

Data Qualification Codes for Use With Coalition Data

Data Remark Code	Code Definition
A	Value reported is the mean (average) of two or more determinations. This code is to be used if the results of two or more discrete and separate samples are averaged. These samples shall have been processed and analyzed independently (e.g. field duplicates, different dilutions of the same sample). This code is not required for BOD or coliform reporting since averaging multiple dilutions for these parameters is fundamental to those methods.
B	<p>Results based upon colony counts outside the acceptable range and should be used with caution. This code applies to microbiological tests and specifically to membrane filter (MF) colony counts. It is to be used if less than 100% sample was analyzed and the colony count is generated from a plate in which the number of colonies exceeds the ideal ranges indicated by the method. These ideal ranges are defined in the method as:</p> <p><i>Fecal coliform or Enterococcus bacteria: 20-60 colonies</i> <i>Total coliform bacteria: 20-80 colonies</i></p> <ol style="list-style-type: none"> 1. Countable membranes with less than 20 colonies. Reported value is estimated or is a total of the counts on all filters reported per 100 mL. 2. Counts from all filters were zero. The value reported is based on the number of colonies per 100 mL that would have been reported if there had been one colony on the filter representing the largest filtration volume (reported as a less than "<" value). 3. Countable membranes with more than 60 or 80 colonies. The value reported is calculated using the count from the smallest volume filtered and reported as a greater than ">" value. 4. Filters have counts of both >60 or 80 and <20. Reported value is a total of the counts from all countable filters reported per 100 mL. 5. Too many colonies were present; too numerous to count (TNTC). TNTC is generally defined as > 150 colonies. The numeric value represents the maximum number of counts typically accepted on a filter membrane (60 for fecal and 80 for total), multiplied by 100 and then divided by the smallest filtration volume analyzed. This number is reported as a greater than value. 6. Estimated Value. Blank contamination evident. 7. Many non-coliform colonies or interfering non-coliform growths are present. In this competitive situation, the reported coliform value may under-represent actual coliform density. <p><u>Note:</u> A "B" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., B1, B2, etc.). <u>Note:</u> A "J2" should be used for spiking failures.</p>
BB	<p>This code applies to most probable number (MPN) microbiological tests.</p> <ol style="list-style-type: none"> 1. No wells or tubes gave a positive reaction. Value based upon the appropriate MPN Index and reported as a less than "<" value. 2. All wells or tubes gave positive reactions. Value based upon the MPN Index and reported as a greater than ">" value. <p><u>Note:</u> A "BB" value shall be accompanied by justification for its use denoted by the numbers listed above (e.g., BB1, BB2, etc.).</p>
C	Total residual chlorine was present in sample upon receipt in the laboratory; value is estimated. Generally applies to cyanide, phenol, NH ₃ , TKN, coliform, and organics)
G	<p>A <u>single</u> quality control failure occurred during biochemical oxygen demand (BOD) analysis. The sample results should be used with caution.</p> <ol style="list-style-type: none"> G1. The dissolved oxygen (DO) depletion of the dilution water blank exceeded 0.2 mg/L. G2. The bacterial seed controls did not meet the requirement of a DO depletion of at least 2.0 mg/L and/or a DO residual of at least 1.0 mg/L.

