

EIM Help – Entering Non-Detects and Estimates

Version 2.5
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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.

Both non-detects and estimates should be entered into EIM, along with detected result values. 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 for entering non-detects and estimates into EIM:

- (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)	>	<
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- (2) For non-detects, enter "U" (or special case U-variants – see full qualifier list in Result help) 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 special case J-variants - see full qualifier list in Result help) 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.

- CRQL** - Contract-Required Quantitation Limit
- EQL** - Estimated Quantitation Limit
- LABDEF** - Lab-Defined
- LOQ** - Limit of Quantitation
- MRL** - Method Reporting Limit

- **PQL** - Practical Quantitation Limit
- **SQL** - Sample Quantitation Limit
- **UNKNOWN** - Unknown

(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.

- **CRDL** - Contract-Required Detection Limit
- **EDL** – Estimated Detection Limit
- **IDL** – Instrument Detection Limit
- **LOD** - Limit of Detection
- **MDL** - Method Detection Limit
- **UNKNOWN** - Unknown

EXAMPLE: The following shows the entry of BTEX results with a lab reporting limit of 5 ug/L and a detection limit of 1 ug/l. Benzene was detected, Toluene was not detected, and Ethylbenzene and Xylene 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	8	ug/L	5	LABDEF	1	MDL	
Toluene	1	ug/L	5	LABDEF	1	MDL	U
Ethylbenzene	3	ug/L	5	LABDEF	1	MDL	J
Xylene	2	ug/L	5	LABDEF	1	MDL	J

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