

Florida Department of Environmental Protection



Office of Air Monitoring

2025 Site Operations

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The Principle of How the 2025 Operates

- This methodology utilizes precisely weighed filters that are placed in a carefully controlled volumetric flow for a specified period of time.
- The combination of flow and duration identify a controlled volume that has passed through the clean filter.





The Principle of How the 2025 Operates

- The mass added to the filter has been applied during the period when the flow was present. Determining the amount of mass added, and dividing by the volume of air filtered, yields a particulate concentration that is an average of the time the flow occurred.
- These intermittent operating filter monitors require that the filters be changed between sampling period.



The Principle of How the 2025 Operates

- The filters are precisely weighed in a lab prior to field installation. They are once again precisely weighed, at the same humidity level as at the initial weighing, after the filtering operation. The resulting difference yields the mass trapped during filtering.



Partisol-Plus Model 2025 Sequential Air Sampler

**This segment
will cover the
approved
method for
Filter Handling
and Exchange**





Filter Handling and Exchange Reference Material



- SOP DEP 03-08, Section 2
Filter Handling and Pre-sampling Preparation
- FDEP QAPP 002, Chapter 11
Particulate Matter (Intermittent operation)
- Operating Manual, Partisol-Plus
Model 2025 Sequential Air Sampler
Section 3:
Filter Handling and Exchange
- EPA QA Handbook Volume II,
Appendix D



Seven Issues Listed in the SOP

- Receipt from the Laboratory
- Storage
- Pre-Sampling Preparation
- Transport to the Sampler
- Transport from the Sampler
- Post-Sampling Storage
- Shipping Filters to the Lab



ISSUE ONE – Receipt from the Laboratory

- The unexposed, pre-weighed filters will be received from the processing laboratory preloaded in capped magazines ready for sampling
- Handling the individual filters could void the sample and should be avoided



ISSUE ONE – Receipt from the Laboratory

Complete the following entries on the filter log
(Form 03-8-2A):

- Date the filters were received from the lab.
- The filter number.
- The filter magazine number.
- Place your initials in the “Operator In” block.



DEP 03-8
REV. NO 3: 09/2012

Verified By:



ISSUE TWO – Storage

- Filter cassettes (pre-loaded in magazines) should be stored in a secure (to maintain chain of custody), dry, controlled environment
- There are no control limits on humidity or temperature for storage environment on unexposed filters



ISSUE THREE – Pre-Sampling Preparation

- The lab will provide a list of the filter numbers (in sampling sequence) contained in each magazine
- The operator will use this list to prepare the preliminary data on the sampler run data sheet (Form 03-8-3A) for each filter



ISSUE THREE – Pre-Sampling Preparation

DEP 03-8
APPENDIX A
REV. No. 2: 10/09

PM2.5 SAMPLER RUN DATA SHEET, Form DEP 03-8-3A

SITE NAME: _____ AQS #: 12 _____
SAMPLER MFR: TEI _____ MODEL: 2025 _____
WINS IMPACT OR #: _____ S/N: _____
FILTER ID _____ QUESTIONABLE: ☐ YES ☐ NO
START DATE/TIME: _____ / _____ LST _____ VOID: ☐ YES ☐ NO
STOP DATE/TIME: _____ / _____ LST _____ BLANK FILTER: ☐ YES ☐ NO
VALID ELAPSED TIME: _____ HOUR:MIN _____

INITIAL CONDITIONS
DID THE SAMPLER PASS THE: AMBIENT TEMPERATURE CHECK ($\pm 5^{\circ}\text{C}$)? ☐ YES ☐ NO
AMBIENT PRESSURE CHECK (± 10 of 760 mmHg or the transfer standard)? ☐ YES ☐ NO
AVERAGE FLOW RATE (15.86 to 17.54 l/min)? ☐ YES ☐ NO
OPERATOR'S INITIALS: _____ DATE: _____

