Laboratory Qualification Requirements

1. Introduction

This document establishes the requirements for assigning laboratory qualifications to analytical results submitted to the Minnesota Pollution Control Agency (MPCA). Qualification of analytical results provides information on data quality but does not by itself determine whether the data are of sufficient quality to support project or program objectives. The intended audience for this document is laboratories responsible for generating and reporting analytical data. This document clarifies the type, meaning, and intended purpose of laboratory qualifications that are submitted to MPCA.

These requirements apply to all laboratories submitting data to the MPCA's EarthSoft Environmental Quality Information System (EQuIS™) database. These requirements support the MPCA Quality Management Plan and are intended to ensure that analytical data are consistently qualified, sufficient for their intended use, and managed in accordance with best practices. Questions regarding this document can be directed to qa.questions.mpca@state.mn.us.

2. Authority Hierarchy

Acceptance criteria are established in the Quality Assurance Project Plan (QAPP) or Quality Assurance Program Plan (QAPrP) define the acceptable level of uncertainty for supporting project-specific data quality objectives. Acceptance criteria in QAPPs, QAPrPs, and the MPCA Laboratory Quality Control and Data Policy supersede laboratory control limits. When analyzing MPCA samples, laboratories must apply acceptance criteria following the hierarchy when reporting laboratory data to MPCA:

1. Quality Assurance Project Plan / Quality Assurance Program Plan
2. MPCA Laboratory Quality Control and Data Policy
3. Laboratory control limits

3. Requirements and Roles for Applying Data Qualifications

3.1 MPCA

Establishes requirements for data qualification, provides the framework for qualifier use, and maintains oversight of data qualification procedures. MPCA will communicate any updates to this document.

3.2 Laboratory

The laboratory is responsible for generating analytical data, analyzing appropriate quality control (QC) samples, assigning laboratory qualifiers to analytical results, and implementing corrective actions as needed. If a QC sample result falls outside acceptance criteria, the laboratory must investigate and implement corrective actions. If acceptable QC performance cannot be achieved, and the data must be reported, the laboratory must assign an appropriate EQuIS™ reference table qualifier (RT qualifiers) to the affected target analyte(s) in both the sample and QC sample.

The laboratory qualifier field in the Lab_MN electronic data deliverable (EDD) communicates nonconformances related to analytical procedures, QC performance, or other laboratory level issues to data reviewers and data users. Laboratories performing work under contract with MPCA, expecting analytical results to be submitted to the MPCA, or resubmitting analytical data must use RT qualifiers in the Lab_MN EDD. Lab-specific qualifiers are not permitted in any field in the Lab_MN EDD.

3.2.1 Lab_MN EDD

The Lab_MN EDD is an EQuIS™-compatible format required for analytical data submissions to the MPCA. Any EDD not formatted in accordance with the Lab_MN requirements will be returned for corrections. For additional EDD format information, see the EarthSoft Website for MPCA Lab MN.

3.2.2 Laboratory Qualifier Field

The laboratory qualifier field in the Lab_MN EDD requires RT qualifiers to ensure consistent qualification and documentation. RT qualifiers are available in the "rt_qualifer" tab in the "Lab_MN_Refvals" Excel file within the MPCA Materials zip file on the EarthSoft Website for MPCA Lab MN website. When multiple qualifiers are assigned, they must be separated by a comma (e.g., B1,H1,M1).

3.2.3 N1 Qualifier and Result Comment

The N1 laboratory qualifier must only be used when no available RT qualifiers adequately describe the nonconformance associated with a sample result. The N1 qualifier ("See comment section") directs the data users to review the result comment field in the Lab_MN EDD.

When the N1 laboratory qualifier is used, the laboratory must provide a clear description of the issue in the result comment field. The result comment field is unconstrained, and the lab is allowed to use free text.

The result comment field must not be used in place of the laboratory qualifier field, must not duplicate any RT qualifiers, and must not be used to include lab-specific qualifiers in addition to RT qualifiers in the laboratory qualifier field.