



Sunset  
Laboratory Inc.

# Performance Evaluation Samples (PES)



## Applications

- OCEC Analyser  
Performance Test
- QA/QC routines
- Troubleshooting
- Intercomparisons



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Sunset Lab Performance Evaluation Samples (PES) are quartz filters with carbonaceous aerosol deposits prepared under controlled laboratory conditions. Integrating PES filters into QA/QC practices will provide carbonaceous aerosol instrument laboratories with a simple and precise tool for evaluating carbon analyzer performance and the validation of Organic, Elemental and Total Carbon (OCEC) results.

The PES filters provide excellent repeatability across the entire deposit area. A representative range of Total Carbon loads and Elemental and Organic Carbon ratios is available to meet the needs of every user.

Each PES is analyzed in triplicate by two different Sunset Lab OCEC analyzers to provide the expected results for the desired protocol, NIOSH Method 5040, EUSAAR2, or IMPROVE A. These results are included on the Certificate of Analysis.

## Features and Specifications

- 90 mm quartz filters with large and evenly deposited sample surface of 47 cm<sup>2</sup>
- Up to 25 individual sample punches for Lab OCEC analyzer (1.5 cm<sup>2</sup>) and 20 sample punches for Semi-Continuous OCEC analyzer from a single PES filter
- Available in low, medium and high TC loading and low, medium and high EC/TC ratio
- Carbonaceous aerosol sources available: biomass burning, diesel engine exhaust and combinations
- Homogeneous deposition of less than 5% deviation from mean of Total Carbon concentration across whole sample surface
- Laboratory generated samples with high degree of repeatability and between properly calibrated OCEC instruments
- Certificate of Analysis is provided with analytical results and acceptable concentration range, using an analysis protocol of choice such as NIOSH Method 5040, EUSAAR2, IMPROVE A

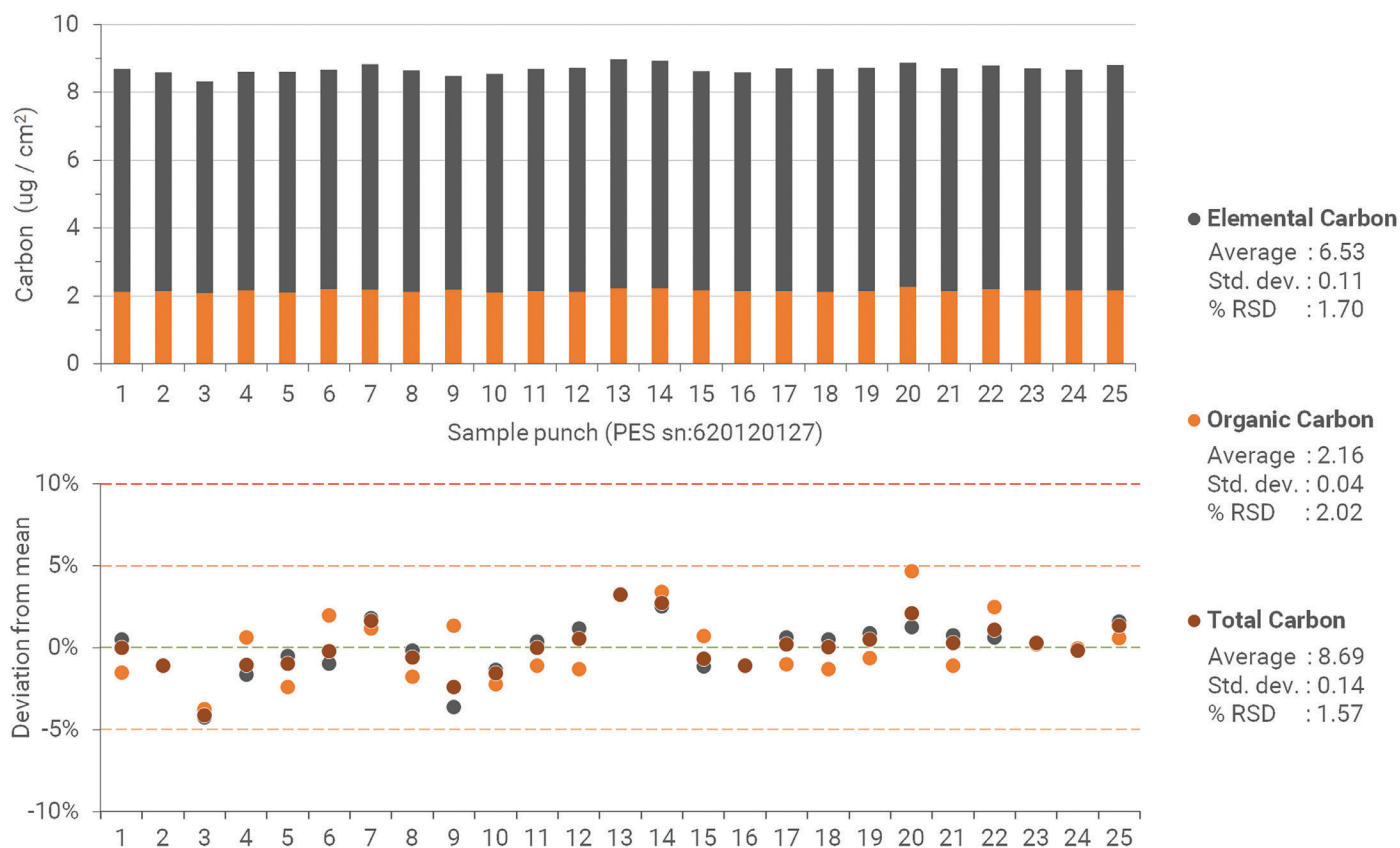


Figure 1. Example ECOC results and respective deviation from mean of a full PES filter



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