FINAL CONDITIONS
DID THE SAMPLER PASS THE: AMBIENT TEMPERATURE CHECK ($\pm 5^{\circ}\text{C}$)? ☐ YES ☐ NO
AMBIENT PRESSURE CHECK (± 10 of 760 mmHg or transfer standard)? ☐ YES ☐ NO
AVERAGE FLOW RATE (15.86 to 17.54 l/min)? ☐ YES ☐ NO
AVERAGE FLOW RATE: _____ l/min % CV: _____ % VOL SAMPLED: _____ m³
WAS THE FILTER STORED UNDER CONTROLLED CONDITIONS? ☐ YES ☐ NO

All Optional	MIN	AVG	MAX	ON ARRIVAL STATUS CODE:	MODE:
AMB TEMP				POWER FAILURES?	
FLOW					
PRESS.					
SUPPLY MAG:			STORAGE MAG:		
MAX TEMP DIFF:		TIME:		DATE:	
COMMENTS:					

OPERATOR'S INITIALS: _____ DATE: _____
VERIFIED BY: _____ DATE: _____



ISSUE FOUR – Transport to the Sampler

- Magazines should be transported to the sampler in a transport case to prevent damage to the magazines.



Site Visit Form

SITE VISIT FORM, DEP 03-8-4

SITE VISIT FORM												
YEAR:	STATION NAME:				AQSS:12							
SAMPLER: TEI	MODEL: 2025	S/N:										
DATE												
SAMPLER STATUS CODE												
TIME/DATE CHECK WITHIN ± 1 Min	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
OPERATOR'S INITIALS												
SAMPLER TEMPERATURE CHECK (MUST BE $\pm 5^{\circ}\text{C}$)												
SAMPLER FILTER TEMP ($^{\circ}\text{C}$)												
SAMPLER AMB. TEMP ($^{\circ}\text{C}$)												
OPERATOR'S INITIALS												
AMBIENT PRESSURE CHECK (MUST BE $\pm 10\text{mmHg}$ of 760 mm Hg or Transfer Pressure Standard)												
PRESSURE STD. MFR.												
PRESSURE STD. ID. #.												
MEA. AMB. PRESS (mmHg)												
760 mm Hg												
SAMPLER AMB. PRESS (mmHg)												
OPERATOR'S INITIALS												
EXTERNAL LEAK CHECK (MUST BE $\leq 26\text{ mmHg}$)												
LEAK RATE (mmHg/Min)												
OPERATOR'S INITIALS												
FLOW RATE CHECK (MUST BE 16.88 TO 17.64 l/min)												
FLOW METER MFR												
FLOW METER S/N												
FLOW METER READING												
SAMPLE FLOW RATE (L/Min)												
T.S FLOW RATE (L/Min)												
OPERATOR'S INITIALS												
SCHEDULED MAINTENANCE												
WIN3 IMPACTOR CHG (Y/N)												
WIN3 IMPACTOR S/N												
1" STAGE INLET CHG (Y/N)												
OPERATOR'S INITIALS												
UNSCHEDULED MAINTENANCE												
MAINTENANCE PERFORMED?												
OPERATOR'S INITIALS												
COMMENTS:												
VERIFIED BY:												

- Each time you go out to change filters, you should perform a temperature, pressure, leak, and flow rate check on the instrument.
- Doing the minimum required by the CFR isn't always best practices.
 - Flow is a critical criteria in the data validation tables from the red book, so why not perform a check each time you pick up filters?



ISSUE FIVE – Transport from the Sampler

- The transport case containing the exposed filters in a magazine should be transported back to the agency's storage facility.
- The container must be capable of keeping the filters below ambient temperature.
- A cooler type container loaded with “blue ice,” transported in an air-conditioned vehicle, is recommended



ISSUE SIX – Post-Sampling Storage

- Each agency will have a refrigerator capable of maintaining a compartment temperature of $< 4^{\circ} \text{C}$.
- A reset-able max/min thermometer will monitor the temperature.
- Log the date and time the filters were picked up from the sample unit and also placed in the refrigerator on the filter log (Form 03-8-2A).



ISSUE SEVEN – Shipping Filters to the Laboratory

- Pre-condition the shipping cooler by placing several packets of “blue ice” in the cooler and closing the lid. Allow the cooler to equilibrate to shipping temperature.
- Remove the blue ice packets from the cooler and replace with fresh packets
- Allow the max/min thermometer that accompanies the filters to equilibrate 20 minutes and ensure a temperature of $<4^{\circ}\text{C}$ is obtained.



