



AIR QUALITY SERVICES FOR THE EPA PAMS PROGRAM

The EPA PAMS (Photochemical Assessment Monitoring Stations) program measures speciated Hydrocarbon and Carbonyl compounds in order to determine their contribution to ground-level ozone. Each compound is quantified in a sample and then multiplied by a MIR coefficient to determine its contribution to ozone levels under certain atmospheric conditions. The results are then used to help local agencies refine control strategies that reduce ground-level ozone concentrations.

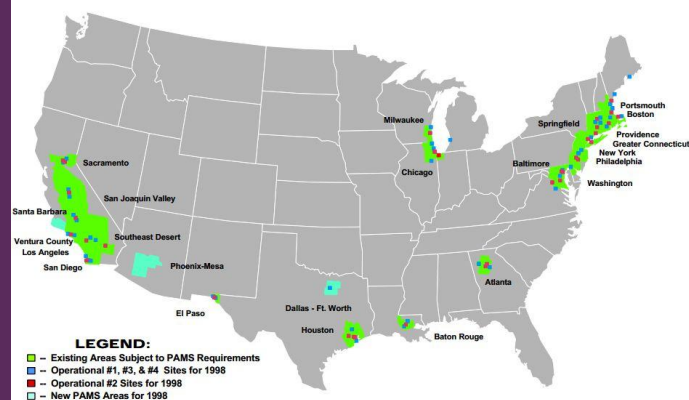
Areas that do not meet the NAAQS Ozone standard (8 hour average of 75ppbV) are required to implement the PAMS program which can include measuring Ozone, Hydrocarbons, Carbonyls, and NO_x as well as meteorological monitoring.

AAC has been analyzing samples for the EPA PAMS program since 1994 when the PAMS program began and has since analyzed thousands of speciated Hydrocarbon and Carbonyl samples for a variety of state and local agencies.

Sample Collection

- Samples are typically collected from June through August which coincides with the peak ozone season
- Most sites collect Trend samples every three days and Episode samples during highest ozone days
- Most sites collect 4-8 samples per day for Trends and 5-8 per day for Episodes (all samples are 3 hours)

