Electronic Data Deliverable (EDD)
Basic
Manual for Historic Electronic Data

EPA Region 5

Prepared By:

Region 5 Superfund Division
Environmental Protection Agency

March, 2019
Version 4.2

DISCLAIMER OF ENDORSEMENT

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government, and shall not be used for advertising or product endorsement purposes.

TABLE OF CONTENTS

1.0 INTRODUCTION

The Basic Manual for Electronic Data describes the requirements for electronically submitting "historical" operation and maintenance (O&M) data to EPA Region 5. O&M data is considered to be "historical" if it was collected between the time remedy construction was completed up to and including the most recent data collection event. The data provider should anticipate all future data being collected for a site to be submitted on a regular basis (at least annually or semi-annually) in accordance with this manual. The data provider is also encouraged to become familiar with and submit EDDs in accordance with the standard EPA Region 5 Comprehensive Specification Manual for Electronic Data. EPA Region 5 anticipates requiring all data providers to submit EDDs in accordance with the standard EPA Region 5 Comprehensive Specification Manual for Electronic Data.

The intent of developing special requirements for historical information is to decrease the burden associated with reporting in-depth details about data that may have been collected a number of years ago. EPA recognizes that some information about data collected in the past may not be readily available and, by reducing the requirements for electronic historical data, is endeavoring to strike a balance between minimizing the amount of effort involved in inputting information and maximizing the ability to document remedy progress.

This information is also available on the Region 5 Superfund EDD Website located at:

https://www.epa.gov/superfund/region-5-superfund-electronic-data-submission

2.0 GENERAL EDD REPORTING REQUIREMENTS

2.1 File Formats

All EDD data from EPA Region 5 data providers must be reported as text files. EDD files can be produced using any software with the capability to create text files. These files are especially easy to create using spreadsheet or database software packages. However, if these are unavailable, the files can be created using a word processor or text editor. Table 2-1 provides instructions for creating tab-delimited text files from some widely-used software packages.

Table 2-1 Instructions for Producing Tab-Delimited Text Files

Package	Type	Instructions
Access	Database	Create tables using file structures in Section 3. After data are entered, close table. Click on table name (under table tab) and then select "File," "Save As," from the top menu. Save to an external file or database. Change "Save as Type" to a text file. Change the file extension from "txt" to "tab." Press OK. This will start the export wizard. In the export wizard, select "Delimited," then press the "Next" button. Select "Tab" as the delimiter type and " as the text qualifier. Press the "Next" button. Select a destination and name for the file. Press the "Finish" button.
Excel	Spreadsheet	Select "File," "Save As," from the top menu. Change "Save as Type" to a "Text (Tab Delimited)" file. Press the "Save" button.
Quattro® v8	Spreadsheet	Select "File," "Save As," from the top menu. Change the "File Type" to "ASCII Text (Tab Delimited)." Press the "Save Button."
Word	Word Processor	[Note: A word processor is not the best tool for the job! A large paper size will have to be selected to prevent wrapping for most files.] [wrapping?] Enter data into a table in Word. Any text entered must be contained within double quotes. Select "Table," "Select Table," from the top menu. When the table is highlighted, select "Table," "Convert to Text," "Separate Text with Tabs." Select "File," "Save As," from the top menu. Change "Save as Type" to "MS DOS Text (*.txt).
Lotus 1-2-3	Spreadsheet	Select "File," "Save As," from the top menu. Change "Save as Type" to a "Comma Separated Value (CSV)" file. Provide file name. Press the "Save" button.

A Microsoft Excel Workbook file, EPAR5BasicEDD.xls, provides electronic templates for EDD files. To create an EDD, simply enter your data into the worksheets provided and then follow the instructions in Table 2-1 to create a tab-delimited text file.

A Microsoft Access database file, EPAR5BasicEDD.mdb, also provides electronic templates for EDD files. To create an EDD, simply enter your data into the database files provided and then follow the instructions in Table 2-1 to create a tab-delimited text file.

2.2 EDD Files

The tables in this guidance identify the various types of data being requested. Each EDD file should be saved as an individual text file and should be named in accordance with the naming convention rules. Table 2-2 provides general information on the files that make up this EDD. Detailed instructions for creating all the EDD files are provided in Section 3. Instructions for submitting your EDDs to EPA Region 5 are presented in Section 2.11

Table 2.2 General Information on EDD Files

File Type	File Name	Created By	Contents	What makes a row of data unique?	Dependence of other files on these data
FILES_v3	SiteName.dxf, drawing (.dwg) or ArcGIS shapefiles. Document or cover letter in PDF, or doc format.	Data provider	Basemap or cover letters about the EDD.	Not applicable	Not applicable.
Data Provider (Section 3.1)	Date. EPAID. Epar5DataProvider_v3.txt (or csv)	Data Provider	Information about the data provider	Data_Provider_code	Not applicable
Site (Section 3.2)	Date. EPAID. EPAR5SUBFACILITY_v3. Txt (or csv)	Data provider	One-time definition of site including EPA Region 5 data providers' contact information.	Site_code	The location file cannot be loaded without properly referenced sites (site_code).

Table 2.2 General Information on EDD Files

File Type	File Name	Created By	Contents	What makes a row of data unique?	Dependence of other files on these data
Basic Location (Section 3.3)	Date.EPAIDCode. EPAR5_BasicLOC_v3.txt (or .csv).	Data provider's surveyor	One entry for each location on a site. Contains elevation, coordinate and general locational data. Data should only be reported once for a location.	Sys_loc_code	Sample Results, water levels, field measurements, geology and extraction well data can only be reported for locations that are defined in this file.
Basic Chemistry Sample Result (Section 3.4)	Date. EPAID. EPAR5_BasicChem_v3. Txt (or csv)	Data provider's field sampling team(s) and testing lab(s)	One row for each analyte reported for a given sample and test. Additional rows can be added to report total and dissolved results and to report results for re-extracts.	Sys_sample_code lab_anl_method_ name analysis_date total_or_dissolved test_type cas_rn	None
Basic Water Level (Section 3.5)	Date.EPAIDCode. EPAR5_BasicWTR_v3.txt (or .csv).	Data provider's field sampling team(s)	Groundwater level data for monitoring wells	sys_loc_code measurement_date measurement_time	None.
Basic Geology (Optional) (Section 3.6)	Date.EPAIDCode. EPAR5_BasicGEO_v3.txt (or .csv).	Data provider's geologist	Geology data for a borehole.	Sys_loc_code start_depth	None.

