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# Preliminary Aerosol Collection Efficiency

## Results of the ECAM

(Environmental Continuous Air Monitor)

### Canberra-Aquila Aerosol Inlet

Murray E. Moore

Trevor J. Kennedy

Paul J. Dimmerling

Group HSR-4

Los Alamos National Laboratory

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Statement of Work for FIA-05-025

with Canberra Aquila, Inc. and

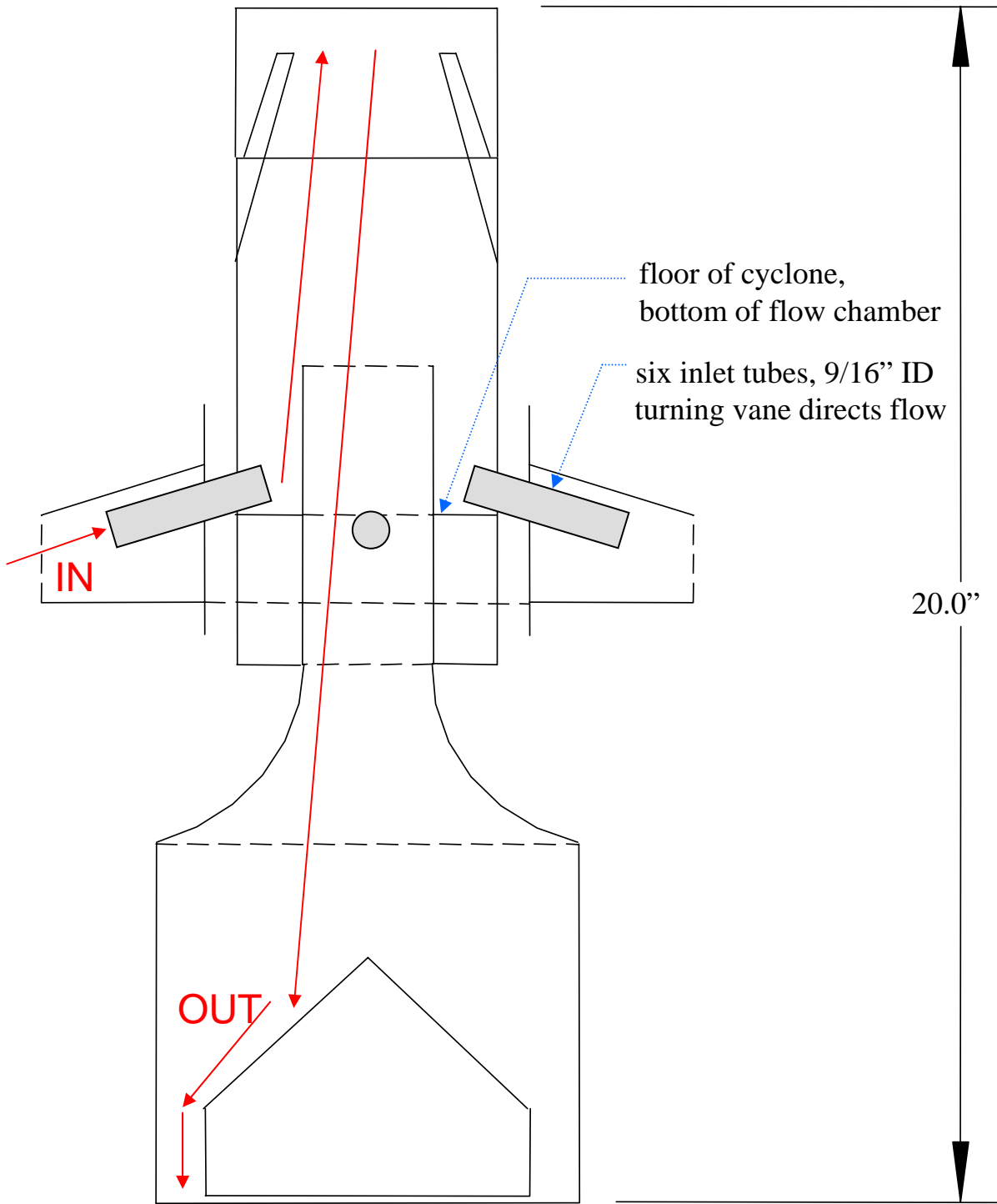
LANL PI Murray E. Moore (HSR-4)