Operating PAMS Sites, 1998



Current PAMS Sites



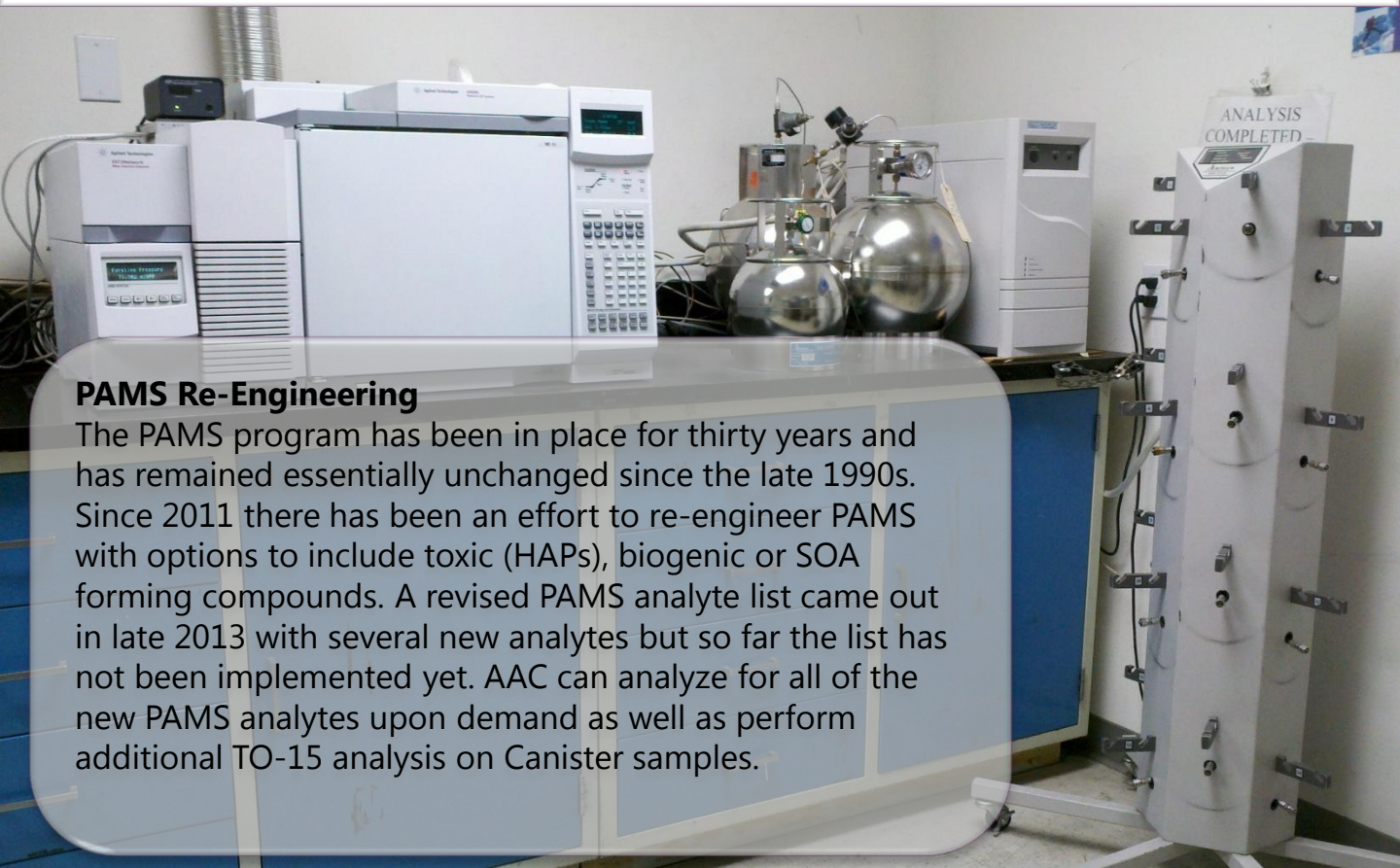
AAC can provide the following services for your PAMS needs:

- Provide and certify DNPH Cartridges (Waters, Supelco, SKC etc)
- Provide and coat KI scrubbers (URG glass for Xontech, Copper for Atec, Tisch, etc)
- Provide cleaned, evacuated, and certified 6-L Summa canisters or clean and certify your canisters
- Provide Field Data Log Sheets for Hydrocarbons and Carbonyls customized to fit your needs
- Analyze for 13 speciated Carbonyls including the required Formaldehyde, Acetaldehyde, and Acetone
- Analyze for 56 speciated C₂-C₁₂ Hydrocarbons, Total PAMS Hydrocarbons, and TNMHC
- Provide Reports in ppbV and ppbC as well as EDDs in the proper AQS format
- Provide Level IV data Reports upon request
- Upload sample data to the EPA AQS website (Hydrocarbons, Carbonyls, Blanks, Audits) and ensure that the data gets loaded properly
- Provide AQS QC reports including Load, Statistical Evaluation, and Raw Data Inventory Reports



What We Offer That Other Labs Don't:

- All hydrocarbon peaks are individually confirmed by GC-MS and quantified by GC-FID
- Fast sample analysis, canister cleaning, and turn around so that you don't run out of canisters
- MDL studies every year and calibrations just before each summer PAMS seasons starts
- NELAC certified and NELAC approved QC reporting for all PAMS sample analysis
- Yearly or more frequent audits for Hydrocarbons and Carbonyls (EPA Region 9, etc)
- Very low reporting limits for TO-11A based on MDL studies (0.17ppbV for Formaldehyde 3-hr sample)



PAMS Re-Engineering

The PAMS program has been in place for thirty years and has remained essentially unchanged since the late 1990s. Since 2011 there has been an effort to re-engineer PAMS with options to include toxic (HAPs), biogenic or SOA forming compounds. A revised PAMS analyte list came out in late 2013 with several new analytes but so far the list has not been implemented yet. AAC can analyze for all of the new PAMS analytes upon demand as well as perform additional TO-15 analysis on Canister samples.