Montana Waste Management and Remediation Division Electronic Data Deliverable (MT-WMRD EDD) Guidance Manual

Waste Management and Remediation Division
Montana Department of Environmental Quality

May 1st, 2025

Table of Contents

Revision History

Version	Date	Name	Description
0.1	02/02/2016	Staci Stolp	Initial document
0.2	10/05/2016	Staci Stolp	Revised based on feedback from Kim Wells.
0.3	06/12/2017	Staci Stolp	Revised based on revised workflows
0.4	07/26/2017	Staci Stolp	Revised test regarding use of qualifiers
0.5	07/31/2017	Staci Stolp	Revised table 3.13 adding RPD for MS/MSD
1.0	08/31/2020	Jolene McQuillan	Revised document due to EQuIS database consolidation
2.0	07/28/2023	Cathy Culver	Revised based on revised workflows
2.1	09/15/2023	Cathy Culver	Updated Links on 1.1, 2.1, 2.2 Updated reference value table
2.2	09/28/2023	Cathy Culver	EDD submittal process workflow. Added links to EDD groups
2.3	03/21/2024	Kevin Garman	Condensed Manual. Removed redundant information. Added new references
3.0	11/20/2024	Kevin Garman	Simplified whole document
3.1	05/01/2025	Kevin Garman	Updated FTS protocols

Terms and Acronyms

Term	Definition
AOC	Area of Concern
COC	Chain of Custody
EDD	Electronic Data Deliverable
EDP	EQuIS Data Processor
EQuIS	Environmental Quality Information System
FTS	File Transfer Service
MT-WMRD	Montana Waste Management & Remediation Division
MTDEQ	Montana Department of Environmental Quality
OU	Operable Unit
QA	Quality Assurance
QC	Quality Control
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
TREADS	Tracking Remedial and Environmental Actions Data System
UST	Underground Storage Tank
WMRD	Waste Management and Remediation Division

1 INTRODUCTION

1.1 About This Document

The purpose of this guidance manual is to provide instructions on how to report environmental data electronically to the Montana Department of Environmental Quality (MTDEQ) Waste Management and Remediation Division (WMRD). Data submitted to this division will be stored in MTDEQ's Montana EQuIS database. Montana EQuIS is DEQ's primary repository for all environmental sample data. Some types of data that can be reported electronically to Montana EQuIS include:

- Data generated during site characterization and investigation phases
- Data recorded when installing monitoring wells
- Data generated during long term monitoring events and treatment system performance samples
- Analytical and field data routinely collected from a variety of media.

This manual describes both the procedural and formatting requirements for creating and submitting MT-WMRD Electronic Data Deliverables (EDDs) to Montana EQuIS and consists of four key sections. An overview of the EDD submittal process is shown in Figure 1-1 (*located on next page)*.

1. **Initial Coordination and Set-up** – This section covers the initial steps that data providers need to take to prepare for the process of creating, validating, and submitting an EDD to MTDEQ.

2. **EDD Data Tables and Requirements** – This section focuses on high-level descriptions for each worksheet within the EDD.

3. **EDD Quality Control and Verification** – This section includes instructions for performing quality control review of the data and the EDD verification process using the EQuIS Data Processor (EDP), which each data provider will be required to use prior to submitting an EDD.

4. **EDD Submittal Process** – This section covers the process for submitting a validated EDD to MTDEQ.

All EQuIS materials referenced in this guidance manual are available from MTDEQ's MT-WMRD Support webpage located at: https://deq.mt.gov/cleanupandrec/resources.