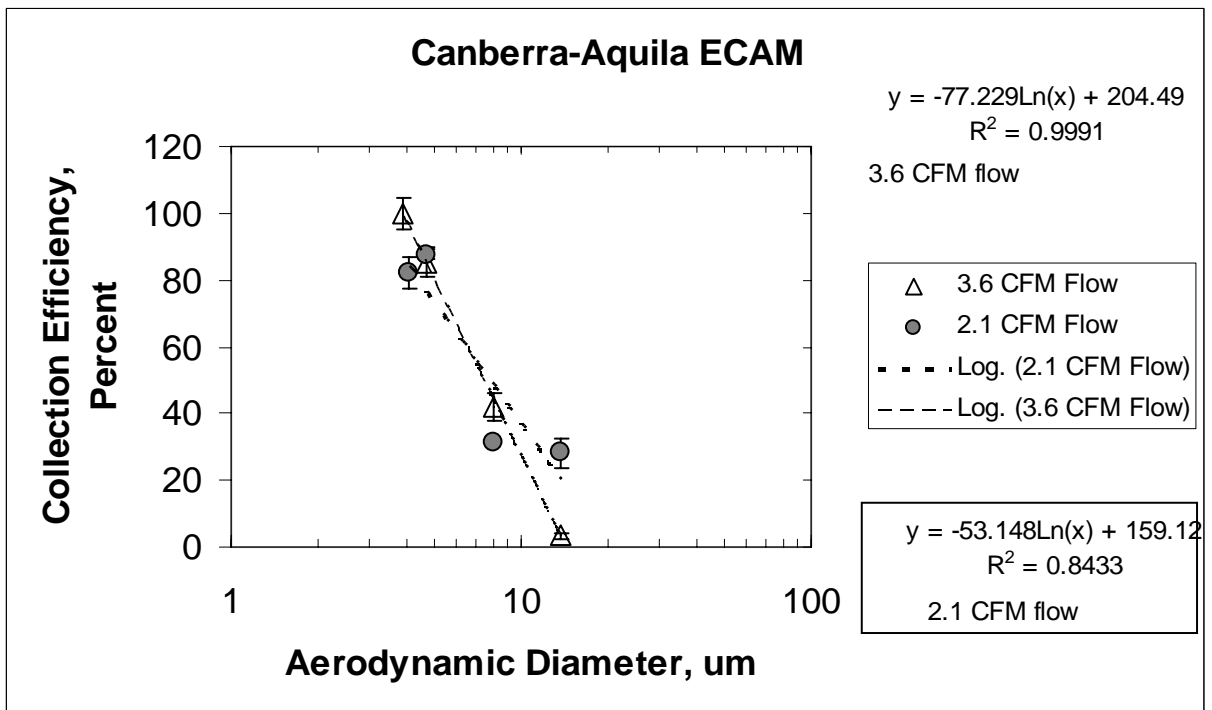
ECAM Inlet

Alpha  
Sentry



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The ECAM Inlet was tested in 2005 at a wind speed of 0.5 m/sec in an aerosol wind tunnel at the Los Alamos National Laboratory.

The system was run at two different air sampling flowrates of 2.1 and 3.6 CFM.

**For these two tested flowrates (2.1 and 3.6 CFM), the ECAM has an aerodynamic cutpoint diameter of 7.8 and 7.4 microns, respectively.**

Liquid oleic acid droplets tagged with sodium fluorescein tracer was used as the test aerosol. In general, the experimental procedure followed the format described by Moore, Kennedy and Dimmerling (2006) and Moore and McFarland (1996).

#### REFERENCES

“Bladewerx BZM and SabreAlert aerosol collection efficiency”, M.E. Moore, T.J. Kennedy, and P.J. Dimmerling, Los Alamos Unclassified Report, LA-UR-06-1861

“Design Methodology for Multiple Inlet Cyclones”, M.E. Moore and A.R. McFarland, Environmental Science and Technology, Vol. 30, NO. 1, pg. 271-276, 1996

#### APPENDIX

Raw data: C:\0 Main\IEcam\COLL\_EFF\_update12\_22\_2005\_ECAM\_rev2.xls

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