2.3 File Naming Convention

-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 6.5.1 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 which can be obtained from the EPA Region 5 database administrator. Please email to canar.john@epa.gov for the information.

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.

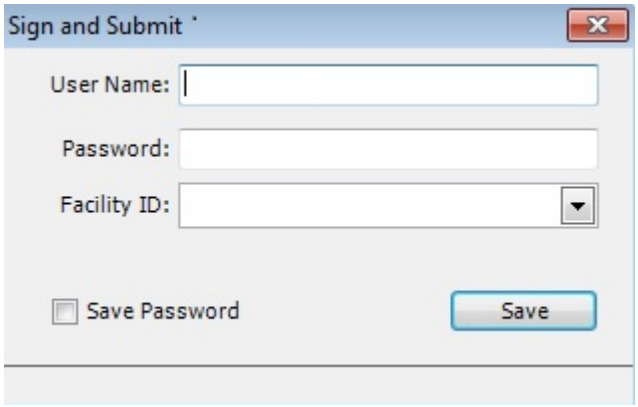

Figure 13: Sign and Submit Window

2. Enter your User Name and Password, and select the facility ID from the drop down that applies to the data package being submitted. If the Facility ID does not exist, users can send a request to Region 5 contact to add it to the list.

3. Click the Save button, and verify if the facility you selected is corrected:

Figure 14: verify the facility

4. Click "Yes". 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") **the current date, a period, the EPA ID, a period and the Format File name used to create the EDDs**. (Example file name: '20160811. MID000000001.EPAR5.zip'). The contents of the Zipped file include 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 15: saved the EDD file

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.

-Each EDD file naming convention

Each file, except the base map file, must be named according to the following convention:

Date.EPAID.EDDFileFormat_v3.txt (or .csv)

The first part of the file name is the site name, followed by the submittal date of the EDD with the format for the date being YYYYMMDD. The second part of the file name is the EPA ID number. The third part of the

file name refers to the EDD file format for the file being submitted. The "_v3" suffix is an EPA marker to identify which version of the EDD specifications is being followed, and should not be changed by the data provider. The name of the site base map file should include the site name and EPAID and be saved in .dxf format.

As an example, sample and result data for the ABC site (EPA identification number of XYZ123456789) that is being submitted to EPA on January, 1st, 2016 would be reported in a file named **20160101.XYZ123456789.BasicChemistry_v3.txt (or .csv).**

2.4 Data Integrity Rules

Data providers are responsible for running three types of integrity checks on their data.

Validity: All codes used in a data set must be valid. Valid values for all coded fields are either provided in the description columns of the tables in Section 3 or in the tables in the Valid Value Appendix of this manual. For example, sample matrix information is inputted in the sample_matrix_code field of the Sample Result file and must be reported using one of the values provided in Table A-1 in the Valid Value Appendix.

Row Uniqueness: Row uniqueness must be verified using the guidance provided in Table 2-2. Row uniqueness is assured when no two rows in a file contain the same values for all the fields listed under the heading "What makes a row of data unique?". In database terminology this is called a primary key. For example, the sys_loc_code is the primary key in the Location EDD file and therefore no two rows in the can have the same sys_loc_code.

Row Integrity: The relationship between rows within the files of the EDD must be assured by enforcing the "referential integrity" rules discussed in Table 2-2 under the column labeled "Dependence of other files on these data." For example, the values in the sys_loc_code field in the Sample Result file must match with a value previously reported in the sys_loc_code field of the Location file.

2.5 Reporting Null Values

When a field is <u>not</u> listed as required in Section 3 and the data is not available or applicable, a null or blank may be appropriate. However, tabs or commas must still delimit the blank value. In other words, the number of fields is always the same, whether or not the fields include data. So a blank field in a tab-delimited file would appear as "<TAB><TAB>" and a blank field in a comma-delimited file would appear as ",,". Table 2-3 shows a number of examples.

Table 2-3. Examples of how to report null values

Example	Comment
"data_one"<tab>"data_two" <tab>"data_three" "data_one","data_two","data_three"	O.K. All fields populated, one tab or comma between fields.

Table 2-3. Examples of how to report null values

Example	Comment
“data_one” <tab><tab>”data_three” “data_one”,,”data_three”	O.K. Optional field not populated, 2 tabs or 2 commas between first and third field.
“data_one” <tab>”data_three” “data_one”,”data_three”	Not O.K. Optional field omitted, only 1 tab or comma between first and third field.

2.6 Valid Values

Valid values, also known as reference values or code lists, govern the contents of some fields in the EDD files. In other words, some fields may only be populated with data that matches a value listed in the EPA Region 5 list of valid values in Valid Value Appendix of this Manual. A list of all the data fields that must contain valid values is presented in Table 2-4. This list is also cross-referenced to the EDD file(s) the field appears in. If data providers need to enter a value not already in the Region 5 list in Valid Value Appendix, they can request the proposed addition to the valid value list in the EDD submittal cover letter. The data provider should explicitly state the valid value that she/he would like added, provide a description of the value, and explain why the addition is necessary. In the case of requesting a new laboratory code, the data provider should include the full name of the laboratory and its address. When requesting an addition of an analyte, the data provider must include the appropriate CAS number or ERPMS code along with a description of the analyte.