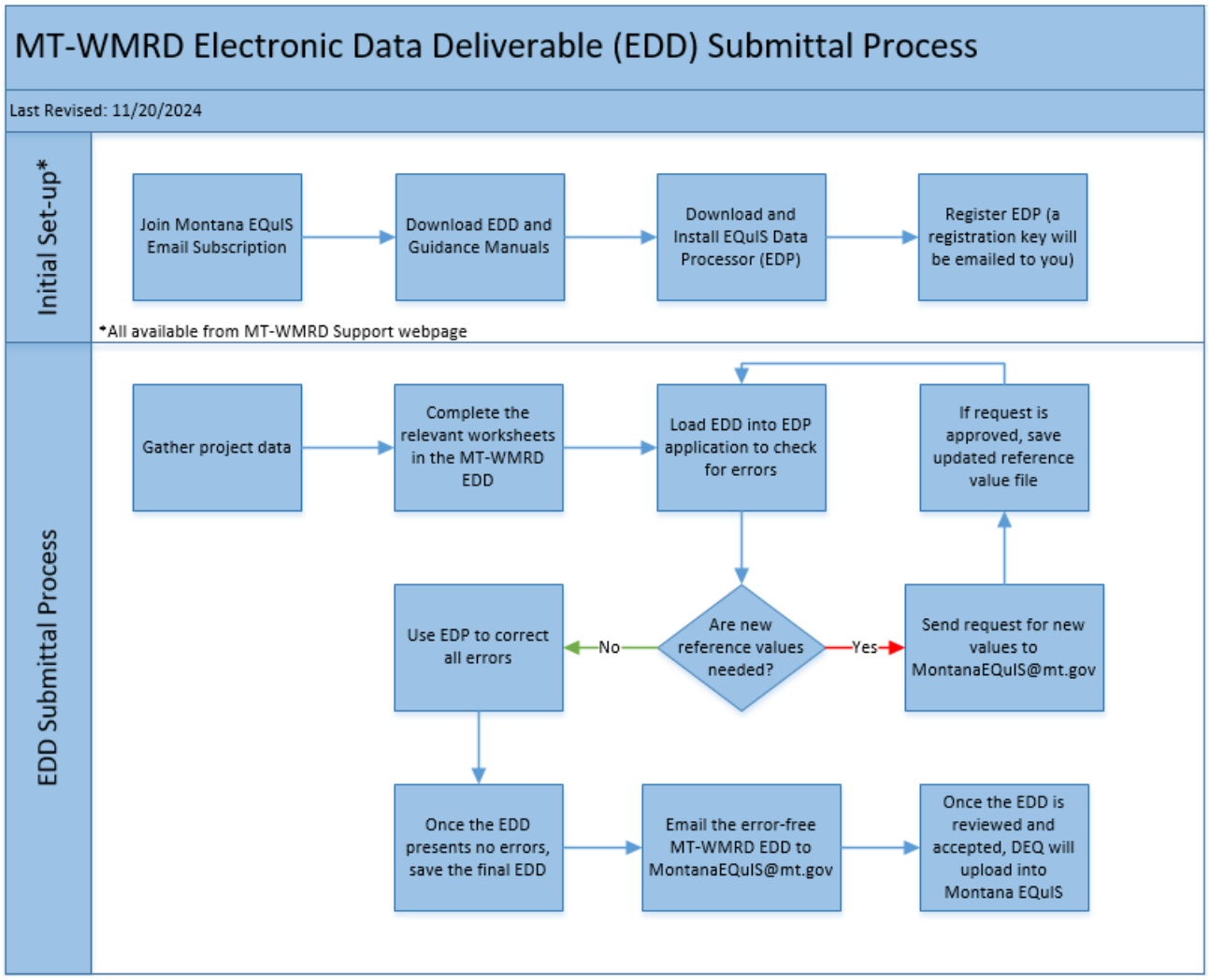

Figure 1.1: Electronic Data Deliverable (EDD) Submittal Process

2 INITIAL COORDINATION AND SETUP

The three steps at the top of Figure 1-1 are required for initial set-up only. These are important steps that will keep you informed about Montana EQuIS and save you time when you're ready to validate and submit your EDDs.

2.1 Join Montana EQuIS Email Subscription

It's important to stay informed about Montana EQuIS. Sign-up for the email subscription and receive important updates about Montana EQuIS, including when updated reference value lists are posted, anticipated outages for maintenance, and training opportunities. To register for the Montana EQuIS Email Subscription:

1. Click the 'Montana EQuIS Email Subscription' link on DEQ's MT-WMRD Support webpage: https://deq.mt.gov/cleanupandrec/resources
2. Enter your email address and select 'Submit'.
3. If this is your first time signing up, complete the additional registration information to continue.
4. Check the 'Montana EQuIS' box, located in the 'Other' section, and select 'Submit'.
5. You should receive an email confirming your subscription.

