Data Usability Review for NW Pipe

Collected May 31, 2012

Prepared for: Patrick Heins/PDX
Tina Rice/PDX

Prepared by: Kerry Byun/PDX

Date: July 26, 2012

Summary

This memorandum summarizes the review of the QA/QC data associated with the analysis of seven samples collected on May 31, 2012 from the NW Pipe site.

Metals including mercury, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total organic carbon (TOC) analyses were performed by the Applied Sciences Group laboratory, located in Corvallis, Oregon. Data was reported in analytical batch ASL L1754.

Total petroleum hydrocarbons (TPH) for extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH) analyses were performed by Test America laboratory, located in Tacoma, Washington. Data was reported in analytical batch 580-33207-1.

EPA Contract Laboratory Program (CLP) *National Functional Guidelines (NFG) for Low Concentration Organic Data Review* (June 2001), *National Functional Guidelines (NFG) for Organic Data Review* (October 1999), and *National Functional Guidelines (NFG) for Inorganic Data Review* (July 2002) provided guidelines for data qualification, where applicable.

The intent of this review was to assess the appropriate use or "usability" of the analytical data based on the QA/QC data reported by the laboratory. This QA review focuses on criteria for the following QA/QC parameters and their overall effect on the data:

- Sample custody, handling, and preservation
- Holding time compliance
- Summary initial and continuing calibration data
- Method blanks
- Surrogate spike recovery
- Precision and Accuracy (laboratory control samples and spike/spike duplicates)

Only summary QA/QC information were reviewed for each analytical parameter. Analytical results and QA/QC summary information were provided by ASL and Test America for all sample analyses. The data set is usable when used in conjunction with

information discussed below and any flags applied to the hard copy data by the laboratory or during this review.

Sample Custody and Handling

Chain-of-custody (COC) forms and laboratory sample receiving checklists were reviewed.

No exceptions were found on the COC's.

Initial Calibration

Initial calibration data were provided were provided by ASL and Test America for each instrument used for analysis. All target compounds met initial calibration QC acceptance criteria.

Continuing Calibration

Continuing calibration data were provided by ASL and Test America for each instrument used for analysis. All target compounds met initial calibration QC acceptance criteria.

Holding Times

Extraction and analysis holding times were met for all samples and analytes.

Method Blanks

Method blanks were provided for all analyses. All method blanks met QC acceptance criteria, except in the following:

TPH-Diesel was detected in the blank at 0.84 mg/Kg. The data were not flagged as the samples were positive for TPH-Diesel.

The following NWTPH/VPH analytes were detected in the blank:

C5-C6 Aliphatic 0.363 mg/Kg

C6-C8 Aliphatic 0.256 mg/Kg

C10-C12 Aliphatic 0.147 mg/Kg

C8-C10 Aromatic 0.160 mg/Kg

C10-C12 Aromatic 0.192 mg/Kg

C12-C13 Aromatic 0.454 mg/Kg

The detected results for sample GP301-10'-11' were raised to the LOQ 2.5 mg/Kg and flagged with "U" as non-detect.

The following NWTPH/EPH analytes were detected in the blank:

C10-C12 Aromatics 0.0934 mg/Kg

The detected result for sample GP301-10'-11', analyte C10-C12 Aromatics was raised to the LOQ 6.1 mg/Kg and flagged with a "U" as non-detect.

C21-C34 Aromatics 2.19 mg/Kg

The detected results for sample GP301-10'-11' and GP302-7'-8', analyte C21-C34 Aromatics were not flagged as the samples were positive for this analyte.

Surrogate Recovery

Except for the instances noted below, all surrogate recoveries were within the specified QC control limits.

- NWTPH/EPH: Sample GP302-7'8' had a surrogate recovery (0%) below acceptance criteria. The positive result for analyte C12-C16 Aliphatic 74 mg/Kg was qualified as estimate and flagged with a "J".

- PAHs: Due to dilution, the sample GP301-10'-11' had a surrogate recovery of (0%) below acceptance criteria. The laboratory applied a dilution factor of 20X. The PAH results for the sample were qualified as estimates and flagged with a "J" for positive results or with a "UJ" for non-detect results.

- PAHs: Due to dilution, the sample GP302-7'-8' had a surrogate recovery of (0%) below acceptance criteria. The laboratory applied a dilution factor of 10000X. The PAH results for the sample were qualified as estimates and flagged with a "J" for positive results or with a "UJ" for non-detect results.

- PCBs: Due to dilution and matrix interference, the sample GP302-7'-8' had a surrogate recovery of (0%) below acceptance criteria. The laboratory applied a dilution factor of 20X. The PCB result for the sample is not flagged due to the matrix interference experienced during the sample analyses.

- TPH: Due to dilution, the sample GP302-7'-8' had a surrogate recovery of (0%) below acceptance criteria. The laboratory applied a dilution factor of 50X. The TPH-D results for the sample was qualified as an estimate and flagged with a "J" for positive results.

Laboratory Control Samples

Percent recovery and relative percent difference (RPD) values for the laboratory control samples (LCS) and LCS duplicates met frequency criteria and QC control limits.

Matrix Spike Samples

Not applicable.