Appendix E – Data Qualifiers

QC-related Codes

Code	Definition	Description and Usage
AA	Limit Of Quantitation (LOQ) greater than Ambient Water Reporting Limit (AWRL)	The LOQ associated with the reported value is greater than the AWRL. Where this data qualifier is used, the limit of quantitation should be provided in the comments field.
AQ	Value above quantitation range	The value reported was derived from a response that fell beyond the upper end of the instrument's calibration range. The measurement has an increased level of uncertainty associated with it.
BQ	Analyte concentration was less than the limit of quantitation (LOQ) but greater than the limit of detection (LOD)	The analyte concentration was less than the limit of quantitation but greater than the limit of detection. The value has an increased level of uncertainty associated with it. Where this data qualifier is used, the limit of quantitation (LOQ) and limit of detection (LOD) should be provided in the comments field.
FB	Field Blank Failure	The result from a field blank (field blank, instrument blank, trip blank, etc.) fell outside project-specific acceptance limits. The specific blank that failed, field blank result, acceptance limits, and possible cause(s) for the failure should be provided in the comments field.
FD	Field Split or Field Duplicate Precision Failure	The precision between the results from the sample and its field split or duplicate fell outside project-specific acceptance limits. The precision measurement criteria and possible cause(s) for failure should be provided in the comments field.
LB	Method/Laboratory Blank Failure	The result from a laboratory blank (method blank instrument blank sterility check etc.) fell outside project-specific acceptance limits. The specific blank that failed, blank result acceptance limits, and possible cause(s) for the failure should be provided in the comments field.
LD	Sample/Lab Duplicate Precision Failure	The precision between the results from the sample and its laboratory duplicate fell outside project-specific acceptance limits. The precision measurement criteria and possible cause(s) for failure should be provided in the comments field.
LQ	Limit of Quantitation (LOQ) Check Sample Recovery Failure	The recovery of the LOQ Check Sample fell outside project-specific acceptance limits. The recovery acceptance limits and possible cause(s) for failure should be provided in the comments field.
LR	Lab Control Sample/Lab Control Sample Duplicate (LCS/LCSD)	The recovery of the LCS or LCSD fell outside project-specific acceptance limits. The recovery, acceptance limits, and possible cause(s) for the failure should be provided in the comments field.
LP	LCS/LCSD Precision Failure	The precision between the LCS and LCSD results fell outside project-specific acceptance limits. The precision measurements, criteria, and possible case(s) for failure should be provided in the comments field

Code	Definition	Description and Usage
LS	Other Laboratory Spike Recovery Failure	The recovery of a laboratory spike (other than LCS/LCSD/Matrix Spike/Matrix Spike Duplicate) fell outside project-specific acceptance limits, and possible cause(s) for the failure should be provided in the comments field.
MR	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recovery Failure	The recovery of the MS or MSD fell outside project-specific acceptance limits. The recovery, acceptance limits, and possible cause(s) for the failure should be provided in the comments field.
MP	MS/MSD Precision Failure	The precision between the MS and MSD results fell outside project-specific acceptance limits. The precision measurement, criteria, and possible cause(s) for failure should be provided in the comments field.
OR	Results Based on Colony Count Outside Method-prescribed Range	The result was based on colony counts that were outside the method-prescribed range. The measurement has an increased level of uncertainty associated with it. The method-prescribed range for colony counts and the number of colonies counted should be provided in the comments field.
ZZ	Other QC Failure(s)	This qualifier must be used in only one of two instances: a) when more than one QC failure affects the reported result or b) when a qualifier with more specificity is not available to describe the failure. If this qualifier is used specific details must be included in the comments field to assist data users in evaluating the usability of the reported result. Note: For bacteriological analysis this code should be applied when positive or negative controls do not yield expected results.

Other Codes

Code	Definition	Description and Usage
BN	Biological specimen not vouchered.	Biological specimen not vouchered.
CU	Value deemed unreasonable by collector	Collector deems value unreasonable, although value not an outlier and all QC requirements were met. Collector must provide a brief justification for assigning this qualifier.
DU	Duplicate Data	If duplicate data are accidentally loaded into SWQMIS, this qualifier is used to alert the user that certain data points may weight analysis.
ES	Estimated Value	A simple alert to the data user that this is not an analytically derived value. A description of the procedure used to derive the result must be provided in the comments field.
F	Value from Unpreserved Sample	A sample that should have been preserved was not. Potential bias should be described in the comments field.
H	Hold Time Exceeded	A sample was analyzed beyond the allowable holding time specified in the QAPP, laboratory method, or other applicable procedure. The magnitude of the exceedance and potential bias should be described in the comments field.
I	Interference	Interference occurred during analysis. The value has an increased level of uncertainty associated with it. The nature of the interference and potential bias should be described in the comments field.
J	Value from Preserved Rather than Unpreserved Sample.	A sample that should have remained unpreserved was preserved. The nature of the preservation error and potential bias should be described in the comments field.
M	Instrument Failure	Instrument failure occurred during analysis. Details should be included in the comments field.
MX	Method Experimental	This qualifier indicates the value was obtained using alternative or experimental methods. The method used must be described in the comments field.
NQ	Data Not Collected Under a QAPP	This code indicates a value is not collected according to a QAPP. This code should only be applied when a QAPP does not exist. It should not be applied when data are collected outside a QAPP effective period or for any QAPP variances.
O	Shipping Error	The sample was received when a deficiency occurred during shipping. This qualifier may indicate such circumstances as an open or damaged shipping container. Details must be provided in the comments field.
OQ	Outlier value deemed questionable by collector	Values outside the SWQMIS minimum/maximum screening levels for that parameter are examined by the data collector. Those that are reasonable for the conditions at the sample location (usually based on the professional expertise of the collector) are verified. Those that are not reasonable are qualified with this code to indicate that some unknown error may have occurred to impact the result.
R	Improperly Collected Sample	The sample was not collected according to QAPP, sampling method, or other method requirements. Details and potential bias must be described in the comments field. Note: This code should not be used in cases where the value's data quality is not impacted (e.g., monitoring at sites or frequencies not listed in QAPP, monitoring using different parameter codes, etc.).
T	Preservation Temperature Exceeded	During storage or transport, the temperature of the sample fell outside specified acceptance limits. Details should be provided in the comments