2.2 Download and Install the EQuIS Data Processor (EDP)

The EQuIS Data Processor (EDP) is a standalone application that must be used by data providers to check their EDD files prior to submission to Montana EQuIS. The EDP performs a series of formatting checks on the EDD and then identifies any records that have errors. Data providers are encouraged to download, install, and register the EDP application at least several days prior to needing to use it as there may be lag time during the EDP registration process.

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

1. Download and install the EDP application
2. Download the MT-WMRD EDD Format
3. Register the EDD format

Detailed guidance for the above steps can be found in the EDP Guidance Manual, available on DEQ's MT-WMRD Support webpage under 'Step 2: Verify Your EDD':
https://deq.mt.gov/cleanupandrec/resources

3 EDD DATA TABLES & REQUIREMENTS

The MT-WMRD EDD and EDD Description file each consist of multiple worksheets that comprise the individual sections within an EDD. Worksheets can be grouped into the following categories:

1. Initial
2. Field
3. Vapor Intrusion
4. Lab

Data providers and project managers should discuss what specific information is required for each project's specific needs. The following sections provide a high-level description of each worksheet.

➔ Detailed EDD requirements for each worksheet are available in the 'MT-WMRD EDD Description File' available on DEQ's MT-WMRD Support webpage: https://deq.mt.gov/cleanupandrec/resources. This spreadsheet includes field descriptions and requirements, including the type of data each field accepts and associated reference value lists.

3.1 Initial EDD Group

The Initial EDD group provides information about locations and sites, as well as project and collection metadata. The Initial EDD group needs to be submitted prior to, or in conjunction with, the first field, vapor intrusion, or lab EDDs. Only information that has not been previously submitted to Montana EQuIS needs to be submitted. The Initial EDD group consists of the following nine worksheets:

1. Subfacility_v1
2. Location_v1
3. SubfacilityLocation_v1
4. Task_v1
5. COC_v1
6. SDG_v1
7. Equipment_v1
8. EquipmentParameter_v1
9. Files_v1

Subfacility_v1: Includes information about a site (site code, type of facility, and location address). In the EQuIS relational database, the term "facility" is analogous to "site," and "subfacility" is analogous with a site operable unit (OU), area of concern (AOC), release, etc., if one has been specified for the site. If a site/facility has multiple OUs or subfacilities, then a separate record must be created in the subfacility data file for each. A typical subfacility code for a site is "OU1" to designate operable unit. Note: Subfacility is required only to describe collection at a subfacility level such as buildings for vapor intrusion. The table can be left blank if this level of detail is not required for a sampling event.

Location_v1: Contains a record for each unique sampling location. Examples of locations include soil borings, monitoring wells, and lab sample collection sites. A location worksheet needs to be submitted for all locations that will have samples, water levels, well information, or any other EDD section requiring the use of a location ID (sys_loc_code). This section may be submitted multiple times for a site if information is added or changed for existing locations.

- Each location is a distinct point defined by latitude and longitude.
- All locations must be associated with a lat/long in decimal degrees.

- If the data provider is also providing alternative coordinates in state plane or some other coordinate system, those should be included in the remark_1 field.
- Each subfacility can contain one or more locations.
- Each location identifier (sys_loc_code) must be unique for a location.
- Location codes cannot be the same as sample codes.
- Please do not use special characters or spaces (e.g. #, ‘, “, @!).
- If working with historical data, and the coordinates are not available for the sampling locations, contact MontanaEQuIS@mt.gov to discuss options.

SubfacilityLocation_v1: Associates each subfacility to one or more sampling location.

Task_v1: Provides details regarding the task(s) under which samples were collected. This field could identify the DEQ-approved sampling plan that was followed to collect the samples, or another grouping that makes sense for the project.

COC_v1: Lists the various chains of custody (COC) associated with analytical samples.

SDG_v1: Contains information associated with each sample delivery group (SDG). A SDG is a group of samples associated with a COC. There may be multiple SDG’s associated with a COC or all the samples can be in one SDG. An SDG is also referred to as a Work Order.