Table 2-4. Cross-reference between the valid value tables in appendix and the EDD files

Valid Value Table Name	Table Number	Field Name	EDD File
Matrix	A-1	sample_matrix_code, lab_matrix_code	Chemistry Sample Result
Location Type	A-9	loc_type	Location
Qualifier	A-10	lab_qualifiers, validator_qualifiers	Chemistry Sample Result
Result Type	A-11	result_type_code	Chemistry Sample Result
Sample Type	A-12	sample_type_code	Chemistry Sample Result
Analyte	A-15	cas_rn, chemical_name, dnapl_cas_rn, lnapl_cas_rn	Chemistry Sample Result Water Level
Lab Analysis Method Name	A-16	lab_anl_method_name	Chemistry Sample Result
Unit	A-18	various_unit fields throughout all files	All Files
Geology Soil Materials	A-19	material_type	Geology
EPA Facility IDs	A-22	facility_id, site_name, city	Site
Company Codes	A-23	Data_provider_code, data_provider	Location, Sample, Test Result, Data Provider
Total_or_Dissolved	A-24	Total_or_dissolved	Test Result, Test Result QC, Batch
Test Type	A-25	Test_type	Test Result, Test Result QC, Batch
Test Batch Type	A-26	Test_batch_type	Batch

2.7 Reporting Non-Detects

Non-detects must be reported as shown in the example below. Each non-detect row must show an "N" in the detect_flag field and must have values entered in the reporting_detection_limit and detection_limit_unit fields (i.e., these fields cannot be left null if record is a non-detect). Table 2.5 presents an examples how to report a detect (1st row) and non-detect (2nd row) data.

Table 2-5. Example of reporting non-detects

Cas rn	Result Value	Detect Flag	Reporting Detection	Detection Limit Unit	Result_comment	Laboratory qualifiers

			Limit			
108-88-3	.15	Y	.005	ug/ml		U
108-88-3		N	.005	ug/ml	not detected	U

2.8 Reporting Re-Tests

For initial tests, all analytes should be reported. In the case where retests are performed on a sample, the result that is considered the reportable result should indicate a "Y" (for "yes") in the reportable_result field. The initial test, and any retest result not considered reportable will have reportable_result set to "No". Table 2.6 provides examples of reporting re-tests.

Table 2-6. Example of reporting re-tests

Test Type	Chem Name	Cas rn	Result Value	Detect Flag	Lab Qualifiers	Reportable Result	Result_Comment
Initial	Benzene	71-43-2	1000	Y	E	No	too concentrated to quantitate
Initial	Toluene	108-88-3	5	N	U	Yes	not detected
Initial	Xylenes	1330-20-7	5	N	U	Yes	not detected
Dilution 1	Benzene	71-43-2	780	Y		Yes	quantitated

2.9 Reporting Tentatively Identified Compounds

Tentatively Identified Compounds (TICs) should be reported when available. The naming of TICs should be applied in a cascade fashion. The TIC should be identified to analyte name if possible. If this is not possible, then the class of the TIC should be entered.. If neither an analyte name or a class can be identified, the TIC should be identified as Unknown. The EPA Region 5 EDD only allows for reporting up to 10 TICs. Only the 10 most concentrated or most relevant TICs should be reported. Table 2-7 shows examples of the nomenclature for TICs. As an example, if a sample has three Unknown Hydrocarbons, then the TICs are labeled UnkHydrocarb1, UnkHydrocarb2, and UnkHydrocarb3. TIC names are to be reported in the cas_rn field, Pos #23, of the Chemistry Sample Result file (Section 3.4). In addition, the result_type_code, Pos # 26 in the Chemistry Sample Result file should have "TIC" for all TIC records.

Table 2-7. Example nomenclature for TIC reporting

TIC Name	Number for TIC	Reported Name in cas_rn
Unknown	1-10	Unknown1 – Unknown10
Unknown Hydrocarbon	1-10	UnkHydrocarb1 – UnkHydrocarb10
Unknown PAHs	1-10	UnkPAH1 – UnkPAH10

Unknown Aromatics	1-10	UnkAromatic1 – UnkAromatic10
Unknown VOA	1-10	UnkVOA1 – UnkVOA10
Unknown SV	1-10	UnkSV1 – UnkSV10

2.10 Using the Electronic Data Processor to Check EDD Formatting

All EDD files must be run through the Electronic Data Processor (EDP) prior to submittal to EPA Region 5. The EDP is used by Data Providers to check EDD files prior to submittal to EPA Region 5. The EDP is a no-cost application that performs a series of formatting checks on the files and then identifies any records that have errors along with a description of those errors. This allows the Data Provider to correct the errors before sending the files to EPA Region 5. EDD files that pass through the EDP error-free should also result in error-free import at EPA Region 5.

EDP is currently available as a no-cost download from the EPA Region 5 E-Data website located at **https://www.epa.gov/superfund/region-5-superfund-electronic-data-submission** Instructions on how to install and use the EDP are also provided on the website.

2.11 Submitting Your EDD to EPA Region 5

Each EDD must be checked using the EDP and the most updated EDD format before submitting to EPA Region 5. Please follow the three steps below to submit your EDD data:

Email to get the username, password:

-Send email to canar.john@epa.gov to get the username, and password. Data providers are required to get the username, and password to use the **Sign and Submit** process to create a **EDD zip package** after the data has been checked with the EDP with no errors. The Sign and Submit process allows data provider to save the EDD in their preferred folder or directory. The EDD zip package should be named using the naming convention that was shown in section 2.4.

Email to EPA Region 5 EQuIS Enterprise Database:

- Once the EDD zip file has been created, the EDD is ready to be emailed to EPA EQuIS Enterprise processor. Please follow the following 2 steps:

1. Change the file extention from ".zip" to ".edd". In other words, your EDD is zipped in EDP, such as "20160811. MID000000001.EPAR5.zip", you need to change the file extention to ".edd", meaning the file name will become "20160811. MID000000001.EPAR5.edd"

2. Send the ".edd" file to to EPAR5@EQuISOnline.com

Notify EPA Region 5 when the data is sent to the EPA Region 5 EQuIS Enterprise database:

Please notify the EDD database administrator canar.john@epa.gov for each EDD that has been emailed to the EPA Region 5 EQuIS Enterprise database.

