8.2 Field Data Verification and Validation

8.2.1 Scope and Applicability

This SOP describes the QA procedures that will be implemented to verify and validate field data. Verification refers to the process of examining the result of a given activity to determine result's conformance with stated requirements. Validation refers to examining a result to determine its conformance to user needs.

8.2.2 Summary of Method

Figure 8-2 summarizes the field data verification and validation procedure. Once a month (between the second and third week of the month), the PEP weighing laboratory will send an electronic report of the data from the PED to each Region's WAM/TOPO/DOPO and FS(s). This report will include the information entered electronically from the FDS. The laboratory will also send the FS a Field Data Verification/Validation/Correction Form (Form FDV). The FS will review the field information, affirm its validity by initialing the hard-copy or electronic Form FDV, indicate any necessary edits on Form FDV, and initial beside any edits. The laboratory personnel making the edit will initial after the edit has been completed. The FS will summarize the data that are validated in monthly reports to the WAM/TOPO/DOPO.

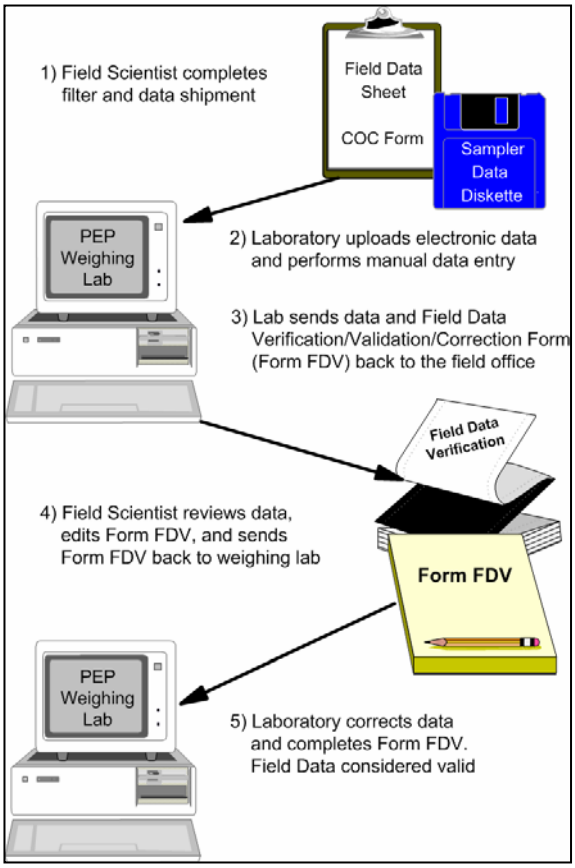

Figure 8-2. Field data verification/ validation flow.

8.2.3 Definitions

Appendix A contains a glossary of the terms that will be used in the PEP.

8.2.4 Personnel Qualifications

Personnel who conduct the FRM/FEM PEs must have attended an initial training course, which includes lectures, demonstrations, hands-on practice, a written exam for which a passing score of 90% must be achieved, and a hands-on practical training examination. Annual recertification requirements include a written and hands-on practical training examination. The hands-on practical examination for annual recertification may be replaced, pending the satisfactory completion of the field evaluation of the FS during a TSA.

8.2.5 Procedure

The PEP weighing laboratory will generate a Form FDV for each EPA Regional Office. This form may be in hard-copy or electronic (spreadsheet) format and will include the Filter ID, Cassette ID, Filter Type,

and Sample Date for samples from that Region. After this form has been generated, new data will be added monthly to provide a complete record for the year.

Between the second and third Monday (approximately the 10th calendar day) of each month, the PEP weighing laboratory will post data on its Web site for review by the Regional WAM/TOPO/DOPO(s) and FS(s). This will include an electronic PED Data Report, the FDS information for all available data from the previous data shipment (prior month), and the FDV Form. The laboratory will keep a record of each monthly data shipment to the Regions based on Filter ID.

The FS will need his or her copies of the COC forms (Form COC) and FDS, as well as an electronic or hard-copy version of the portable sampler data. The FS will not be asked to check data that are automatically transferred from the sampler; only values (e.g., Cassette ID, AQS Site ID [including POC, if known], flags, run date) that are entered manually will require inspection.

