



# Lead in School Lab Guidance Manual

Information Support Services  
Information Management Bureau  
Central Services Division

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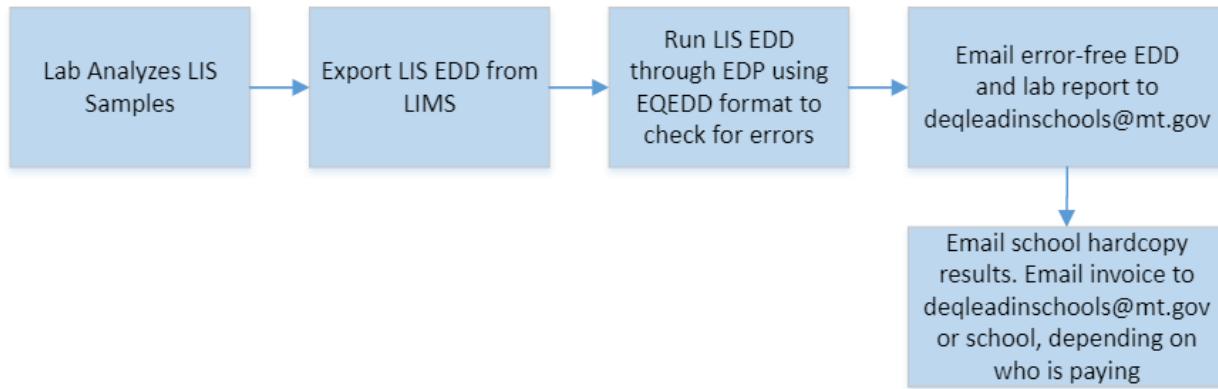
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Document History			
Revision #	Revision Date	Revised By	Notes
1.0	4/12/2021	Jolene McQuillan	Initial document for LIS lab guidance
1.1	11/9/2021	Jolene McQuillan	Updated DEQ website link
2.0	1/6/2021	Jolene McQuillan	Removed section 4.0 on EQuIS Enterprise

## 1.0 Lead in School Laboratory Overview

The purpose of this guidance manual is to provide labs instructions on submitting data directly to DEQ for the Lead Reduction in Schools Drinking Water Rule (LIS). The overall dataflow for LIS is as follows:



Many labs already submit electronic data deliverables (EDDs) to DEQ in one of our EQuIS EDD formats (MT-eWQX and MT-WMRD). The LIS dataflow is unique in that a new EDD format will be required, EQEDD. In the future, DEQ will be requiring labs to submit data directly into the Montana EQuIS database using a web application called EQuIS Enterprise. For the time being, that workflow is not ready to be implemented and the information about Enterprise has been removed from v1 of this document.

If labs have questions specific to the EDD and the EDD submittal process, please contact DEQ's Sample Data Management Coordinator, Jolene McQuillan, at [jmcquillan@mt.gov](mailto:jmcquillan@mt.gov). If labs have questions that are specific to a LIS sample submittal or COC, please contact the DEQ Lead in School Team at [deqleadinschools@mt.gov](mailto:deqleadinschools@mt.gov).

## 2.0 LIS EDD Format

The LIS program is using the EQuIS EQEDD Format. There are multiple worksheets within this EDD, but labs are only responsible for populating and submitting the LabSample\_v1 and TestResults\_v1 worksheets. A blank LIS EQEDD (EQEDD with just the two required worksheets included) and an example LIS EQEDD are available for download from DEQ's Lead in School website:

<https://deq.mt.gov/water/Programs/dw>

(Lead in Schools → Guidance and Forms → Laboratory Guidance)

The following tables include descriptions of the fields in the two required EDD worksheets. Some of the fields are required by the EDD format and some additional fields are requested by DEQ. The final EDD should be in an Excel format ready for upload to EQuIS Enterprise.

**Table 2-1: LabSample\_v1 Fields**

Column Name	Data Type	Required by EDD?	Required by DEQ?	Description
sys_sample_code	Text(40)	Yes	Yes	From Sample ID on COC
sample_name	Text(50)			
sample_matrix_code	Text(10)	Yes	Yes	Lookup value = DW
sample_type_code	Text(20)	Yes	Yes	Lookup value = N
sample_source	Text(10)	Yes	Yes	Lookup value = Field
parent_sample_code	Text(40)			
sample_delivery_group	Text(20)			
sample_date	DateTime	Yes	Yes	From Sample Date/Time on COC
sys_loc_code	Text(20)			
start_depth	Numeric			
end_depth	Numeric			
depth_unit	Text(15)			
chain_of_custody	Text(40)			
sent_to_lab_date	DateTime			
sample_receipt_date	DateTime			
sampler	Text(50)			
sampling_company_code	Text(40)	Yes	Yes	Lookup value = School
sampling_reason	Text(30)			
sampling_method	Text(40)			
task_code	Text(40)			
collection_quarter	Text(6)			
composite_yn	Text(1)	Yes	Yes	Lookup value = N
composite_desc	Text(255)			
sample_class	Text(10)			
custom_field_1	Text(255)			
custom_field_2	Text(255)			
custom_field_3	Text(255)			
comment	Text(2000)			