EDD submittal types

There are three possible EDD submittal types: an original submittal, an error correction resubmittal, and an update submittal. These three EDD types are described below.

- **Original Submittal**: An original EDD submittal contains data being submitted for the first time to EPA Region 5. EPA Region 5 will process and check the EDD. If there are no errors in any of the EDD files, EPA will import the data to the permanent database. EPA Region 5 can only import and accept the EDD submittal if all files in the submittal are error-free. If any of the files on the EDD contain errors, EPA will send the data provider a letter specifying the errors that need to be corrected.

- **Correction Resubmittal**: In the case where an original EDD submittal contains errors, the entire EDD submittal will be returned to the data provider along with an error report explaining the problems identified. The data provider should then correct the errors, check the files again with the EDP, and then resubmit the entire EDD. A response is required within 30 days. It is important that the resubmitted EDD contain all of the files and the SAME FILE NAMES (i.e., use the same site name and submittal date in the file name as was used in the original submittal) as those in the original submittal. Thus, the EDD resubmittal will be identical to the original submittal in everyway except the errors are corrected.

Update Submittal: This type of submittal updates data that has previously been accepted by EPA Region 5. The files of an update submittal should follow the normal naming convention of an EDD submittal and contain only data for the records being updated. For example, say a data provider submits an EDD in 2014 that includes a location file (e.g., 20014121.EPAID.EPAR5LOC_v3.txt) that contains ten locations, and the EDD is accepted by EPA Region 5 and loaded into the EPA database. If, in 2016, the site is resurveyed, and it is discovered that three of the locations' coordinate information has changed due to increased accuracy, a new location file containing data for only those three locations would need to be submitted as an update submittal. The update submittal would be named using the current submittal date of the update (e.g., 20160108.EPAID.EPAR5LOC_v3.txt). Note: All required fields need to be populated for the three locations regardless of whether or not these fields were updated. The reason for the update submittal and the records that have been changed must be clearly indicated in the cover letter accompanying the updated EDD.

3.0 EDD FILE FORMATS for Historical data

This section contains detailed information regarding the files that make up the Region 5 EDD Files for Historical Data. As stated in section 2.1, each file must be saved as individual text files and can be created using any software with the capability to create text files. If a column is limited to a specific number of characters, the limit will be given in parenthesis within the "Data Type" column (e.g., Text (3) signifies the value cannot exceed 3 characters in length). Columns marked "Required" must be reported for each row in the file. If these fields are not reported, errors will be identified in the EDD and the EDD will need to be resubmitted. Columns marked "If available" should also be reported if possible, and columns marked "Not required" meaning the field is not a required field.

There are three EDD files in the EDD format should be submitted as part of the first EDD submittal, they are Data Provider (EPAR5DataProvider_v3), Subfacility (EPAR5SUBFACILITY_v3) and Basic Location (EPAR5_BasicLOC_v3) files. These 3 files only need to be submitted once unless information in the files change or additional information, such a new sampling location, needs to be added.

Examples of populated EDD files are provided in Attachment 1.

3.1. Data Provider (EPAR5Data Provider_v3)

The Data Provider EDD file provides general information about the data provider who is the contact for the data on the site.

Date.EPAIDCode.EPAR5DATAPROVIDER_v3.txt (or .csv)

Table 3.1 Data Provider (EPAR5DATAPROVIDER_v3) File Structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
1	Data_Provider	Text(20)	Required	This is the name of the company who is responsible for providing the site data.	A-23
2	Data_Contact _Person	Text(30)	Not Required	This is the name of the contact person who is responsible for providing the site data.	No
3	Data_Contact _Address1	Text (40)	Not required	Data Provider address 1	No
4	Data_Contact _Address2	Text (40)	Not required	Data Provider address 2	No
5	Data_Contact _City	Text (30)	Not required	Data Provider city	No
6	Data_Contact _State	Text(5)	If Available	Contact state	No
7	Data_Contact_zi pcode	Text(10)	Not required	Contact zip	No
8	Data_Contact _email	Text(60)	Required	Contact email address	No
9	Data_Contact _Phone	Text(30)	Not Required	Contact phone number	No

3.2 SUBFACILITY EDD File

The Site EDD file is typically a one-time-only submittal and must be submitted as part of the first EDD submittal. This file contains general information about the site, along with information such as the name, address, and phone number of the main contact responsible for data submittal. If the Site EDD file has already been submitted for the site, and none of the information in the file has changed, you do not have to resubmit the file. The only time this file is resubmitted is when information about the contact person or other information in the file changes.

For historical data, the SUBFACILITY EDD file, and all the requirements related to it, are exactly the same as are described for the SUBFACILITY EDD file in the EPA Region 5 Comprehensive EDD Specification Manual for non-historical data.

SUBFACILITY EDD files should be named according to the following convention:

Date.EPAIDCode.EPAR5SUBFACILITY_v3.txt (or .csv).

Table 3-2 SUBFACILITY (EPAR5SUBFACILITY_v3) data file structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
1	SUBFACILITY_code	Text(3)	Required	Code indicating the site operable unit for which the data is collected, or area of concern (AOC). Typically the code is "01" unless there is a second or third operable unit at facility. Codes of "02" and "03" should be used for second and third operable units, respectively. Contact the EPA RPM if unsure of proper code.	No
2	subfacility_name	Text(60)	Required	Name of site	Table A-22
3	site_task_code	Text(40)	Required	Code used to identify the task under which the site or area is investigated. This field is for informational purposes only. Field samples are formally associated with task codes.	No
4	subfacility_desc1	Text(255)	If available	General description of the site.	No
5	subfacility_desc2	Text(255)	If available	Additional description of site, if necessary.	No
6	contact_name	Text(50)	Required	Name of person to contact if EPA Region 5 has any questions about the EDD.	No
7	address1	Text(40)	Required	Site address, part one.	No
8	address2	Text(40)	Not required	Site address, part two. Default to null if information is not needed	No
9	City	Text(30)	Required	Site city.	No
10	State	Text(2)	Required	Site state.	No
11	Zipcode	Text(10)	Required	Site zip code.	No
12	phone_number	Text(30)	Required	Site contact phone number.	No
13	alt_phone_number	Text(30)	If available	Alternate phone number for site contact. Default to null where the data are not available.	No
14	fax_number	Text(30)	If available	Fax number of site contact. Default to null where the data is not available.	No
15	email_address	Text(100)	Required	Site contact e-mail address.	No

