

Tracking, Documentation, and Communication Systems

The tracking system for trial burn samples commences in the field when the samples are collected. However, the function of a tracking and documentation system should be viewed as the “what makes the big ball bounce” since nothing related to the communications of the trial burn program facilitate the exchanges of data, sample information, and backup information more than this system. It is quite short-sited to conclude that the tracking and documentation system is required simply to provide labeling so that the report writer can identify which sample goes with which analysis. In essence, this would be claiming that the tracking and documentation system is simply needed so that the report writer can communicate with himself. Yet many of the designs of these systems of tracking and documentation make no regard for the other users of the system put into place. Some other applications of the tracking and documentation system should be:

- a. To provide a completeness check to see that all samples intended to be collected on site have been collected. This should be a real time expectation. A field crew leader should know the exact number of samples that are expected to be collected at a trial burn site. A typical trial burn may have as many as 225 samples and portions of samples to collect. Yet many planners never regard the total number of samples as a data quality objective that needs to be observed and monitored.
- b. To provide a system of organization to the laboratory so that sample entry into their coding system is organized and reviewable for expectations assigned in a QAPP. Most of the “systems” used have little or no regard for the process that takes place at the time samples are moved into the laboratory. In fact most engineers and stack samplers don’t think that it is important for the lab to be able to comprehend the objectives of the analytical process, but simply run the methods. Literally thousands of problems and errors would be prevented if tracking and documentation systems were implemented after the planners comprehended the laboratory processes.
- c. To provide a system of organization by which data compilers, and data package compilers could check order, completeness, and reasonableness.
- d. To provide data validators the same facility as data compilers.

The tracking, documentation, and communication system is not a system that allows the planner to communicate with himself. It must take into regard the processes that contribute to the trial burn project at large. The laboratory is foremost on that list because all samples have to be processed for some objective at the laboratory. Nothing puts up bigger stumbling blocks than for the laboratory to

process samples that are simply treated as commodities. Everyone benefits from a well designed tracking system. The system should have the following basic characteristics:

- Sequentially numbered so that independent verification can be made regarding completeness and order
- Pattern recognition is always a big contributor to spotting problems, or oversights
- A complete sample identity should always accompany a sample number (i.e. Test #1, Run #1 VOST Tenax[®] Tube Set #1)
- Sample numbers and identities allow automated setups of checklists, RFAs, COCs and laboratory data reporting

An example of a well designed tracking and documentation is displayed in this module. The Master Sample List is a listing of all samples planned to be collected on a trial burn test. This list was prepared approximately two (2) weeks before the test started. Labels for bottles were all prepared, reviewed, and placed onto the appropriate containers before mobilization to the test site.

The Request for Analysis/Chain of Custody forms were also prepared before mobilization to the site and display project specific requirements and specialty instructions for the analytical laboratory.

Examples of field sample collection sheets are also presented.