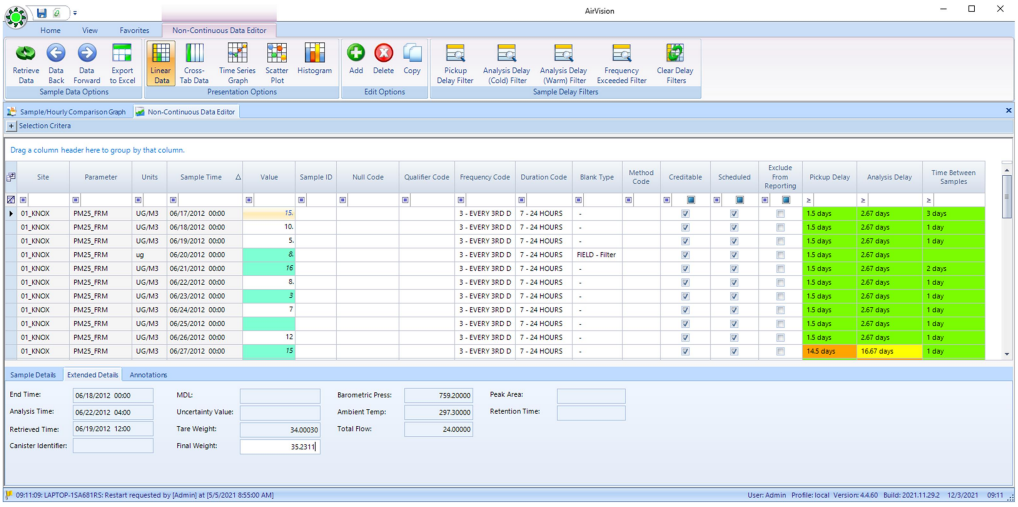
Options for Managing Filter-based PM Meta Data

AiVision offers two main approaches for handling the meta data (sampler volume, pressures, temps, etc) associated with filter-based samplers:

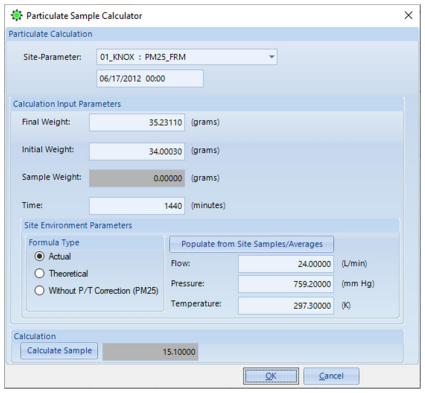
- Store the data as meta data as part of a single Sample record
- Store the data as additional parameters in AirVision

There are pros and cons to each, so let's review the approaches. Looking at the sample data editor, we can see that a single PM record can have meta data as part of the sample record:



Note, however, that only the *average* pressure and temperature are stored, max and min values are not available as meta data- those must always be stored as additional parameters if the user wants to keep that data for other reports, graphing, etc. Note also that this approach assumes press/temp/flow kept only as the 24-hour sampler values, and not as hourly data potentially acquired via a data logger connected to the sampler.