Code	Definition	Description and Usage
		field. Note: this code should not be applied to results from samples that arrived at the lab outside of temperature acceptance limits on the same day as collection if those samples were received on ice.
UR	Value deemed unreasonable by TCEQ data validator.	Value is clearly unreasonable but there is not sufficient documentation to determine the specific cause of the problem or allow proper correction of the value. Data validator should provide a brief justification for assigning this qualifier.

Retired Codes

Code	Definition	Description and Usage
A	Not Analyzed	This code has been used in the past in datasets where not all parameters in a standard suite were reported. This code is not currently in use.
B	Bactericidal Effect Indicated	Elements of the sample or preservative are known or have been observed to have an effect on certain or all bacteria present. This qualifier alerts data users that bacteria values may reflect this impact.
BK	Field Blank Precision Failure	The result from a Field Blank (field blank, instrument blank, trip blank, etc.) fell outside the project-specific acceptance limits, and possible cause(s) for the failure must be provided in the comments field.
BL	Blank did not meet SWQM QA criteria	If the blank sample associated with this measurement did not meet SWQM QA criteria, this qualifier marks the data point for exclusion from 305(b) assessment analysis.
C	Chlorine Present	Chlorine present in the sample or during analysis may have affected this result.
D	Did Not Pass All Q.C. Criteria	This qualifier may aid in decisions regarding data usability, in combination with details that may be in the sample notes describing which criteria were not met.
E	Lab Error	This qualifier may be used if several errors apply or if a description of the specific error would not aid in data usability decisions.
G	No Sample Submitted	This code has been used in the past for samples where expected/scheduled analyses could not be performed. This code is not currently in use.
IO	Incomplete & Unofficial	An alert to the data user that this value is associated with a sample missing required information such as sample depth or sample time. Any available details should be included in the sample notes.
K	Statistically Unreliable	Collector or analyst review revealed this result to be unreliable or unreasonable. See also code OQ, which may be applicable.
L	Call Lab	This qualifier may be used if several errors apply or if the error requires more explanation than is practical to include in the sample notes. Information from the lab is necessary to make a decision about data usability for parameters with this qualifier.
ME	Method Experimental	This qualifier may indicate that the value was obtained using alternative or experimental methods. These methods are documented in their specific QAPP but not approved for SWQM 305(b)/303(d) assessment.
N	Container Leaking	A sample container arrived at the lab leaking. Effect on the sample and the resulting data is unknown or unquantifiable. Any available details

Code	Definition	Description and Usage
		should be included in the sample notes.
ND	Material Specifically Analyzed For But Not Detected	This qualifier is a value added remark, usually used when a result value of "less than" the analytical limit is reported. It indicates that while the reported value is correct, the material was not detected at all.
NO	Data Not Collected Under Approved Agency QAPP	These data may be acquired from outside sources without the complete verification and validation against the SWQM QAPP. They may also be data associated with a TCEQ project collected outside its QAPP effective period.
P	Total Does Not Warrant TCLP	This informative remark does not indicate that the result is questionable. It is simply a notation to alert the data user that a result value from a fraction analysis is not high enough to necessitate a Toxicity Characteristic Leaching Procedure. The result from fraction analysis is sufficient to make a determination of compliance or toxicity.
PE	Presumptive Evidence of Presence of Material	A simple alert to the data user that this may not be an analytically derived value. This qualifier may also be used to mark an analytical value when the presence of that parameter suggests that another material not specifically analyzed for may be present. Any available details should be included in the sample notes.
PV	Presence of Material Verified But Not Quantified	This code has been used in the past for samples where the analyte quantity was above the limit of detection but below the limit of quantitation. Values with this qualifier are not suitable for use in quantitative data analysis. This code is not currently in use.
Q	Quantity Not Sufficient	This code has been used in the past for samples where expected/scheduled analyses could not be performed due to insufficient sample volume. This code is not currently in use.
RP	RPD outside accepted recovery limits	This qualifier may aid in decisions regarding data usability, in combination with details that may be in the sample notes describing the actual RPD value associated with the QC sample.
S	Container Broken in Shipment	This code has been used in the past for samples where expected/scheduled analyses could not be performed due to loss or contamination of the sample. This code is not currently in use.
SP	Split did not meet SWQM QA criteria	The split sample criteria documented in the SWQM QAPP were not met for this parameter. Any available details about which criteria were not met should be included in the sample notes.
SR	Spike recovery outside accepted recovery limits	This qualifier may aid in decisions regarding data usability, in combination with details that may be in the sample notes describing the actual spike recovery value associated with the QC sample.
U	Reported Values Less Than Detection Limit	The analysis returned a value statistically unreliable based on the capability of the instrument.