3.3 Basic Location EDD File

The Location file is another EDD file that is typically submitted only once and must be part of the first EDD submittal. The location file only needs to be resubmitted if a new sampling location is used, such as a new monitoring well, or to update previously submitted information. When resubmitting the location file, only include data for the new locations and/or for the locations whose information is being updated. The Location EDD file contains general information about sampling locations and sample ID numbers. This table does not need to be resubmitted if information has previously been submitted to EPA Region 5 in the EDD format

Location files should be named according to the following convention:

Date.EPAIDCode.EPAR5_BasicLoc_v3.txt (or .csv).

Table 3.3 Location Data(EPAR5_BasicLOC_v3) File Structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
1	**Data Provider**	**Text(20)**	**Required**	Data provider company code.	A-23
2	Facility_code	Text (20)	Required	EPA ID code- Facility Identifier code	A-22
3	Sys_loc_code	Text (20)	Required	Location identifier of sample collection, soil boring, or well installation. Example of possible sys_loc_code are MW-01, SB6…etc.	No
4	Alternate_well_id	Text (20)	Not Required	Well ID	No
5	Primary_subfacility_code	Text (20)	Required	Unique code for Operable Unit (subfacility/ area).	No
6	X_coord	Number w/precision of up to 15	Required	Sampling location numeric X UTM NAD83 coordinate in meters	No
7	Y_coord	Number w/precision of up to 15	Required	Sampling location numeric Y UTM NAD83 coordinate in meters	No

Table 3.3 Location Data(EPAR5_BasicLOC_v3) File Structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
8	surf_elev	Number w/precision of up to 15	Required	Elevation in feet above sea level of the ground surface at the sampling location.	No
9	Coord_type_code	Text (20)	Required	Sampling location coordinate system description. Must be "UTM Zone nn".	No
10	loc_name	Text(40)	Not required	Sampling location name. (May be identical to entry in column 1.)	No
11	loc_desc	Text(255)	Not required	Description of sampling location.	No
12	loc_type	Text (10)	If available	Description of sampling type, such as direct push, extraction well, or sediment. Use "CENTROID" to identify facility center point. Use codes from Table A-9 in the Appendix.	Table A-9
13	loc_purpose	Text (20)	Not required	Brief description of purpose for collecting sample.	No
14	within_facility_yn	Text (1)	Required	Indicate whether this sampling location is within the facility (site) boundary.	Y= Yes N= No
15	depth_to_top_of_screen	Number w/precision of up to 15	Not required	Depth to the top of the well screen in feet below ground surface. Default to null if sample is not from a well.	
16	depth_to_bottom_of_screen	Number w/precision of up to 15	Not required	Depth to bottom of well screen in feet below ground surface. Default to null if sample is not from a well.	No
17	top_casing_elev	Number w/precision of up to 15	Not required	Elevation of top of well casing in feet. Default to null if sample is not from a well.	No

Table 3.3 Location Data(EPAR5_BasicLOC_v3) File Structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
18	depth_to_bottom_of_well	Number w/precision of up to 15	Not required	Depth to bottom of well in feet below ground surface. Default to null if sample is not a well.	No
19	total_depth	Number w/precision of up to 15	Not required	Total depth of boring below ground surface in feet. Default to null if sample is not a well.	No
20	remarks	Text (255)	Not required	Any comments or information regarding the information in this EDD file.	

3.4 Basic Chemistry Sample Result EDD File

The Basic Chemistry Sample Result EDD file contains sample, test and result data. Data from both laboratory analysis and in situ measurements taken in the field – such as pH, conductivity, and dissolved oxygen – are to be reported in this file. For surface water samples, record the sample depths, start_depth (field 9) and end_depth (field 10), as depth below the water surface elevation. The water surface elevation at the time of the sampling should be recorded in the Water Level file (see Section 3.5).

Each Basic Chemistry Sample Result EDD file should be named according to the following convention:

Date.EPAIDCode.EPAR5_BasicCHEM_v3.txt (or .csv)

Table 3-4. Basic Chemistry sample (EPAR5_BasicCHEM_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
1	Data_provider	Text (20)	Required	Data provider company code	A-23
2	sys_sample_code	Text(40)	Required	Unique sample identifier. Each sample must have a unique value to identify the sample, including spikes and duplicates. If no sample ID is available, enter the sys_loc_code plus the sample_date. (e.g., MW01 + March 11, 1991=> MW01031191). For trip blanks that do not have unique sample IDs, enter ▪TB• plus the date, e.g., TB + April 5, 2000 => TB04052000.	No
3	sys_loc_code	Text (20)	Not required	Sample collection location. Enter the same sys_loc_code, such as MW-01, A24, SW12, or SB-2S, as it appeared in the Location EDD file. *Field should be null if sample is not associated with a location, such as a field QC sample (e.g., field blank or trip blank).	No
4	sample_name	Text (50)	Not required	Additional sample identification information, if necessary. Should be the same value as in the sys_sample_code field if no further naming information applies.	No
5	sample_matrix_code	Text (3)	Required	Code which distinguishes between different types of sample matrix	Table A-1
6	sample_type_code	Text (3)	Required	Code which distinguishes between different types of samples, for example field samples versus laboratory method blank samples	Table A-12
7	sample_source	Text (10)	Required	This field indicates if the sample originated in the field or in the lab. For the BasicCHEM EDD file, in almost all cases the correct entry will be ▪Field.•	FIELD OR LAB
8	parent_sample_code	Text (40)	Note Required	This field applies to duplicate samples only and should contain the entry in the "sys_sample_code" field for the sample from which the duplicate sample was derived, i.e., the ▪parent• sample. If the sample is not a duplicate sample, the field should be left null. A value other than ▪null• is required whenever the entry in the ▪sample_type_code• column is FD, FR, FS, or LR.	No

