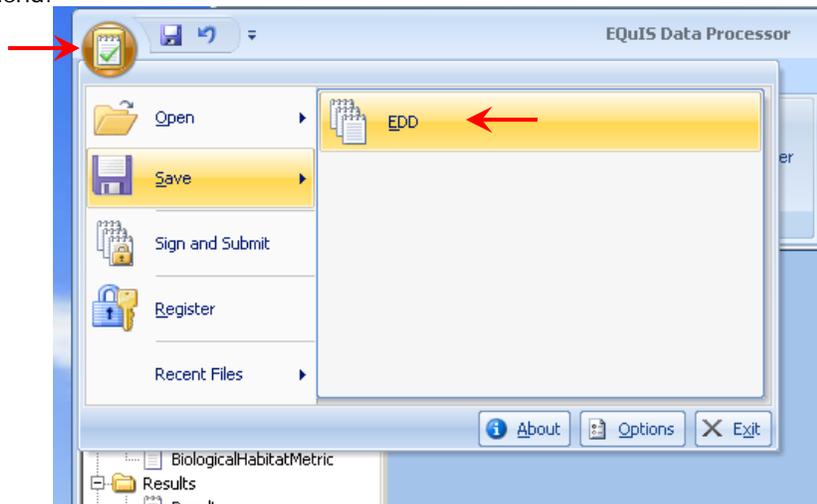
- Now your data package is ready to be submitted to MT-eWQX along with the External MT-eWQX Submittal Form as discussed in Section 5 of the MT-eWQX Guidance Manual.



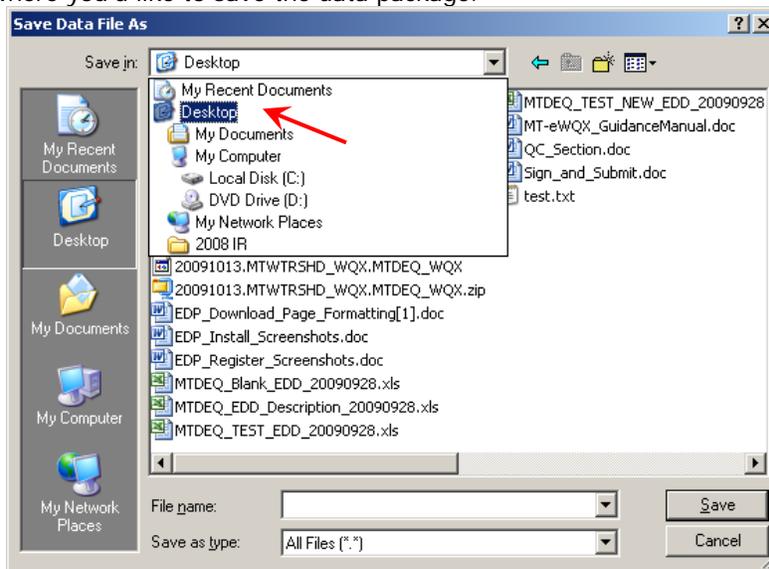
3.7.2 Manually Create Data Package

The data package can also be created by manually creating the .zip file:

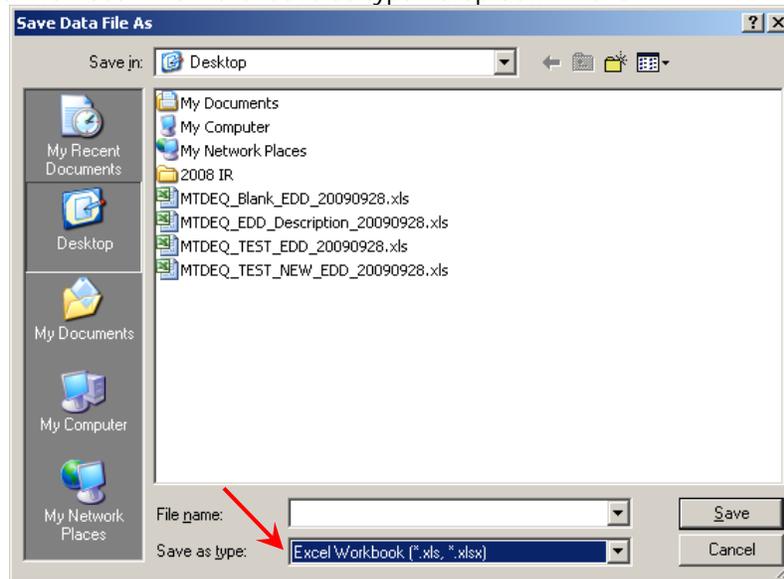
1. After all your EDD(s) have been loaded into EDP error-free, select 'Save' and then 'EDD' from the main menu.



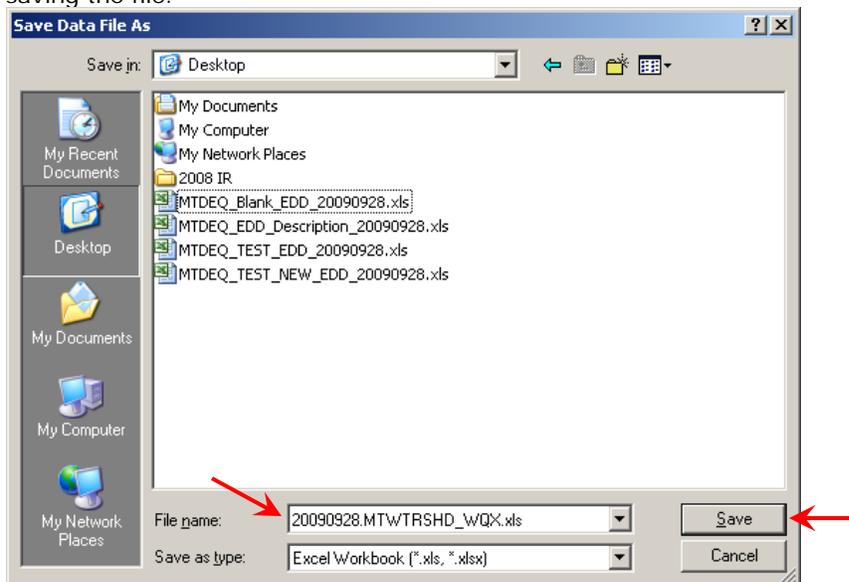
2. Browse to where you'd like to save the data package.



3. Select 'Excel Workbook' from the 'Save as type:' drop-down menu.



4. Enter a file name for your data package and select 'Save'. Select 'Ok' when asked if you would like to proceed saving the file.



5. Create a .zip file with the Excel EDD you just saved, any attached documents, and your most current user certificate. This .zip file is the data package that should be submitted to MT-eWQX along with the External MT-eWQX Submittal Form as discussed in Section 5 of the MT-eWQX Guidance Manual.



4.0 EDP Updates

4.1 Montana DEQ Format Updates

If DEQ makes changes to the Montana DEQ format, the EDP application will need to be updated with the new format files. DEQ does not plan to make frequent updates to the format, but occasionally DEQ may need to add or modify business rules or fields. If updates have been made to the format, a message will be sent through the MT-eWQX ListServ notifying users that an updated format file is available for download. Follow the steps in Section 2.2 of this manual to download and install the updated format files.

4.2 Montana DEQ Reference Value Updates

New reference values are likely to be added multiple times a year. Sample Collection Method and Analytical Method are examples of two fields that commonly require updates. If new reference values have been added, a message will be sent through the MT-eWQX ListServ notifying users that an updated reference value file is available for download. Follow the steps in Section 2.3 of this manual to download and install the updated reference value file.