**Table 2-2 TestResults\_v1 Description**

Column Name	Data Type	Required by EDD?	Required by DEQ?	Description
sys_sample_code	Text(40)	Yes	Yes	From Sample ID on COC
lab_anl_method_name	Text(20)	Yes	Yes	Lookup value for lead in DW: 200.8, 200.9, 3113-B, D3559(D)
analysis_date	DateTime	Yes	Yes	Date and time of lab analysis
total_or_dissolved	Text(10)	Yes	Yes	Lookup value = Total or Dissolved
column_number	Text(2)		Yes	Lookup value = NA
test_type	Text(10)	Yes	Yes	Lookup value = INITIAL
lab_matrix_code	Text(10)	Yes	Yes	Lookup value = DW
analysis_location	Text(2)	Yes	Yes	Lookup value = LB
basis	Text(10)	Yes	Yes	Lookup value = NA
container_id	Text(30)			
dilution_factor	Numeric	Yes	Yes	Defaults to '1.0'. Can leave null unless you want to specify different value.
prep_method	Text(20)			
prep_date	DateTime			
leachate_method	Text(15)			
leachate_date	DateTime			
lab_name_code	Text(40)	Yes	Yes	Lookup value for lab name (see Appendix A or available in EDP)
qc_level	Text(10)	Yes	Yes	Lookup value = QUANT
lab_sample_id	Text(40)	Yes	Yes	Lab's unique Sample ID
percent_moisture	Text(5)			
subsample_amount	Text(14)			
subsample_amount_unit	Text(15)			
analyst_name	Text(50)			
instrument_id	Text(60)			
comment	Text(2000)			
preservative	Text(20)			
final_volume	Numeric			
final_volume_unit	Text(15)			
cas_rn	Text(15)	Yes	Yes	Lookup value = 7439-92-1
chemical_name	Text(255)	Yes	Yes	Lookup value = Lead
result_value	Numeric	Conditional	Conditional	Result_value is required when detect_flag = 'Y'. Leave null for non-detects.
result_error_delta	Text(20)			
result_type_code	Text(10)	Yes	Yes	Lookup value = TRG
reportable_result	Text(10)	Yes	Yes	Lookup value = Yes
detect_flag	Text(2)	Yes	Yes	Use 'Y' for detected analytes or 'N' for non-detects. Use 'Y' for estimated values between the LRL and MDL.

**Table 2-2 TestResults\_v1 Description**

Column Name	Data Type	Required by EDD?	Required by DEQ?	Description
lab_qualifiers	Text(20)			Populate with valid qualifiers assigned by lab
validator_qualifiers	Text(20)			
interpreted_qualifiers	Text(20)			
organic_yn	Text(1)			
method_detection_limit	Text(20)		Yes	Lab's Method Detection Limit
reporting_detection_limit	Numeric	Conditional	Yes	Lab's Lower Reporting Limit
quantitation_limit	Text(20)			
result_unit	Text(15)		Conditional	Lookup value for unit if result_value is populated.
detection_limit_unit	Text(15)	Conditional	Yes	Lookup value for detection limit unit
tic_retention_time	Text(8)			
result_comment	Text(2000)			
custom_field_2	Text(255)			
custom_field_3	Text(255)			
custom_field_4	Text(255)			
lab_sdg	Text(20)			
validated_yn	Text(1)			
stat_type	Text(20)			
value_type	Text(10)			
uncertainty	Text(10)			
minimum_detectable_conc	Text(19)			
critical_value	Text(19)			
counting_error	Text(19)			

## 3.0 EQuIS Data Processor

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 the Montana EQuIS database. 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 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 Montana EQuIS database. The EDP does not compare the data in the EDD to the data in the database, so it is possible to receive an error when submitting to Montana EQuIS if the data in your EDD conflicts with data in the database.

Information on downloading, installing, and using the EDP application can be found within the EDP Guidance Manual available from the Montana DEQ EDP and EQEDD download webpage:  
<https://earthsoft.com/products/edp/edp-format-for-mtdeq-eqedd/>.

## 4.0 Submitting Data

When an EDD has been ran through EDP and is error-free, it can be submitted to DEQ. The current process to submit Lead in School data is email the LIS EDD and hardcopy lab report to [deqleadinschools@mt.gov](mailto:deqleadinschools@mt.gov). The Lead in School Team will review the EDD and load it into the Montana EQuIS database. If there are any questions or errors, someone will be in contact with the lab. The hardcopy lab report should also be emailed to the school. The invoice should be emailed to either [deqleadinschools@mt.gov](mailto:deqleadinschools@mt.gov) or the school, depending on who the COC indicates is paying for the samples.

## Appendix A: Lab Name Valid Values

The table below contains valid values for the lab\_name\_code field in the TestResults\_v1 EDD worksheet. If your lab is not listed, please email DEQ's Sample Data Management Coordinator, Jolene McQuillan, at [jmcquillan@mt.gov](mailto:jmcquillan@mt.gov).

Lab Name Code	Lab Name
ALPINE	Alpine Analytical
ANATEK	Anatek Labs
BRIDGER	Bridger Analytical Labs
ENERGY	Energy Laboratories
ENERGY-BIL	Energy Laboratories - Billings Lab
ENERGY-HLN	Energy Laboratories - Helena Lab
EUROFINS-EATON	Eurofins Eaton Analytical, Inc.
IML-LAB	Intermountain Laboratories
MELAB	Montana Environmental Laboratory
STATELAB	Dept of Public Health and Human Services Environmental Lab