Equipment_v1: Contains attributes associated with equipment used during a sampling event.

EquipmentParameter_v1: Contains parameters collected by each piece of equipment and information on who collected the data.

Files_v1: Allows for multiple documents to be attached to the EDD as supplemental information. When attaching documents, please use the following naming convention: site acronym, abbreviated document description, and date of document (YYYYMMDD). Examples include: ABCsite_SAP_20170601 and ABCsite_COC_SamplesMW01-MW10_20170705.

3.2 Field EDD Group

The Field EDD group consists of data tables for data obtained during subsurface investigations and other field activities at a site. The Field EDD group consists of 10 worksheets:

1. DrillActivity_v1
2. DownholePoint_v1
3. Lithology_v1
4. Well_v1
5. WellConstruction_v1
6. WaterLevel_v1
7. WaterTable_v1
8. ExtractionInjectionWells_v1
9. FieldSample_v1
10. FieldResults_v1

DrillActivity_v1: Contains general information pertaining to all drilling activities at a project site.

DownholePoint_v1: Contains data consisting of a depth, a parameter, and a reading. Examples of downhole point data include photoionization detector (PID) readings from soil samples, cone penetrometer test data, direct push electrical conductivity logs, membrane interface probe readings and borehole geophysical logs such as natural gamma, fluid conductivity and fluid temperature.

Lithology_v1: Contains lithologic data collected from soil samples, rock core, or drill cuttings. For soil classification, please use the Unified Soil Classification System (USCS). Rock should be described using standard geologic terms for the rock type encountered in the borehole.

Well_v1: Contains basic information for each well and is required if the location EDD contains wells. Important information captured in this EDD include the well owner, measuring point elevation, depth of the well, and whether or not the well includes a pump, pump information, stickup height, driller, and installation date. If an established well has changes, such as a well is converted from stickup to flush-mount, this worksheet can be used to update the existing well information.

WellConstruction_v1: Contains well construction information, such as casing length, screened interval, backfill information, and other construction details. For each well on the Well_v1 EDD section, multiple records describing the components of a well, such as the collar, casing, screen and materials used, can be placed in the WellConstruction_v1 EDD section at their respective depths for each well.

WaterLevel_v1: Contains information on groundwater levels measured during sampling activities, synoptic rounds of water level measurements, or other groundwater monitoring events.

WaterTable_v1: Contains information to document the first encounter with the water table and subsequent stabilization during drilling of a boring.

ExtractionInjectionWells_v1: Contains data specific to extraction and injection wells, such as pumping rates, period of pumping, and volume pumped.

FieldSample_v1: Contains detailed information on field measurements collected during a site visit, or samples collected and analyzed on site. A unique sys_sample_code must be provided for each sample/measurement associated with a facility.

FieldResults_v1: Contains field parameters collected during sampling events, such as groundwater quality parameters, including turbidity, temperature, specific conductance, pH, Eh, and dissolved oxygen. Field test kit results for parameters, such as ferrous iron, which are analyzed in the field, may also be entered into this section.

3.3 Vapor Intrusion EDD Group

The Vapor Intrusion EDD group consists of data tables for inventorying buildings and structures, cataloging factors that impact air quality within structures for location, sample, and chemistry results for soil vapor, and indoor air and ambient outdoor air samples collected. The Vapor Intrusion EDD group consists of three worksheets:

1. VI_BuildingInspection_v1
2. VI_TaskParameters_v1
3. VI_Samples_v1

VI_BuildingInspection_v1: Contains data that inventories buildings and structures, and cataloging factors that impact air quality within structures. This section is loaded once per building inspection.

VI_TaskParameters_v1: Contains data specific to the VI task, for example start/end weather, start/end atmospheric pressure, etc.

VI_Samples_v1: Contains sample information collected from ambient air, indoor air, and sub-slab soil vapor sampling forms.