Table 3-4. Basic Chemistry sample (EPAR5_BasicCHEM_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
9	sample_date	Datetime	Required	Date sample was collected in MM/DD/YYYY format. If exact date is not known, enter the best estimate for the date of sampling. If an estimated date is entered, note this and provide an explanation for how the estimate was made in both the EDD cover letter and in the comment field in this file (field 36).	MM/DD/YYYY format
10	start_depth	Number w/precision of up to 15	Not Required	Beginning depth (top) of sample in feet below ground surface for Soil or Groundwater sample. Only use for groundwater samples if discrete samples are taken at different depth elevations from a single well, i.e. multiple well packer samples.	No
11	end_depth	Number w/precision of up to 15	Not Required	Ending depth (bottom) of sample in feet below ground surface for Soil or Groundwater sample. Only use for groundwater samples if discrete samples are taken at different depth elevations from a single well, i.e. multiple well packer samples.	No
12	depth_unit	Text (15)	if available	Unit of measurement for the sample beginning and ending depths Default to null if not applicable.	Table A-18
13	composite_yn	Text (1)	Not required	Code used to indicate whether a sample is a composite sample. Enter ■Y• for yes and ■N• for no. Default to null if the data are not available.	Y=yes N=no
14	lab_anl_method_name	Text (35)	Required	Laboratory analytic method name or description. Default to •unknown♠ if the information is not available.	Table A-16
15	analysis_date	Datetime	Required	Date of sample analysis. Should refer to either beginning or end time of the analysis as required by EPA. Please report the analysis date as the collection date plus 30 days where the analysis date is unknown, or with another approximate date if a more accurate estimated date of analysis is known. For measurements taken in the field (e.g., pH, dissolved oxygen), use the same date as sample date (see Pos# 8). Whenever an approximate date is used, document the way the date was determined in the comment field (column 36 of this EDD file) and in the cover letter that accompanies the EDD. Analysis_date cannot precede the sample_date.	MM/DD/YYYY format

Table 3-4. Basic Chemistry sample (EPAR5_BasicCHEM_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
16	Total_or_dissolved	Text (1)	Required	Enumeration list contains the values	A-24
17	test_type	Text (10)	Required	Type of test. Valid values include "initial," "reextract1,• ▪reextract2,• ▪reextract3," "reanalysis," ▪dilution1,• ▪diluton2,• and ▪diluton3.• ." Use "initial" if unknown or data is from measurements taken in the field (e.g., Ph, dissolved oxygen).	A-25
18	lab_matrix_code	Text (3)	If available	Code that identifies the matrix, such as soil, groundwater, and sediment, being sampled.. This field is included because the matrix of the sample as analyzed in the lab may differ from the matrix in which it arrived at the lab (e.g., TCLP leachate samples).	Table A-1
19	analysis_location	Text (2)	Required	Must be either "FI" for field instrument or probe (i.e, "in the field" measurements such as Ph, temperature, conductivity, and dissolved oxygen), "FL" for mobile field laboratory analysis, or "LB" for an analysis done at a laboratory.	FI = field instrument or probe FL = mobile field lab analysis LB = lab analysis
20	basis	Text (10)	Not required	Must be either "wet" for wet weight basis reporting, "dry" for dry weight basis reporting, or "NA" for tests for which this distinction is not applicable. EPA prefers that results be reported on the basis of dry weight. Default to null if data are not available.	Wet Dry NA
21	dilution_factor	Number w/ precision of up to 7	Not required	Effective test dilution factor. Default to null if data are not available or is not applicable.	No
22	qc_level	Text (10)	Not required	Not limit to "Screen" or "Quant", visit Appendix B in the https://semspub.epa.gov/work/HQ/176101.pdf for more values	No
23	lab_sample_id	Text (20)	Not required	Laboratory LIMS sample identifier. If necessary, a field sample may have more than one LIMS lab_sample_id (maximum one per each test event). Default to null if data are not available.	No Use "UNKNOWN" for historical data.
24	cas_rn	Text (15)	Required	Analyte code.	Table A-15

Table 3-4. Basic Chemistry sample (EPAR5_BasicCHEM_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
25	chemical_name	Text(75)	Required	Chemical name	Table A-15
26	result_value	Numeric	Not required	Analytic result reported using an appropriate number of significant digits. Insert ▪null• for non-detect results. * Required if detect_flag = Y and result_type_code = ▪TRG• or ▪TIC•	No
27	result_type_code	Text (10)	Required	Should be either "TRG" for a target or regular result, "TIC" for a tentatively identified compound, "SUR" for a surrogate, "IS" for an internal standard, or "SC" for spiked compound. Provide definitions if other codes are used. Use "TRG" for data from field measurements.	No
28	reportable_result	Text (10)	Required	Must be either "Yes" for results that are considered reportable, or "No" for other results. This field can be used to distinguish between multiple results when a sample is retested after dilution. It can also be used to indicate which of the first or second column result should be considered primary. In both examples, the proper value for this field should be provided by the laboratory, i.e., only one result should be flagged as reportable.	Yes No Y N
29	detect_flag	Text (2)	Required	Enter "Y" for detected analytes and for estimated results above detection limit but below the quantitation limit. Enter "N" for non-detects. For tests such as flash point, use ">" and "<." [Note do not use "<" to indicate non-detects.]	Y=detected N=non detected ">""<" = flash point
30	lab_qualifiers	Text (10)	Not Required	Qualifier flags assigned by the laboratory. Definitions must be provided in comment field (field 36) and in EDD cover letter for all qualifiers which do not appear in the list of valid values.	Table A-10
31	validator_qualifiers	Text (10)	Not required	Qualifier flags assigned by the person who validates the data received from the lab. Definitions must be provided in comment field and cover letter for all qualifiers if valid values are not used.	Table A-10