ISSUE SEVEN – Shipping Filters to the Laboratory

- Reset the max/min thermometer by pressing “memory clear”.
- Remove the filter magazine(s) from the refrigerator, place in the shipping container, and place the container in the cooler
- Read the max/min thermometer in the refrigerator and record the max/min temperature readings on the filter log (Form 03-8-2A)



ISSUE SEVEN – Shipping Filters to the Laboratory

- If the temperature is out of limits, explain the deviation in the comments section of the sampler run data sheet.
- Complete the shipper paperwork per the shipper instructions ensuring the agency maintains a copy of the shipping documents.
- Complete the filter log with the run data and date shipped for each filter. Also record your initials in the date shipped block. Prepare a copy of the filter log and include it in the shipment with the filters. Clearly indicate (highlight) the filters that are included in the shipment



WARNING:

- Do not touch filters with your fingers!!!!

Operating Manual, Partisol-Plus Model 2025 Sequential Air
Sampler Section 3



Particulate Matter Tracking System - PMTS

Log into PMTS and select:

- Filter Data
- Upload Field Data

Particulate Matter Filter Tracking

PM2.5 Home | Filter Data | Information | Reports | Validation Status | A

South

- Shipping Data
- Field Data
- Lab Data w/o Field Data
- Upload Field Data
- Edit Field Data
- Ignore Filters
- Validate Data

Shipping Data

Field Data (0 filters without Lab Data)

Lab Data (55 filters not validated and transferred to FAMAS)

System Requirements: This application requires one of the 1
The Division of Air Resources Management does not support tl



Particulate Matter Tracking System

PMTS

N:\Air_QA\Forgotten Co Browse...

Preview

USE THE DROPDOWN ON THE RIGHT TO A
HAV

YOU MAY ADD ONE OR MORE FILES FOR UPLOAD BY USING TH
PREVIEW BUTTONS ON THE LEFT.

First Page Previous Page Next Page Last Page

	Filter ID		Cassett e ID	Actual Start Date	
+	T 2530057	Edit Remove	RP000000	2013/09/07	120730012B 20269
	Filter ID		Cassett e ID	Actual Start Date	
+	T 2530200	Edit Remove	RP000000	2013/09/13	120730012B 20269
	Filter ID		Cassett e ID	Actual Start Date	
+	T 2530330	Edit Remove	RP000000	2013/09/19	120730012B 20269
	Filter ID		Cassett e ID	Actual Start Date	
+	T 2530462	Edit Remove	RP000000	2013/09/25	120730012B 20269
	Filter ID		Cassett e ID	Actual Start Date	
+	T 2530582	Edit Remove	RP000000	2013/10/01	120730012B 20269

- Use the browse button to select the F1 file for upload
- Select the Preview button and if Active-X is playing nice this is what you should see



Particulate Matter Tracking System

PMTS

Particulate Matter Filter Tracking

PM2.5 Home | Filter Data | Information | Reports | Validation Status | Administrative Menu | Help | User Manual |

Compare Collocated Data Re

Site:

Chain of Custody Lab Data

Compare Collocated Data

Blank Filters

Parameter Data

Year: Qua

Or enter dates bek

From:

Enter the date range and site information and select:

- Reports
- Compare Collocated Data



Particulate Matter Tracking System

PMTS

Act Start Date	Pollutant	Primary Filter Serial	Primary Conc.	Primary Delta	Validated	Pollutant	Collocated Filter Serial	Collocated Conc.	Collocated Delta	Validated
01-JAN-2015										
02-JAN-2015										
03-JAN-2015	PM25	T4606478	4.1	98	N					
04-JAN-2015										
05-JAN-2015										
06-JAN-2015	PM25	T4606786	3.9	94	N	PM25	T4606477	4.5	109	N
07-JAN-2015										
08-JAN-2015										
09-JAN-2015	PM25	T4606787	8.6	207	N					
10-JAN-2015										
11-JAN-2015										
12-JAN-2015	PM25	T4606788	10.5	252	N					
13-JAN-2015										

- Now confirm the filters are uploaded and ready to be handed off to the Data Validation Team



Questions?

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