



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

February 24, 2011

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

MEMORANDUM

Subject: Data Validation Report for the Pesticide Analysis 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 thirty (30) water samples collected from the Yakima Basin Nitrate Study Phase 3 has been completed. These samples were analyzed for Pesticides by the US EPA Region 10 Laboratory located in Port Orchard, Washington.

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

10154201	10154202	10154203	10154204	10154205	10154206
10154207	10154208	10154211	10154212	10154213	10154214
10154215	10154216	10154217	10154218	10154219	10154220
10154221	10154223	10154224	10154225	10154226	10154227
10154228	10154229	10164209	10164210	10164222	10164230

All sample analyses were evaluated following EPA's Stage 4 Data Validation Manual Process (S4VM). The data reviews were conducted and appropriate qualifiers were applied according to the Quality Control Specifications outlined in the Quality Assurance Project Plan for the Yakima Basin Nitrate Study Phase 3 (April 2010) and the laboratory's current Quality Assurance Manual and Standard Operating Procedures (SOPs). The laboratory noted that the sample preparation and analysis were experimental and that no SOP has been developed by the laboratory. The following criteria have been evaluated: Sample Transport and Receipt, Sample Holding Times, Sample Preparation, Initial Calibration and Calibration Verification, Laboratory Control Samples, Blank Analysis, Matrix Spike/Matrix Spike Duplicate Analysis, and Sample Identification.

The quality control measures which did not meet QAPP/Laboratory criteria are as follows:

- All samples did not meet the holding time requirement for the pesticide analysis, and the results were considered estimates and qualified “J” or “UJ”.
- The second source standard was outside the recovery acceptance criteria (>30%) for compounds Fenpropathrin and Triflumizole. All samples were already qualified as estimated based on holding time.
- The following continuing calibration verifications (CCVs) were outside the recovery acceptance criteria ($\pm 20\%$) for the samples listed below. All samples were already qualified as estimated based on holding time.

Calibration Verification	Failed Compounds	Affected Samples
CCV1	Diuron, Surflan, Terbacil, Triflumizole	10154201 through 10154208, 10164209, 10164210
CCV2	Diuron, Endosulfan I, Metribuzin, Pendimethalin, Surflan, Terbacil, Triflumizole	10154211 through 10154220
CCV3	Alachlor, Atrazine, Ethyl Chlorpyrifos, Diazinon, Diuron, Endosulfan I, Metribuzin, Oxyfluorfen, Pendimethalin, Propargite, Surflan, Terbacil, Triflumizole	10154221, 101554223 through 10154229, 10164222, 10164230

- The laboratory control samples (LCSs) were below the recovery requirement (<70%) for Imidan, Surflan, and Terbacil and above the recovery requirement (>130%) for Atrazine and Pendimethalin. All samples were already qualified as estimated based on holding time.
- Matrix spikes and/or matrix spike duplicates (MS/MSD) were above the recovery requirement (>130%) for Atrazine and below the recovery requirement (<70%) for Endosulfan I, Metribuzin, Pendimethalin, Surflan, Terbacil, Triflumizole, and Trifluralin. Furthermore, Surflan and Terbacil failed MS/MSD precision criteria (30%). All samples were already qualified as estimated based on holding time.

Data Qualifiers

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

- U - The analyte was not detected at or above the reported value.
- J - The identification of the analyte is acceptable; however the reported value is an estimate.
- UJ - The analyte was not detected at or above the reported value. The reported value is an estimate.