3.4 Lab EDD Group

The Lab EDD group consists of data tables for analytical samples collected at a site. If using a Montana EQuIS preferred lab such as Energy Lab or Pace, an MT-WMRD EDD can be requested. Data providers will still need to review, validate, and add missing information, but most of the data fields will be populated. The Lab EDD group consists of three worksheets:

1. Sample_v1
2. TestResultsQC_v1
3. Batch_v1

Sample_v1: Contains sample metadata associated with analytical samples collected at a site. Location (sys_loc_code) field should be left null for samples that are not associated with a specific location, such as equipment blanks (EB), field blanks (FB) and trip blanks (TB). A unique sys_sample_code must be provided for each sample associated with a facility.

TestResultQC_v1: Contains analytical results, methods, detection limits, reporting limits, etc. This table also contains laboratory and quality control (QC) data.

Batch_v1: Contains data that relate the individual samples to their laboratory sample batch identifiers and laboratory sample delivery groups.

4 EDD QUALITY CONTROL & VERIFICATION

To ensure accurate data is being migrated into Montana EQuIS, data providers are required to check their data prior to submittal. There are two main data checks that must occur. First a quality control step that reviews the data and then a verification step that ensures the EDD is formatted correctly. Contact your DEQ Project Manager for specific QC and validation requirements as they can change for each project.

4.1 Quality Control (QC) & Data Validation

Prior to import, all location metadata should be verified for correct latitude and longitude. The raw analytical data should go through a complete quality control process to verify the EDD matches the hardcopy results and appropriate result qualifiers have been added. Minimum QC requirements to follow include:

1. Perform a QC data overview and check for obvious errors and outliers.
2. Are reported values within reason for each method?
3. Ensure reported values have the same number of decimal places as the detection limit and limit the result to three significant figures.
4. Ensure analytical units match the lab report.
5. Ensure detection limits match the lab report.
    a) Ensure limits are below the screening levels (DEQ-7 standard, Risk-based Corrective Actions, Risk-based Screening Levels (RBCA, RBSLs), and the Environmental Protection Agency Regional Screening Levels (EPA RSLs).
6. Ensure analytical methods match the lab report.
7. Ensure analysis dates are reported.
8. Check for holding time exceedance (check with the lab or the National Functional Guidelines for hold times associated with the analytical methods).
9. Compare lab reports to reported data.
    a) Ensure lab sample IDs match the sys_sample_code
    b) Compare reported results with EDD results.

Data validation should follow requirements in the project-specific QAPP or SAP. State Superfund validation guidelines can be found under the State Superfund Resources à General Guidance section on DEQ's webpage: https://deq.mt.gov/cleanupandrec/resources.

4.2 The EQuIS Data Processor

After all the appropriate worksheets in the MT-WMRD EDD have been populated with data, the EDD is ready for data checking using the EQuIS Data Processor (EDP). The EDP is a standalone application that data providers use to check their EDD files prior to submission to ensure they are formatted as described in this guidance manual and the EDD Description file. If the EDP detects errors, the errors will be identified and can be corrected directly within the EDP. After the errors are corrected, the EDP needs to be re-run to ensure that no errors remain. An EDD will not load into Montana EQuIS unless it is error free.

Detailed instructions for using the EDP can be found within the 'EDP Guidance Manual' available from the MT-WMRD Support webpage: https://deq.mt.gov/cleanupandrec/resources.

5 EDD SUBMITTAL PROCESS

After an EDD has passed through the EDP application error-free, it is ready to be submitted to MTDEQ. To start the submittal process, email the EDD to MontanaEQuIS@mt.gov. For larger files, please use the Montana File Transfer Service (FTS). FTS requires an Okta account. If you do not yet have an Okta account:

1. Go to transfer.mt.gov
2. Select 'Register Now'.
3. Select the link to create a new account if you do not have one.
4. Enter all required information including your email and password.

To send a file through the FTS:

1. Go to transfer.mt.gov
2. Log in and select 'Send a new file'.
3. Select the files to upload and click 'Continue'.
4. Select 'State Employee or login.mt.gov Customer'
5. Select 'Find a State Group'
6. Search for 'EQuIS' and select 'DEQ EQuIS FTS'
7. Provide a comment in the message box with the DEQ program you're working with
8. Click 'Send'

After we receive your error-free EDD, we will review with the DEQ Project Manager, communicate any items that need to be fixed, and migrate the data into Montana EQuIS when all errors have been resolved. We will send you a notification of successful data submission.