

1000 CONTROL OF MATERIAL

Logging of Tests

Project personnel will keep and maintain materials testing logs or reports for all testing results. Either "paper" or "computer" logs may be kept as desired by the project. Copies of materials testing logs are sent to the Regional Lab and/or the Central Lab only upon request.

The service life of a project is dependent not only upon the care used in construction, but also on the quality control and kind of materials incorporated. It is necessary that only materials which comply with the specifications be used. The *Materials Policy & Procedures Directives*, *Materials Testing Manual*, *AASHTO and ASTM Standard Methods of Sampling and Testing*, *Construction Manual*, and *Construction Bulletins* provide the procedures necessary for the sampling and testing of material. The project personnel must continually watch to see that no inferior materials are used. They must see that samples are taken in accordance with the Sampling Guide Schedule, by the required procedures, and that these samples are tested and reported promptly.

Prompt testing and prompt reporting to all concerned (including the Contractor) are a vital part of our system of quality control. The following guidelines are established in order to provide an acceptable system of reporting project material test results.

Each construction ORG will implement one of the two systems as below outlined, with no substitutions or exceptions. The systems will be either Manual Materials Logs or Computer Material Logs.

Manual Materials Logs

1. Materials test cards or work cards listed below will be used:

44-1000	One Point Proctor Density
44-1001	Field Density/Moisture of Soils by the Nuclear Method
44-1002	Method A or Alternate Method D Proctor Density
44-1003	Method C or Method D Proctor Density
44-9337	Concrete Test Report
44-9338	Asphalt Test Data
44-9347	Sand Cone Density
44-9348	Volumeter Density
44-9352	Asphaltic Concrete Tabulation
44-9353	Soil and Aggregate Tabulation
44-9370	Asphaltic Concrete Tabulation - Nuclear (English)
44-9371	Asphaltic Concrete Tabulation - Nuclear (Metric)
44-9372	Asphaltic Concrete Tabulation - Furnace (English)
44-9373	Asphaltic Concrete Tabulation - Furnace (Metric)
44-9374	PG Binder Test Data

2. The required information will be transferred from the work cards to the appropriate log form listed below:

44-3904	Materials Log
44-3917	Proctor and Density Log
44-4404	Concrete Log

Additions and/or updates can be made intermittently to any of the above listed forms.

3. Materials will be sampled as outlined in the *Sampling Guide Schedule of the Materials Testing Manual* or the project Special Provisions. Project test results will be typed or printed in black. Lines will be left blank immediately below the results of each split sample for the purpose of recording corresponding Regional and Central lab results as soon as they are received at the project.

For those who wish to record statistical information such as running averages, averages in data, standard deviation, coefficient of variation, and etc. of individual screens, or other information, may do so on these forms. Averages and etc. may be accumulated down the sheet and recorded by leaving blank the number of lines needed. This type of information may also be recorded in the concrete log in spaces not utilized.

Computer Materials Reports (Logs)

1. The same test or work cards as listed for manual material logs will be used.
2. Information from the test or work cards will be entered into the computer when completed, which will make all testing information performed by the project lab available by computer to the project.
3. An up-to-date computer report may be maintained at the project lab or office. When computer reports, commonly called material logs, are used, the necessary information may be obtained two ways, by either looking at the computer screen directly or by printing out a materials report.
4. Materials will be sampled as outlined in the *Sampling Guide of the Materials Testing Manual* or the project Special Provisions.

Whichever of the two systems is utilized, it is essential that all calculations of test results be correct. When manual materials logs are used, it is essential that the individual performing each test, sign and date each test or work card. Each card should, in turn, be checked and initialed by a supervisor before the results are recorded in the materials log. If a computer report is used, the name of the person performing the test should be recorded in the computer next to the test results.

Logs or computer reports should show all acceptance and test results performed by the project, regional, and central lab. Tests such as informational, etc., will be left to the individual project or District discretion as to whether the information will be included in the log or report. The approximate total quantity of material required should also be shown in the log heading.

Logging of Concrete Test Results

It has been customary to log all tests on concrete after the laboratory reports covering strength have been received. It is suggested all tests on concrete, except strength, be logged as soon as possible after making the tests, then log the strength tests after receipt of the laboratory report showing the strength results. It is believed that earlier logging of all tests, except strength, will serve to alert the Engineer and others concerned with the project to the need of any corrective action with respect to the slump, air content, yield, and etc.

Logging of Density Test Results

The location and results of density tests shall be logged in the proctor and density log.