Department of Ecology EIM Environmental Information Management

EIM Help – Entering Non-Detects and Estimates

Version 2.8
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Background

Detection limit

When a lab analyzes a sample, they can distinguish analytes from background only above a certain concentration, referred to as the detection limit. When the concentration of an analyte falls below the detection limit, it is reported as a non-detect and is qualified with a U (or U-variant).

Reporting limit

When a lab analyzes a sample, they can accurately quantify analytes only above a certain concentration, referred to as the reporting limit. When the concentration of an analyte falls below the reporting limit but above the detection limit, it is usually reported as an estimate and qualified with a J (or J-variant). Labs report estimates as non-detects in some cases, if that's what they are required to do.

How to enter your data

Enter non-detects and estimates into EIM

Even if an analyte is estimated or isn't detected, it's important to make a record of the fact that it was estimated or wasn't detected at a specific location and time.

Follow these steps

1. Depending on your requirements, enter the lab's reporting limit, estimate, or detection limit in the ***Result Value*** field (Column AM).
    - Do ***not*** enter any of the following (exception - zero is applicable in rare instances):

ND	0 (zero)	>	<

2. For non-detects, enter "U" (or U-variants – Search for EIM Data Qualifier valid values online) in the ***Result Data Qualifier*** field (Column AS).
    - **U -** Analyte was not detected at or above the reported result.
    - **UJ -** Analyte was not detected at or above the reported estimate.

3. For estimates, enter "J" (or J-variants – Search for EIM Data Qualifier valid values online) in the Result Data Qualifier field (Column AS).
    - **J** - Analyte was positively identified. The reported result is an estimate.

4. Enter the lab's reporting limit into the ***Result Reporting Limit*** field (Column AO) and indicate the ***Reporting Limit Type*** (below) in Column AP.
    - **MRL** - Method Reporting Limit
    - **PQL** - Practical Quantitation Limit
    - **EQL** - Estimated Quantitation Limit
    - **LLOQ** – Lower Limit of Quantitation (EPA SW-846 methods only)
    - **LOQ** - Limit of Quantitation
    - **SQL** - Sample Quantitation Limit
    - **CRQL** - Contract-Required Quantitation Limit (as defined by EPA)
    - **LABDEF -** Lab-Defined (limited use)

    For historical data where the type is unknown, check with your EIM data coordinator.

5. Enter the lab's detection limit into the ***Result Detection Limit*** field (Column AQ) and indicate the ***Result Detection Limit Type*** (below) in Column AR.
    - **MDL** - Method Detection Limit
    - **EDL** – Estimated Detection Limit
    - **LOD** - Limit of Detection
    - **IDL** – Instrument Detection Limit
    - **CRDL** - Contract-Required Detection Limit (as defined by EPA)
    - **MDC** - Minimum Detectable Concentration (Radiochemistry only)

    For historical data where the type is unknown, check with your EIM data coordinator.

EXAMPLE: The following shows the entry of BTEX results. Benzene was detected, Toluene and Ethylbenzene were not detected, and Total Xylenes were estimated.

Result Parameter Name (AH)	**Result Value** (AM)	**Result Value Units** (AN)	**Result Reporting Limit** (AO)	**Result Reporting Limit Type** (AP)	**Result Detection Limit** (AQ)	**Result Detection Limit Type** (AR)	**Result Data Qualifier** (AS)
Benzene	3	ug/L	1	MRL	0.2	MDL	
Toluene	0.2	ug/L	1	MRL	0.2	MDL	U
Ethylbenzene	1	ug/L	1	MRL	0.2	MDL	U
Total Xylenes	2	ug/L	3	MRL	1	MDL	J

Document Revision History

Revision Date	Revision No.	Summary of Changes	Reviser(s)
1/08	1.0	Original Document	CN, KC, BC
10/08	2.0	Major revision based on feedback from external labs and others	CN, KC, BC
3/09	2.1	Updated examples	CN, KC
10/09	2.2	Updated examples	CN, KC
6/10	2.3	Added EDL – 'Estimated Detection Limit' to Detection Limit Type, Removed 'Draft' status	CN, KC
10/10	2.4	Added IDL – 'Instrument Detection Limit' to Detection Limit Type	CN, KC
8/1/13	2.5	Updated references to spreadsheet column headings per data model change	CN
11/29/17	2.6	Added LLOQ to list of Reporting Limits, added additional wording to Reporting Limit and Detection Limit valid values lists, updated examples, added link to Data Qualifier valid values	EF, KC
5/9/18	2.7	Added MDC to list of Detection Limits. Updated formatting.	CN
8/20/26	2.8	Removed value of UNKNOWN for reporting and detection limit types.	KC