




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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Date: July 26, 2010  
To: Curt Black, Project Officer  
Office of Environmental Assessment, USEPA Region 10  
From: Stephanie Bailey, Microbiologist   
Office of Environmental Assessment, USEPA Region 10 Laboratory  
Subject: Quality Assurance Review of the Yakima Nitrate Microbial Source Tracking (MST) Project  
Project Code: ESD-163C  
Account Code: 1011B10P201B53C

The following is a quality assurance review of the results from the MST analyses of 14 water samples from the Yakima Nitrate (ESD-163C) MST project. The analyses were performed by EPA microbiologists at the US EPA Region 10 Laboratory in Port Orchard, WA, following US EPA and Laboratory guidelines.

This review was conducted for the following samples:

**Sample numbers: 10096365; 10154251 – 4259; 10154271 – 4274**

#### 1. Data Qualifications

Comments below refer to the quality control specifications outlined in the Laboratory's current Quality Assurance Manual, Standard Operating Procedures (SOPs) and the Quality Assurance Project Plan (QAPP). No excursions were required from the MST method.

All measures of quality control met Laboratory/QAPP criteria.

The Region 10 Laboratory Quality System has been accredited to the standards of the National Environmental Laboratory Accreditation Conference (NELAC).

#### 2. Sample Transport and Receipt

During transport and upon sample receipt, no conditions were noted that would impact data quality for this project.

#### 3. Sample Holding Times

There is no program stipulation regarding holding time for MST samples. The samples covered by this review met in-house sample holding time requirements.

#### 4. Laboratory Quality Control

No qualification was necessary based on laboratory quality control criteria.  
All DNA control measures demonstrated correct responses for these reported sets of analyses.

All laboratory equipment and supplies used in this analytical procedure met the criteria as set forth in EPA's Microbial Source Tracking Guide Document. EPA/600/R-05/064, June 2005.

All positive and negative control measures demonstrated correct responses for these reported sets of analyses. No qualifications were required based on quality control measures.

The sterility controls showed no presence of DNA. No qualification was required based on sterility controls or blank analyses.

#### 5. Reporting Limits

All sample results that fall below the detection limit are assigned the value of A (Absent).

#### 6. Changes from Preliminary Data

No preliminary data was provided.

#### 7. Data Qualifiers

The usefulness of qualified data should be treated according to the severity of the qualifier in light of the project's data quality objectives. Should questions arise regarding the data, contact Stephanie Harris at (360) 871- 8710.

#### 8. Definitions

Sterility controls - Controls used to ensure no DNA (contamination) is accidentally introduced.

Negative DNA controls - Sterile controls prepared and analyzed with samples to assess whether or not contamination was introduced during the procedure.

Positive DNA control samples - Tests that demonstrate the presence of DNA from the target organism can be identified.

ND - Analysis not done for this particular primer or sample

A - Absent

P - Present

GB - General *Bacteroides* source present

R - Ruminant source present

H - Human source present

H/R - Both human and ruminant source present