Laboratory Approval Program Application for Performance of Methods 1.1-1.2, 2.1-2.2 and Chapter X Stack Traverse Points, Velocity, and Volumetric Flow

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Application for Performance of
Methods 1.1-1.2, 2.1-2.2 and Chapter X
Stack Traverse Points, Velocity and Volumetric Flow

This approval applies to the determination of stack velocity and sample traverse points and for stack volumetric flow using Methods 1.1-1.2, 2.1-2.2, Chapter X, and SCAQMD-approved equivalent methods. It is a prerequisite for many source-sampling approvals, and is in addition to the General Application. Please complete this form if you wish your testing laboratory to be evaluated for any of the above methods. Check the appropriate boxes or write NA if not applicable.

FOR SCAQMD USE ONLY

LAP Code Number:
Application received:
Review started:
Letter sent:
Findings:

Approval/Denial:
Issuance Date:
Remarks:

COMPANY INFORMATION

LEGAL NAME AND FULL ADDRESS of the testing laboratory. This name will be used for all correspondences with the testing laboratory.

Laboratory Name:_____
Address:_____
City:_____ State:_____ Zip:_____
Phone No._____ Fax No._____

Scope of Application

Which methods do you want to be evaluated for? Check all that apply

- ☐ Method 1.1 Sample and Velocity Traverses for Stationary Sources
- ☐ Method 1.2 Sample and Velocity Traverses for Stationary Sources with Small Stacks or Ducts
- ☐ Method 2.1 Determination of Stack Gas Velocity and Volumetric Flow Rate (s-type Pitot)
- ☐ Method 2.2 Direct Measurement of Gas Volume
- ☐ Chapter X Section 1 Sources Not Meeting Method 1.1
- ☐ Chapter X Section 5 Low Velocity Flow Rates
- ☐ Approved Equivalent to Method _____
- ☐ Other SCAQMD Method (describe) _____

Personnel

Complete Table I by filling in the information pertaining to your staff and their experience in source testing and analysis. Please show specifically who is the report signatory, who supervises the work, and who performs the work. (This may be one person)

TABLE I: EDUCATION AND EXPERIENCE OF PERSONNEL

			Approximate Number of Traverse and velocities Supervised/Performed in the Last -		**Individual Will Perform Following Test Method/ Measurements in Proposed Work**
Individual's Name and Degree	**Position or Title**	**Years of Source Testing Experience**	**12 Months**	**3 Months**	

NOTE: *If more than one person may perform a specific procedure, or you are not able at this time to specify the personnel most likely to be sent to the test site, please describe the qualifications of all personnel who might be sent.*

Methods

att'd	none	
☐	☐	Please attach current copies of any instructions (SOPs, flow charts, and procedures) that your test facility uses in reference to each of the above methods.
☐	☐	Have you modified any of the adopted methods? If so, please attach a description of the purpose and method modification(s).
☐	☐	Are there any limitations on your performance of the above methods? (Limitations may be by source, stack velocity, temperature etc.). If so, please attach a description.
☐	☐	Are you applying for an equivalent method? If so, please attach the date and SCAQMD contact for any approved equivalent method.

Documentation checklist

Please attach de-identified actual or "dummy" copies of these documents:

att'd	none	
☐	☐	final report demonstrating competency for each technique requested
☐	☐	intermediate calculations (spreadsheet printouts, hand calculations etc.)
☐	☐	raw data (handwritten field data sheets)
☐	☐	background data (equipment calibration data etc.)

Is the following original data reported, recorded or referenced for each test?

yes	no	
☐	☐	source name
☐	☐	test date
☐	☐	process description
☐	☐	method(s) used
☐	☐	actual stack measurements
☐	☐	dimensioned diagram of stack, port(s) and flow disturbances
☐	☐	calculation of effective diameter
☐	☐	number of required traverse points
☐	☐	traverse point diagram and adjusted traverse points (if any)
☐	☐	cyclonic flow check and flow measurement: time, traverse point, null point angle (if applicable), velocity head, temperature, and comments
☐	☐	pre- and post-test equipment leak check results at 3 in H2O or 80% FS
☐	☐	periodic manometer zero and level checks

☐	☐	observations and deviations
☐	☐	ambient pressure
☐	☐	static pressure
☐	☐	dry molecular weight *and* reference to original data or estimations
☐	☐	percent moisture *and* reference to original data or estimations
☐	☐	flow equations, calculations and results
☐	☐	differential pressure gauge type and ID and calibration data
☐	☐	Pitot tube type and ID and calibration data
☐	☐	temperature gauge ID (including potentiometer and leads) and calibration data
☐	☐	static pressure gauge ID, barometer ID, static pressure probe ID and calibrations
☐	☐	operator signature and date
☐	☐	Is there version control on submitted documents including methods and SOPs?