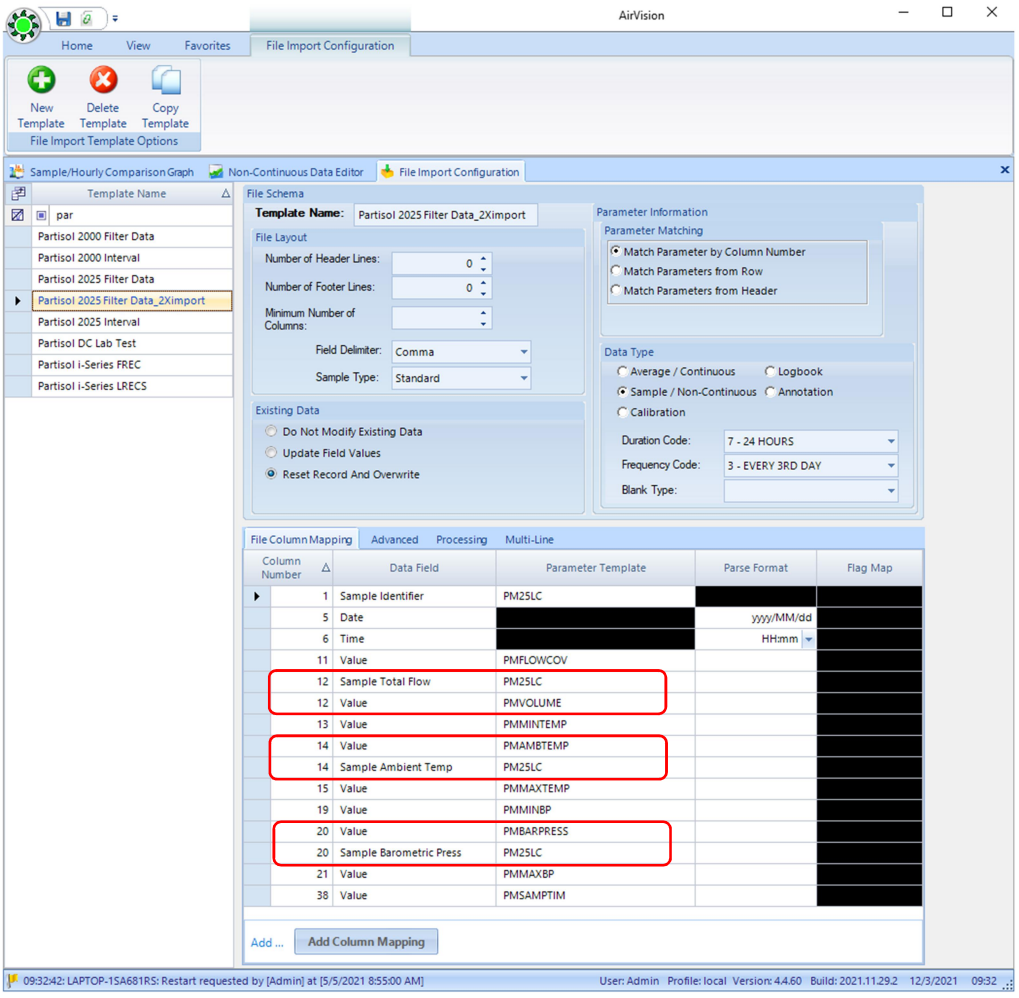
When the user runs the calculator to get the final concentration, the calculator can draw from the meta data, or the user can request the data be queried from other parameters ("Populate from Site Averages"):



If the populate button is used, the system will seek either a sample record of the same time, or 24 x 1-hour averages from the same day, identifying the parameters using the parameter templates PMVOLUME, PMBARPRESS, and PMAMBTEMP.

This creates a problem if you want to have two co-located samplers at the same site, as one site cannot have to instances of the same parameter templates (for volume, press, temp). So, for a co-located site, we must either create a second site (e.g., NORTH_COL) and put all the parameters for the second sampler in that site, or forgo the parameter approach, and only keep the values in the meta data of the single PM parameter.

Also, note that the 'batch calculate' function in the Sample Data Editor (drag-select, left-click, "Recalculate Sample" can't do the "Populate" step, forcing the user to manually populate each record and calculate. However, this shortcoming can be worked around by having the File Import Template 'double-import' the average pressure and temperature (and flow) parameters, both as a parameter at the site, and in the meta data part of the record:



So, the pros and cons of the two approaches can be summarized as follows:

	Store as Parameter	Store as Meta Data
Using reports and charts for average, min, max press, temp, flow	Yes	Not available
Using average press/temp in calculations	Yes, but 'fill' button must be used OR File Import template can be set to 'double-import'	Yes, can 'batch' calculate
Store min/max pressure, temp	Yes	No
Co-Located data in same site	No, must be separate site	Yes

So, in short, the general recommendation is to store as parameters and use the 'double import' approach, unless the customer has a particular objection to co-located samplers being represented as secondary sites in AirVision.