Table 3-4. Basic Chemistry sample (EPAR5_BasicCHEM_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
32	Interpreted_qualifier	Text(20)	If available	Interpreted qualifier flag assigned by the validator. When the validated_yn = N (no, meaning the data is not validated by validator), the interpret qualifier is required if lab_qualifier or validator _qualifier are populated. If the validated_yn = Y (yes, meaning the data has been validated and the validator agreed witht eh lab qualifier), then they should populate the validator_qualifier and the interpreted_qualifier. If the validated_yn = Y (yes, but the validator does not agree with the lab_qualifier), then the validator will leave the qualifier NULL and the final qualifier is also NULL. When populating th e interpreted_qualifier, please use the qualifier in the Valid Value in A-10 with the description that can closely match with the lab qualifier.	Table A-10
33	validated_yn	Text (1)	Required	Must be either "Y" for validate or "N" for not validate.	Indicate if the data has been validated
34	Organic_yn	Text (1)	Required	Must be either "Y" for organic constituents or "N" for inorganic constituents	
35	reporting_detection_ limit	Numeric	Not required	Concentration level above which results can be quantified with confidence. Required if result is a non-detect (i.e., detect_flag = 'N'). The value must reflect conditions such as dilution factor and moisture content and must be sample-specific. Required for all results for which such a limit is available. If the detection limit is unknown, enter null as the detection limit and record ▪detection limit unknown• in the comment field (field 36). [The value entered in this field should be the sample-specific detection limit Do not enter the contract required quantitation limit (CRQL) in this field. This value cannot be negative unless one of the radiological fields (minimum_detectable_conc, counting_error, uncertainty, critical_value) are populated.	No
36	result_unit	Text (15)	If available	Unit of measurement for the result	Table A-18

Table 3-4. Basic Chemistry sample (EPAR5_BasicCHEM_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
37	detection_limit_unit	Text (15)	If available	Unit of measurement for the detection limit. This field is required if a value other than null appears in the reporting_detection_limit field.	Table A-18
38	method_detection_ limit	Text(20)	Not required	Report as null. The minimum concentration of an analyte that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as determined for a specific procedure.	No
39	quantitation_limit	Text(20)	Not required	Concentration level above which results can be quantified with confidence. The value must reflect conditions such as dilution factors and moisture content, and must be sample-specific.	No
40	task_code	Text(40)	Required	Code used to identify the task under which the field sample was retrieved. The format for this field is the date the sampling task started (yyyy/mm/dd)	No
41	Task_phase	Text (50)	Not required	This field is associated with the task_code. Possible enteries would be Pre remedial, Remedial Investigation, Feasibility Study.	No
42	Result_comment	Text (255)	Not required	Result specific comments	No

3.5 Basic Water Level EDD File

The Basic Water Level EDD file includes information on water level measurements collected at the site over the years. Groundwater levels and surface water elevations should be reported using this file; however, in most cases, the file will be used to report groundwater levels. All fields in the Basic Water Level file should be populated for groundwater elevation data (if data is available).

Each Basic Water Level file containing historical data should be named according to the following convention:

Date.EPAIDCode.EPAR5_BasicWTR_v3.txt (or .csv)

Table 3.5. Basic Water Level (EPAR5_BasicWTR_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
1	sys_loc_code	Text (20)	Required	Sample location ID, such as MW-01, from which water level measurement was collected. Must be the same sys_loc_code as reported in the Location EDD file.	No
2	measurement_date	DateTime	Required	Date of water level measurement. If exact date is not known, enter the best estimate for the date of sampling. If an estimated date is entered, note this and provide an explanation for how the estimate was made in both the EDD cover letter and in the comment field in this file (field 10).	MM/DD/YYYY format
3	Historical_reference_elev	Number with precision of up to 15	Required	Historical reference value. Used for the elevation of past reference points. Elevation must be in feet.	No
4	water_level_depth	Number with precision of up to 7	Not required	Water level depth in feet below the reference elevation. Default to null if data are not available.	No
5	water_level_elev	Number with precision of up to 7	Not Required	Water level elevation in feet below the reference elevation. Default to null if data are not available.	No
6	measured_depth_of_well	Number with precision of up to 7	Not Required	Depth below ground surface to bottom of well. Default to null if data are not available.	No
7	depth_ unit	Text (15)	if available	Unit used for depth and elevation measurements..	Table A-18
8	remark	Text (255)	Not required	Remark or comment on measurement. Default to null where the data are not available.	No
9	dry_indicator_yn	Text (1)	Not required	Enter ▪Y• if the well was dry and ▪N• if it was not dry. Default to null if data are not available.	Y= dry N=not dry
10	Lnapl_cas_rn	Text (15)	If available	Analyte code of the light non-aqueous phase liquid (lnapl) present in the well. Use appropriate valid value from Table A-15 in the EDD Specification Manual Valid Value Appendix.	Table A-15 (a drop down with cas number and chemical name)

Table 3.5. Basic Water Level (EPAR5_BasicWTR_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
11	Lnapl_depth	Text Number with precision of up to 7	Not required	Depth to the top surface of the lnapl in feet below the reference elevation.	No
12	Dnapl_cas_rn	Text (15)	If available	Analyte code of the dense non-aqueous phase liquid (dnalp) present in the well..	Table A-15 (a drop down with Cas number and chemical name)
13	Dnaple_depth	Number with precision of up to 7	If available	Depth to the top surface of the dnapl in feet below the reference elevation	No
14	Task_code	Text(40)	Required	Code used to identify the task under which the field sample was retrieved. The format for this field is the date the sampling task started (yyyy/mm/dd)	No

3.6 Basic Geology EDD File - Optional

The Field file contains general information on basic geology data collected at and in the vicinity of the site.

