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MATES-III Technical Advisory Group Meeting September 2, 2004

Review:

- Utilize organic compound measurements, Elemental Carbon and elemental constituents to apportion sources in a Chemical Mass Balance Model.
- Organic Compound measurements would be made upon monthly composites.
- -10 PM_{2.5} samples collected per monitoring site every month would represent one composite sample.
 - Minimum for organic analysis 0.5-1mg (27 to 200µg OC per filter).
- For MATES-III 120 total composite samples would be analyzed for organic compounds.
- Each monthly composite sample would be analyzed for at least 30 organic compounds that are relevant to sources under consideration.
- Estimated cost ≈ \$1,400 per composite sample (120 samples ≈ \$168,000)

Preliminary List of Sources:

- Automobile Exhaust
- Diesel Exhaust
- Meat Charbroiling
- Road Dust: tire wear particles, organometallic brake dust, fine paved road dust.
- Wood Smoke
- Fuel Oil

Preliminary Compound List:

- Develop a list of necessary compounds relevant to sources under consideration (Analysis will probably include additional compounds).
- Based upon sources previously mentioned and obtained from published source profiles.

Some Requirements

- Compounds having low volatility making them particulate bound
- · Conserved in transport from source to sample
- Uniqueness in relation to a source

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Si, Al Road Dust	Octadecylcyclohexane	Diesel, non-catalyst gasoline	Organic Carbon	Various
	Nonadecylcyclohexane	Diesel, non-catalyst gasoline	Elemental Carbon	Various
			Si, Al	Road Dust
Hopanes Vanadium Fuel Oil	Hopanes		Vanadium	Fuel Oil
	17α(H).21β(H)-Hopane	Diesel, non-catalyst gasoline		

Modeling of Data:

- EPA's Chemical Mass Balance model 8.2
- Use updated published source profiles that are relevant to Southern California
- Modeling done at AQMD
- Analytical Data Publicly Available
- · Application of other models to data?

September, 2004	Incorporate advisory groups comments. Prepare final list of
	sources and compounds and incorporate into finalized work plan. Obtain list of organizations capable of analysis.
October, 2004	Request approval for funding and RFP for work plan from Governing Board.
November, 2004	Proposal evaluation
December, 2004	Governing Board Award.
January, 2005	Contract execution. Composite April 2004 samples for organic speciation after EC/OC analysis is performed and checked.
February, 2005	Compile April 2004 data and source profiles needed for modeling. Begin CMB modeling upon April 2004 data. Composite May 2004 samples for organic speciation.
March-Dec., 2005	Proceed as in March 2005 until analysis and modeling is completed.
January, 2006	Draft report.

Next Steps:

- Technical Advisory Group Input
- Finalize list of sources and compounds.
- Obtain funding
- Integrate Wednesday and Sunday sampling?