Table 8-3 identifies the parameters that should be reviewed for both sets of data sent to the field offices. The "key" fields for both data sets are the Cassette IDs and the Filter IDs; however, other parameters on the COC Form and the FDS should also be reviewed because they may not have been completed or entered correctly. The FS will be responsible for communicating these edits to the LA on Form FDV.

1. The FS will receive the PED Data Report, the FDS information, and Form FDV from the PEP weighing laboratory.

2. The FS will review all of the field-generated data with the exception of the data transferred electronically from the sampling instrument. The FS will verify that these data are complete and validate that the data values are correct.

3. If the data for both the PED and the FDSs are correct, then the FS will mark the respective "PED DB OK" and "Field Data Sheet OK" fields with a "Y", initial the "FS Initial" field, and enter the date reviewed into the "FS Date" field (see Form FDV with example data). If any of the data need to be corrected, follow Steps 4–12.

4. If the data are not correct, place an "N" in the "PED DB OK" field to indicate that the data in the PED needs to be corrected or place an "N" in the "Field Data Sheet OK" field to indicate that the FDS data should be corrected (see Form FDV with example data). Note that each correction should be entered on a separate line of the form, even if multiple parameters related to the same Filter ID require editing.

5. Using Form FDV, identify the parameter that needs to be corrected and enter the parameter name in the "Parameter" field. The parameter names used in the PED Data Report and Field Data Summary Report are in listed in the first column of Table 8-3 and will be the same as those used on Form FDV. The corresponding parameter names used in the COC Form and the FDS are listed in the second column.

6. Enter the current (incorrect) value into the "Current Value" field on Form FDV.

7. Place the correct value in the "Correct Value" field.

8. Initial the "FS Initial" field, and enter the date when the data were reviewed in the "FS Date" field.

9. Add comments to explain why the value was changed.

10. Form FDV requires that multiple edits to the same Filter ID be listed on separate rows of Form FDV. The FS may add rows to electronic FDV forms by using the table commands to enter additional rows below the first entry. Quotes may be used in the "Filter ID" field to signify additional edits to the same Filter ID (see Form FDV with example data).

11. The FS will complete the data review before the end of the month and will submit an updated Form FDV to the PEP weighing laboratory and the Regional WAM/TOPO/DOPO. The FS will include a hardcopy of Form FDV with his or her monthly progress report.

12. The PEP weighing laboratory will report progress on verification and validation during monthly PEP conference calls.

Table 8-3. Parameters to be Checked on PED Data Report and Field Data Summary Report

Field Name on Report	Field Name on Form	Form(s)
PED Data Report		
PE Filter ID	Filter ID	COC
PE Cassette ID	Filter Cassette ID	COC and FDS
Site AQS ID	AQS Site ID	COC and FDS
Start Date	Start Date/Time	FDS
PE Serial No.	Primary Site Sampler Serial No.	COC
Field Data Summary Report		
FS	PEP Field Scientist	FDS
FRM Sampler Serial Number	FRM Sampler Serial No	FDS
Date	Sampling Date	FDS
AQS Site ID	AQS Site ID	FDS
Temp. Readout Serial Number	Temp. Trans. Std.	FDS
Temp. Probe Serial Number	Temp. Trans. Std.	FDS
BP Serial Number	BP Trans. Std.	FDS
FR Pressure Serial Number	Flow Rate Std	FDS
Leak Check Beg. Pressure	Beginning P	FDS
Leak Check End Pressure	Ending P	FDS
BP TD Pressure	Std. Pressure	FDS
BP Samp. Pressure	Sampler Pressure	FDS
Amb Temp. Standard	Std. Temp. (ambient sensor)	FDS
Filter Temp Standard	Std. Temp (filter sensor)	FDS
Amb. Temp Sampler	Sampler Temp. (ambient sensor)	FDS
Filter Temp. Sampler	Sampler Temp. (filter sensor)	FDS
Actual FR Sampler	Sampler FR (design flow rate check)	FDS
Filter Cassette No	Filter Cassette ID	FDS
Free Form Notes	Notes	FDS