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	<p>G3. No sample dilution met the requirement of a DO depletion of at least 2.0 mg/L and/or a DO residual of at least 1.0 mg/L.</p> <p>G4. Evidence of toxicity was present. This is generally characterized by a significant increase in the BOD value as the sample concentration decreases. The reported value is calculated from the highest dilution representing the maximum loading potential and should be considered an estimated value.</p> <p>G5. The glucose/glutamic acid standard exceeded the range of 198± 30.5 mg/L.</p> <p>G6. The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.</p> <p>G7. Less than 1 mg/L DO remained for all dilutions set. The reported value is an estimated greater than value and is calculated for the dilution using the least amount of sample.</p> <p>G8. Oxygen usage is less than 2 mg/L for all dilutions set. The reported value is an estimated less than value and is calculated for the dilution using the most amount of sample.</p> <p>G9. The DO depletion of the dilution water blank produced a negative value.</p>
J	<p>Estimated value; value may not be accurate. This code is to be used in the following instances:</p> <p>J1. Surrogate recovery limits have been exceeded;</p> <p>J2. The reported value failed to meet the established quality control criteria for either precision or accuracy;</p> <p>J3. The sample matrix interfered with the ability to make any accurate determination;</p> <p>J4. The data is questionable because of improper laboratory or field protocols (e.g. composite sample was collected instead of grab, plastic instead of glass container)</p> <p>J5. Temperature limits exceeded (samples frozen or >6° C) during transport or not verifiable (e.g., no temperature blank provided);, non-reportable for NPDES compliance monitoring.</p> <p>J6. The laboratory analysis was from an unpreserved or improperly chemically preserved sample. The data may not be accurate.</p> <p>J7. This qualifier is used to identify analyte concentration exceeding the upper calibration range of the analytical instrument/method. The reported value should be considered estimated.</p> <p>J8. Temperature limits exceeds (samples frozen or >6°C during storage. The data may not be accurate.</p> <p>J9. The reported value is determined by a one-point estimation rather than against a regression equation. The estimated concentration is less than the laboratory practical quantitation limit and greater than the laboratory method detection limit.</p> <p>J10. Unidentified peak; estimated value.</p> <p>J11. The reported value is determined by a one-point estimation rather than against a regression equation. The estimated concentration is less than the laboratory practical quantitation limit and greater than the laboratory method detection limit. <i>This code is used when an MDL has not been established for the analyte in question.</i></p> <p>J12. The calibration verification did not meet the calibration acceptance criterion for field parameters. Note: A "J" value shall not be used if another code applies (ex. N, V, M).</p>
M	<p>Sample and duplicate results are "out of control." The sample is non-homogenous (e.g. VOA soil). The reported value is the lower value of duplicate analyses of a sample.</p>
N	<p>Presumptive evidence of presence of material; estimated value. This code is to be used if:</p> <p>N1. The component has been tentatively identified based on mass spectral library search;</p> <p>N2. There is an indication that the analyte is present, but quality control requirements for confirmation were not met (i.e., presence of analyte was not confirmed by alternate procedures).</p> <p>N3. This code shall be used if the level is too low to permit accurate quantification, but the estimated</p>

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	<p>concentration is less than the laboratory practical quantitation limit and greater than the laboratory method detection limit. This code is not routinely used for most analyses.</p> <p>N4. This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is less than the laboratory practical quantitation limit and greater than the instrument noise level. This code is used when an MDL has not been established for the analyte in question.</p> <p>N5. The component has been tentatively identified based on a retention time standard.</p>
P	Elevated practical quantitation limit (PQL)* due to matrix interference and/or sample dilution.
Q	<p>Holding time exceeded. These codes shall be used if the value is derived from a sample that was received, prepared and/or analyzed after the approved holding time restrictions for sample preparation and analysis. The value does not meet NPDES requirements.</p> <p>Q1. Holding time exceeded prior to receipt by lab</p> <p>Q2. Holding time exceeded following receipt by lab</p>
S	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD).
U	Indicates that the analyte was analyzed for but not detected above the reported practical quantitation limit (PQL)*. The number value reported with the "U" qualifier is equal to the laboratory's PQL*.
V	<p>Indicates the analyte was detected in both the sample and the associated method blank.</p> <p>Note: The value in the blank shall not be subtracted from the associated samples.</p>
X	<p>Sample not analyzed for this constituent. This code is to be used if:</p> <p>X1. Sample not screened for this compound.</p> <p>X2. Sampled, but analysis lost or not performed-field error</p> <p>X3. Sampled, but analysis lost or not performed-lab error</p>
Y	Elevated PQL* due to insufficient sample size
Z	<p>The presence or absence of the analyte cannot be verified. The sample analysis/results are not reported due to:</p> <p>Z1. Inability to analyze the sample.</p> <p>Z2. Questions concerning data reliability.</p>

*PQL, The Practical Quantitation Limit (PQL), is defined as the lowest level achievable among laboratories within specified limits during routine laboratory operation. The Practical Quantitation Limit (PQL) is "about three to five times the method detection limit (MDL) and represents a practical and routinely achievable detection level with a relatively good certainty that any reported value is reliable." (APHA, AWWA, WEF. 1992. Standard Methods for the Examination of Water and Wastewater, 18th ed.)

** Data remarks are current as of December 7, 2011