

QUALITY ASSURANCE HANDBOOK
VOLUME III - PART II
TEST METHOD DESCRIPTIONS AND DATA SHEETS

This file provides linkages to the components of Part II of the 1994 version of the *Quality Assurance Handbook for Air Pollution Measurement Systems Volume III, Stationary Source Specific Methods*. Part II of this document describes the salient features of 78 test methods. The descriptions provided for each test method are divided into three sections: field procedures, laboratory procedures and calibration procedures. Example sample data sheets, QC and other performance specifications and any special QA/QC procedures required are also provided. Summary data sheets, which tie all the procedures together for a test method, are provided for selected test methods. These summary sheets include equations not included on the field, laboratory and calibration data sheets.

The data sheets have been designed for the set of units specified in the test method. Each data sheet includes a checklist for completeness, legibility, accuracy and reasonableness of the data. Before leaving the test site, the tester and team leader should certify on the field data sheets that all data are accurate and complete.

When the test method's QC specifications are not met, the tester must either stop the testing and correct the problem or invalidate the test results which preceded the results and then repeat the test run following corrections to the measurement system. In some cases the tester may have the option to recalibrate and to use the calibration data that would give the higher emission test results. However, both sets of results (i.e., before and after calibration) must be included in the test report.

The following nomenclature is used on the data sheets:

Text	Page Heading
SS	S = Summary Sheet
FP	F = Field Procedure
FDS	FD = Field Data Sheet
LP	L = Laboratory Procedure
LDS	LD = Laboratory Data Sheet
CP	C = Calibration Procedure
CDS	CD = Calibration Data Sheet
QC	Q = Quality Control Procedure
QA1	Q1 = Q/A audit Procedures
PS	PS = Performance Specifications
PDS	PD = Performance Specification Data Sheet
PSP	P = Performance Specification Procedure

The number assigned to each procedure corresponds to the number assigned to the associated test method by the CFR. To facilitate cross-referencing between procedures, the lowercase letters indicate sub-procedures in a test method.

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Table of Procedures and Data Sheets

Method	Description	Summary Sheet	Field Procedure	Field Data Sheet	Laboratory Procedure	Laboratory Data Sheet	Calibration Procedure	Calibration Data Sheet
1	Sample and Velocity Traverses		1	1				
	Flow Verification/Alternative Site		1a	1a, 1b				
1A	Sample and Velocity Traverses - Small Ducts		1A	1A				
2	Velocity/Volumetric Flow Rate	2	2	2				
	Type S pitot Tube Inspection						2	2
	Leak- check of Pitot Tube System		2a					
	Type S Pitot Tube						2a	2a, b, c
	Barometric Pressure		2b					
	Barometer						2d	2d
	Temperature Sensors						2e	2d
	Pressure Sensors						2f	2d
2A	Direct Volume Flow Rate - Small Ducts	2A	2A	2A				
	Metering System						2A	2A
2B	Volume Flow Rate - Gasoline Vapor Incinerators	2B	2B	2B				
2C	Volume Flow Rate - Small Ducts (Std Pitot)	2C	2C					
2D	Volume Flow Rate - Small Pipes and Ducts	2D	2D	2D				2D
3	Dry Molecular Weight		3	3				
	Leak-Check of Orsat Analyzer		3a					
	Leak-check of Flexible Bags		3b					

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Method	Description	Summary Sheet	Field Procedure	Field Data Sheet	Laboratory Procedure	Laboratory Data Sheet	Calibration Procedure	Calibration Data Sheet
12	Inorganic Lead	12	12	5	12	12		
13A	Total Fluoride - Colorimetric	13A	13A	5	13A	13A		
13B	Total Fluoride - Specific Ion	13A	13A	5	13B	13B		
14	Roof Monitors - Primary Aluminum	14	14	14	13A/B	13A/B		
	Manifold/Anemometer System		14a	14a				
	Propeller Anemometer						14	14
15	Reduced Sulfur	15	15	15				
15A	Reduced Sulfur	15A	15A	15A	6	6		
16	Reduced Sulfur	16	16	15				
16A	Reduced Sulfur	16A	16A	16A	6	6		
	Hydrogen Sulfide in Cylinders		16Aa		16Aa			
16B	Reduced Sulfur	16B	16B	16B				
17	Particulate Matter	5	17	5	5	5		
18	Gaseous Organic Compounds - GC		18	18	18	18	18	18a, b, c
	Integrated Bag Sampling		18a	18a	18a	18a		
	Direct Interface Sampling and Analysis		18b	18b				
	Dilution Interface Sampling and Analysis		18c	18c				
	Adsorption Tube Sampling and Analysis		18d	6a, 18a, d				
20	Nitrogen Oxides - Gas Turbines	20	20	20		20		20
21	Volatile Organic Compound Leaks		21	21			21	21
22	Visible Fugitive Emissions		22	22, 22a				

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Method	Description	Summary Sheet	Field Procedure	Field Data Sheet	Laboratory Procedure	Laboratory Data Sheet	Calibration Procedure	Calibration Data Sheet
23	PCDD and PCDF	23	23	23	23	23		23, 23a
	Pre-test Procedures				23a			
24	Surface Coating						24	24
24A	Printing Inks						24A	24A
25	TGNMO as Carbon	25	25	25	25, 25a			
25A	Gaseous Organics - FIA	25A	25A	25A				
25B	Gaseous Organics - NDIR	25A	25A	25A				
26	Hydrogen Halides and Halogens	26	26	26	26	26		
26A	Hydrogen Halides and Halogens - Isokinetic	26A	26	5	26A	26		
27	Vapor Tightness - Gasoline Delivery Tanks		27	27				
101	Mercury - Chloro-alkali	101	101	5	101	101		
101A	Mercury - Sewage Sludge	101	101A	5	101A	101		
102	Mercury - Chloro-alkali (Hydrogen Stream)	102	102	5	102	102		
103	Beryllium Screening		103	103	103			
104	Beryllium	104	104	5	104	104		
105	Mercury - Sewage Sludge	105	105	105	105	105		
106	Vinyl Chloride	106	106	106	106	106		
107A	Vinyl Chloride - Process	107	107	107	107	107		
107A	Vinyl Chloride - Process	107A	107A	107	107A	107A		
108	Arsenic	108	108	5	108	108		
108A	Arsenic in Ore	108A			108A	108		

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Method	Description	Summary Sheet	Field Procedure	Field Data Sheet	Laboratory Procedure	Laboratory Data Sheet	Calibration Procedure	Calibration Data Sheet
108B	Arsenic in Ore	108A			108B	108C		
108C	Arsenic in Ore	108C			108C	108C		
QA1	Quality Assurance Audit Samples				QA1			
			Performance Specification	Performance Specification Data Sheet	Performance Specification Procedure			
PS1	Opacity		1, a, b, c	1, a, b, c				
PS2	Sulfur Dioxide and Nitrogen Oxides		2, a, b, c	2	2			
	Alternative		2d					
PS3	Oxygen and Carbon Dioxide		2, a, b, c	2	3			
PS4	Carbon Monoxide		2, a, b, c	2	4			
PS4A	Carbon Monoxide		2, a, b, c	2	4A			
PS5	Total Reduced Sulfur		2, a, b, c	2	5			
PS6	Pollutant Mass Rates		2, a, b, c	2	6			
PS7	Hydrogen Sulfide		2, a, b, c	2	7			