



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

June 6, 2011

Reply to: Donald M. Brown
Attn of: OEA-095

MEMORANDUM

Subject: Data Validation Report for the Bacterial Analyses of the Water Samples Collected from the Yakima Basin Nitrate Study Phase 3

From: Donald M. Brown, QA Chemist ^{DMB}
USEPA Region 10, Office of Environmental Assessment, Environmental Services Unit

To: Ginna Grepo-Grove, Regional Quality Assurance Manager
USEPA Region 10, OEA

The quality assurance (QA) review of the analytical data generated from the analysis of nine (9) well water samples collected from the Yakima Basin Nitrate Study Phase 3 has been completed. These samples were analyzed for Escherichia Coli and Total Coliform using a Quanti-Tray method by Cascade Analytical, Inc. located in Wenatchee, Washington.

This review was conducted for the following well water samples from the Phase 3 Study:

10154201	10154202	10154203	10154204	10154205	10164209
10164210	10164222	10164230			

In addition, this QA review also includes the analytical data generated from the analysis of ten (10) lagoon or sewer plant samples collected from the Yakima Basin Nitrate Study Phase 3. These samples were analyzed for Fecal Coliform in accordance with Standard Method 9222 D by Cascade Analytical, Inc. located in Wenatchee, Washington.

This review was conducted for the following lagoon/sewer plant samples from the Phase 3 Study:

10154251	10154252	10154253	10154271	10164260	10164261
10164262	10164263	10164264	10164265		

All sample analyses were evaluated following EPA's Stage 4 Data Validation Manual Process (S4VM). The validation was conducted according to the Quality Control Specifications outlined in the Quality Assurance Project Plan for the Yakima Basin Nitrate Study Phase 3 (April 2010). The conclusions presented herein are based on the information provided for the review.

Holding Time

For bacterial analyses, a holding time of 30 hours must be met for drinking water samples and a holding time of six hours must be met for wastewater samples. All samples met these requirements except for the following lagoon/sewer plant samples: 10154251, 10154252, 10154253, 10154271, 10164263 and 10164264. The holding time exceedances for these samples ranged from 0.1 hours to 42 hours. The results for these samples were considered estimates and qualified "J".

Sample Results & Reporting Limits

All sample results that fall below the detection limit were assigned the value of the detection limit with the "<" symbol attached. This means that if the target organism is present in the sample, the level is below the minimum level at which the laboratory is able to detect it. All sample results that exceeded the upper limit for microbial estimates were reported by the laboratory as "TNTC", or too numerous to count.

Quality Control Results Summary

Due to the nature of bacterial analyses, laboratory blanks for the Fecal Coliform analysis were the only quality control assessed. All blank results were less than the reporting limit.

A comparison of the reported analyte values was conducted against the instrument data and the results were verified. The laboratory did not apply any qualifiers to the data; therefore, the data qualifiers added by the reviewer due to data quality indicator exceedances are as follows:

Data Qualifiers

Below are the definitions for the code used to qualify data from these analyses. When more than one quality issue was involved, the most restrictive qualifier has been attached to the data.

J - The identification of the analyte is acceptable; however, the reported value is an estimate.