

State Water Resources Control Board (SWRCB)**Letter No. 002****Subject: Reporting of Estimated Results in EDF****Date: August 11, 2023****Overview:**

The issue: The “J” flag was originally implemented as an EPA Contract Laboratory Program (CLP) data flag indicating “estimated value.” The CLP program is a prescriptive set of laboratory analytical procedures. It has become common practice for laboratories to apply the CLP “J” flag to data derived from analyses using *EPA SW-846 Test Methods for Evaluating Solid Waste* (SW-846). SW-846 methodologies do not provide guidance for the use of this flag in data reporting. The SWRCB, within the AB 2886 implementation, makes use of the SW-846 published methods. Guidance is required on how to report estimated values in the EDF deliverable submitted within the guidelines of the AB 2886 implementation.

Background: The SWRCB recognizes that inconsistency in data reporting among the laboratories may cause erroneous conclusions to be drawn concerning risk assessment at a site or facility. In the EDF, the method detection limit (LABDL) is a statistically derived value, such that if an analyte is measured above this value the laboratory is 99% confident that the constituent is present at a value above this level (i.e., the method detection limit as determined by SW-846 methodology). The quantitation of an analyte at the statistically derived method detection limit has an analytical uncertainty of roughly +/- 100% (meaning the value measured in clean water has equal probability of being the result of either twice the actual target analyte concentration, or instrument “noise”). The method reporting limit (REPD L in EDF) is the limit at which the laboratory is confident about the measurement of the presence of the actual target analyte as determined within the sample matrix. Hence, values measured above the method detection limit but below the reporting detection limit are considered estimated values.

Previous Guidance: The *Leaking Underground Fuel Tank (LUFT) Field Manual, October 1989*, specifies method detection limits for the recommended analytical methods. This manual, however, does not specifically address reporting detection limits or the reporting of values between the method detection and the reporting limits.

The Los Angeles Region Underground Storage Tank (UST) Program provides some guidance in the “General Laboratory Testing Requirements for Petroleum Hydrocarbon Impact Site,” June 5, 2000. The following guidance is conveyed: “Report any concentration detected between MDL and EQL in a numerical value with a “J” flag indicator.”

AB 2886 Guidance: The EDF format contains two fields in which to report detection limit values: *LABDL* and *REPD L*. The *LABDL* field is the statistically determined detection limit corrected for sample preparation. The *REPD L* is the detection limit that the laboratory uses to

confidently determine quantitation limits (e.g., method reporting limit [MRL]), and is defined by the *REPDVQ* field. The *REPDVQ* is also adjusted for sample preparation. When a measured value falls between the *LABDL* and the *REPDVQ* the value is considered to be an estimated quantitation (since it is below the limit at which the laboratory has indicated they can confidently determine quantitation in the sample matrix). Values between the *LABDL* and *REPDVQ* are commonly referred to as “J values” based on the EPA Contract Laboratory Protocol (CLP) data flagging conventions. The SWRCB, in consistence with EPA nomenclature, recommends that values measured between the *LABDL* and *REPDVQ* be included in analytical data reports being provided within the AB 2886 framework. Further guidance below indicates how these values should be reported in the EDF deliverable.

Target Detection Limits: Several Regional Water Quality Control Boards (RWQCBs) have set target detection limits for either the laboratory statistically determined detection limit or the laboratory reporting limit. The SWRCB will work with the RWQCBs to standardize these target detection limits which will be stored in the GeoTracker. Estimated values reported between the MDL and the reporting limit will be compared with the RWQCB target detection limits.

Special Conditions:

This applies to all sample matrices.

Areas of Impact:

Field(s): *PARVQ*, *PARVAL*, and *RLNOTE*

Entry: *PARVQ* = “DN”, “<”

RLNOTE = “J”, “YH”

Policy:

For analytical results that are reported down to the laboratory’s MDL:

a) Scenario 1 – Analyte measured above *REPDVQ*

Code use: *PARVQ* = “=”

PARVAL = measured result

RLNOTE = no entry required (for indicating estimated values)

b) Scenario 2 – Analyte measured between *LABDL* and *REPDVQ*

Code use: *PARVQ* = “DN”

PARVAL = estimated result

RLNOTE = “J” (plus any other notes that apply to the result)

c) Scenario 3 – Analyte measured below *LABDL*

Code use: *PARVQ* = “<”

PARVAL = *LABDL*

RLNOTE = no entry required (for indicating estimated values)

For analytical results that are only reported down to the laboratory's RL:

a) Scenario 1 – Analyte measured above *REPD*

Code use: *PARVQ* = “=”
PARVAL = measured result
RLNOTE = no entry required (for indicating estimated values)

b) Scenario 2 – Analyte measured below *REPD*

Code use: *PARVQ* = “<”
PARVAL = *REPD*
RLNOTE = “YH” (plus any other notes that apply to the result)