

Memorandum

Date: 8 November 2010
To: Ruth Custance
Matt Thomas
From: Mary Tyler
CC: J. Caprio
Subject: **Tier IV Data Validation - Level IV Data deliverable –Polynuclear Aromatic Hydrocarbons by EPA Method TO-13A – Columbia Analytical Services Project Number P1003070R**

SITE: Ascon Landfill

INTRODUCTION

This report summarizes the findings of the Tier IV data validation of three air samples collected on polyurethane foam (PUF)/XAD-2, collected on August 23, 2010, as part of the Ascon Landfill sampling event. Columbia Analytical Services (CAS), Simi Valley, California, analyzed the samples. The samples were analyzed by the following method:

- EPA Method TO-13A – Polynuclear Aromatic Hydrocarbons (PAHs)

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Tier IV data validation covering the QC parameters listed below, the data are usable for meeting project objectives.

The data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Interim Removal Measure Air Monitoring Plan, Ascon Landfill Site, Huntington Beach, California, May 2010, as well as by the pertinent method referenced by the data package and professional judgment.

The following samples were analyzed in the data set:

Lab ID	Client ID
P1003070-001	IRM-AA-02-PUF
P1003070-002	IRM-AA-05-PUF

Lab ID	Client ID
P1003070-003	IRM-AA-06-PUF

The samples were received at the laboratory within $4 \pm 2^{\circ}\text{C}$. No sample preservation issues were noted by the laboratory.

Incorrect error corrections were observed on the chain of custody (COC). The proper procedure of a single strike-through correction and initials and date of the person making the correction was not followed. In addition, there were no analyses marked on the COC; the samples were analyzed by EPA Method TO-13A. It was noted that the client IDs on the COC were in a different format than what was listed in the analytical report, for example, IRM Puf AA-02.

The original laboratory report was revised to include the raw data; the revised laboratory report was identified by the laboratory as P1003070R.

1.0 POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

Three air samples collected on PUF/XAD-2 were analyzed for selected PAHs per EPA Method TO-13A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Instrument Performance Check
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Blanks
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Internal Standards
- ✓ Target Compound Identifications
- ✓ Target Compound Quantitations

1.1 Overall Assessment

The PAH data reported in this package are considered to be usable for meeting project objectives. The analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times were met for the sample analyses. The holding time for PAH analysis of samples collected on PUF/XAD-2 is 7 days from sample collection to extraction and 40 days from extraction to analysis.

1.3 Instrument Performance Check

An instrument performance check sample (tune standard) was analyzed at the beginning of each 12-hour period during sample analysis. The samples were analyzed within the 12-hour period. All ion abundance criteria were met for decafluorotriphenylphosphine (DFTPP).

1.4 Initial Calibration

Appropriate initial calibrations were performed for each analyte. Based on the method of calibration, the laboratory calculated the percent relative standard deviation (%RSD) of the relative response factors (RRFs). The %RSDs of the target compounds met the method criteria of less than or equal to 30% and the minimum average RRFs were above the method criteria.

1.5 Continuing Calibration Verification (CCV)

For the target analytes, the CCV was performed at the required frequency. The CCV RRFs met the method criteria of $\pm 30\%$ difference from the initial calibration RRFs.

1.6 Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was analyzed. No PAHs were detected above the reporting limits in the method blank.

1.7 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were not analyzed; precision and accuracy were assessed using the laboratory control sample/ laboratory control sample duplicate (LCS/LCSD).

1.8 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCSD pair was analyzed. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance limits.

1.9 Surrogates

Surrogates were added to the standards, samples and blanks as required by the method. The surrogate recoveries were within the laboratory specified acceptance limits.

1.10 Internal Standards

The internal standard areas and retention times were within the method acceptance limits.

1.11 Target Compound Identifications

The target compound identifications were within the validation criteria.

1.12 Compound Quantitation

The compound quantitations were within the validation criteria.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.