The historical Geology EDD file should be named according to the following naming convention:

Date.EPAIDCode.EPAR5_BasicGEO_v3.txt (or .csv).

Table 3-6. Basic Geology (EPAR5_BasicGEO_v3) file data structure

Pos#	Column Name	Data Type	Required	Description	Valid Values In Appendix
1	sys_loc_code	Text (20)	Required	Sample location ID, such as MW-01. Must be the same sys_loc_code as reported in the Location EDD file.	No
2	start_depth	Number w/precision up to 15	Required	Start depth of the geologic unit in feet below ground surface.	No
3	material_type	Text(40)	If available	The type of material that composes the lithologic unit. Acceptable valid values are listed in Table A-18 of the EDD Valid Values Manual. Must be filled in all cases except if a depth-specific comment is being made.	A-18
4	geo_unit_code_1	Text (20)	Required	The data provider•s interpretation of the hydrogeologic unit. This field may be used to indicate the geologic unit in terms of general hydrostratigraphy (e.g., aquifer1, aquiclude, aquifer2) or in terms of a grouping of lithologic layers (e.g., fill, clay, gravel). Examples of possible geologic groupings are provided in Figure A-2 of the EDD Specification Manual.	A-13
5	geo_unit_code_2	Text (20)	If available	Alternate geologic unit grouping. This can be a sub-classification of geologic_unit_code_1 or a layer used for groundwater flow and/or transport computer modeling that contains the lithologic unit. Examples of possible geologic groupings are provided in Figure A-2 of the EDD Specification Manual.	A-13
6	remarks	Text (255)	Not required	General remarks concerning the lithologic or geologic unit(s).	No

Attachment 1

EXAMPLES OF EDD FILES

EXAMPLES OF EDD FILES READY FOR CONVERSION TO TEXT FILES

Examples of EDD files with the first few rows of the EDD populated with a typical data set are presented in Figures 1 through 7. These examples were produced using Excel worksheets. To submit these files, the data provider would save the files as text delimited files (txt) or comma separated files (csv) (see section 2.1), check the files using the EDP (see section 2.11), and then send the error free files to Region 5. In order to fit the examples on one page, not all of the fields (i.e., columns) were included for certain files (e.g., Site, Location, and Basic Chemistry Result). The notation "*Additional Fields"* has been inserted where, for purposes of these examples, one or more fields have been omitted. It should be noted that all fields must appear in the EDD files you submit regardless of whether or not the field is populated (see Section 2.5 regarding reporting blanks, or "null" values).

Figure 1. Example of Subfacility File Ready for Conversion to Text File

site_code	facility_id	site_name	site_task_code	site_desc1	site_desc2	contact_name	address1	*Additional Fields*	email_address
01	FAC123456723	Example Site				John Smith	23 Main Street		abc@abd.com

Figure 2. Example of Basic Location (EPAR5_BasicLOC_v3) File Ready for Conversion to Text File

Basic Location (EPAR5_BasicLOC_v3) File:

Data_provider	Facility_code	Sys_loc_code	Alternate_well_id	X_coord	Y_coord	Surf_elev	Coord_type_code	Loc_name	Loc_desc	Loc_type	*Additional Fields*	remark
DProvider	MID000000001	MW-1		566910.48	4514242.19	730.55	UTM ZONE 16			MW		
DProvider	MID000000001	MW-2		566810.48	4514142.19	731	UTM Zone 16			MW		
DProvider	MID000000001	MW-3		566710.47	4514132.19	735	UTIM Zone 16	Shallow well		MW		
DProvider	MID000000001	MW-4		566610.44	491212.15	735	UTM Zone 16	Deep well		MW		

Figure 3. Example of Basic Chemistry Result (EPAR5_BasicCHEM_v3) File Ready for Conversion to Text File

sys_sample_code	Sys_loc_code	sample_name	sample_matrix_code	sample_type_code	sample_source	parent_sample_code	sample_date	Start_depth	End_depth	Depth unit	Composite y/n	lab_anl_method_name	Analysis date	Total or disolved
MW01040198	MW-01		WG	N	Field		01/01/1997 00:00:00	10	12	Ft		SW8240	01/15/1997	D
MW02040198	MW-03		WG	N	Field		01/01/1997 00:00:00				N	SW8240	01/15/1997	D
MW02040198	MW-03		WG	N	Field		01/01/1997 00:00:00				N	SW8240	01/15/1997	D

Figure 3. Example of Chemistry Result (EPAR5_BasicCHEM_v3) File Ready for Conversion to Text File (continued)

test_type	Lab Matrix code	analysis location
Initial	WG	LB
Initial	WG	LB
Reanalysis	WG	LB

Additional Fields

qc_level	lab_sample id_
quant	
quant	LAB02
quant	

Additional Fields

Cas_rn	Chemical name	Result value	Result type code	reportable result	Detect flag	*Additional Fields*	reporting detection limit
71-43-2	BENZENE	23.20	TRG	Yes	Y		5
108-88-3	TOLUENE		TRG	Yes	N		100
1330-20-7	XYLENES		TRG	Yes	N		10

Additional Fields

Figure 4. Example of Water Level File Ready for Conversion to Text File

sys_loc_code	sys_well_id	measurement_date	ref_elev	water_level_depth	water_level_elev
MW01	MW01	05/10/1997 13:10:00	120.2	31.1	89.1
MW02	MW02	05/10/1997 13:45:00	123.1	34.1	89.0

Additional Fields

remark

Figure 5. Example of Basic Geology (EPAR5_BasicGEO_v3) File Ready for Conversion to Text File

sys_loc_code	start_depth	material_type	geo_unit_1	geo_unit_2	Remark
MW-03	0	CL	Glacial	Aquifer0	
MW-03	10	SW	Outwash	Aquifier1	
MW-03	23	SP	Outwash	Aquifer2	
SB-01	0	ML	Alluvial	Aquifer0	