Physical requirements checklist

yes	no	
☐	☐	Are all areas where LAP work will be performed secure? (includes main facility, mobile labs, equipment storage areas, evidence retention areas and report preparation areas)
☐	☐	Do you perform consecutive source tests without returning equipment or personnel to your main test facility?
☐	☐	If "Yes" to above, do you have established procedures, which are used in the field to check the calibration and accuracy of the equipment when not returned to the test facility? Please attach a description of this procedure.

Do you use standard-type Pitot tubes ?

☐	☐	please list identification numbers (IDs)

_____

_____

Does *each* standard-type Pitot tube listed above meet the following requirements?

☐	☐	known coefficient, NIST traceable.
☐	☐	hemispherical, ellipsoidal or conical tips
☐	☐	6 X OD (min) between tip and static pressure holes
☐	☐	8 X OD (min) between static pressure holes and centerline of probe

☐ ☐ equal size holes in piezometer ring configuration
☐ ☐ 90 bend with curved or mitered junction
☐ ☐ permanent ID
☐ ☐ configuration checked every six months

Do you use "S" type Pitot tubes?

☐ ☐ Please list IDs

_____
_____
_____

Does *each* "S"-type Pitot tube listed above meets the following requirements?

☐ ☐ 3/16 to 3/8 OD tubing
☐ ☐ equal distance between face openings and leg base
☐ ☐ face openings aligned parallel
☐ ☐ distance to face opening is 1.05 to 1.5 X OD of tubing
☐ ☐ known coefficient $\leq$ 0.02 or calibration curve against a NIST traceable or standard Pitot w/ 0.99 $\pm$ 0.01 at three points
☐ ☐ permanent ID and "A" and "B" legs marked
☐ ☐ configuration measured every six months
☐ ☐ calibration check every year at three points over a range of 600 to 3000 fpm

Do you use the following differential pressure gauges and perform applicable maintenance?

yes no

☐ ☐ inclined or U- tube manometers (describe and ID)

_____
_____

☐ ☐ inclined and/or U-tube manometers cleaned and fluid replaced every 6 months
☐ ☐ magnehelics (describe and ID)

_____
_____

☐ ☐ magnehelics leak checked and 3-pt triplicate calibration every two months
☐ ☐ magnehelics leak checked and 5- pt calibration every six months
☐ ☐ other differential pressure gauges (describe and ID)

_____
_____

☐ ☐ calibrated every six months against _____

Does e*ach* differential pressure gauge listed above meet the following specifications?

☐ ☐ sensitive to at least 0.05 in H2O

☐ ☐ accurate to ± 5% of manometer

☐ ☐ permanent ID

☐ ☐ Do you use a barometer?

☐ ☐ (describe) _____

_____

☐ ☐ within 0.1 in Hg of mercury-in-glass NIST traceable barometer at a single point

☐ ☐ checked every six months?

Do you use the following temperature gauges? Do these temperature gauges meet specifications?

☐ ☐ thermocouples and potentiometers

☐ ☐ Describe amount, types and ranges and IDs

_____

_____

_____

_____

☐ ☐ liquid in bulb thermometers

☐ ☐ Describe types, ranges and IDs

_____

_____

_____

☐ ☐ other temperature gauges

☐ ☐ Describe types, ranges and IDs

_____

_____

_____

☐ ☐ Is each temperature gauge and/or component marked with a permanent ID?

☐ ☐ Is each temperature gauge checked every six months at three points?

☐ ☐ Is each thermocouple tested with its own potentiometer and lead wire?

☐ ☐ Are thermocouples, potentiometers and lead wires mixed?

☐ ☐ For *each* of the above, is the temperature gauge accurate to within 1.5 % at three points across the entire range against a mercury-in-glass NIST traceable thermometer (or equivalent)?

☐ ☐ Is there a(n) equipment logbook(s) that describe(s) the repair and calibration history of each piece of equipment?

☐	☐	Can equipment checks and calibrations be verified by examination of records?
☐	☐	Do calibration records provide unambiguous information on the equipment calibrated, standard used, calibration date, operator, procedure, findings and corrective action (if any)?

QA checklist

att'd	none	
☐	☐	Please attach information on any internal audits, and any related audits, accreditations, approvals or certifications

The above information is true to the best of my knowledge and belief

Signature, authorized contact Date

Attach this application to the LAP General Application and submit to :

The Laboratory Approval Program Coordinator
Monitoring and Analysis
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, California, 91765-4182
Phone: (909) 396-2271