

5.20 LABORATORY AND SAMPLE IDENTIFICATION

5.20.01 LABORATORY IDENTIFICATION

(a) General.

The Bureau of Materials and Research has established identifying symbols for each "in-state" laboratory and some "out-of-state" laboratories that sample, inspect or test material for the Department of Transportation. A knowledge of these symbols is often beneficial in determining the general source of material and the laboratory that performed the initial sampling, inspection and testing operations.

(b) Identification Symbols.

(1) General: The symbols listed below are to be used and identification numbers are to be assigned in accordance with the following instructions for all materials inspected, tested or submitted for test

(2) Materials and Research Center: All samples received at the Materials and Research Center are assigned laboratory numbers bearing a prefix to denote the calendar year during which the samples were received. The first sample received in 1998 bears the laboratory number 98-0001. When tests are completed, the test report will also bear this number if the sample was submitted outside of CMS or the test report will bear the CMS ID number with the Materials and Research assigned laboratory number shown in the remarks for samples submitted in CMS.

(3) Branch Laboratories: Branch laboratories are identified by letter prefix followed by the calendar year, then by the laboratory number.

<u>Laboratory Location</u>	<u>Identification</u>
Topeka	A-03-XXXX
Kansas City	B-03-XXXX
Wichita	D-03-XXXX

(4) "Out-of-State" Laboratories:

A. W. Williams Inspection Co., Mobile, AL (Timber Products)	AWW (Identifying mark placed on inspected and/or tested material)
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Missouri Highway Dept. Kirkwood, MO (St. Louis Area) Miscellaneous Materials	OAK-91
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5.20.02 SAMPLE IDENTIFICATION

Samples, tests and inspections entered into the Construction Management System (CMS) will be assigned a unique system generated sample ID number. If a district assigns additional numbers to samples, tests and inspections to aid in tracking and/or filing then the numbering procedures outlined below should be used. Multiple split or replicate samples can be assessed during a single witness by the

KDOT Independent Assurance (IA) representative. The first recorded sample (A) in CMS is to be the IA results.

(1) District Laboratory Numbers: Unless CMS Sample Id Nos. are used, all samples, tests or inspections by district laboratories are to be assigned laboratory numbers in the following manner: District Number--Year--Laboratory number. A separate series of laboratory numbers shall be assigned to each of the designated types of samples.

1.1 Laboratory Number Designations

- 0001 - 2999 For Acceptance Samples
- 3000 - 3999 For Verification Samples
- 4000 - 4999 For Assurance Samples reported by the District Materials Engineer or by the Materials and Research Center.
- 5000 - 5999 For samples designated in this Instruction as "Other"
- 6000 - 6999 For Production Samples

1.2 Additional information is to be shown which will identify the type or purpose of the sample and test. Examples:

1.2.1 Sample 3-86-4783 is a replicate or split assurance sample. In this case, a direct comparison of results is intended. This information should show as:

<u>Non-CMS</u>	<u>CMS</u>
Lab. No.: 3-86-4783	ID No.: Preassigned A, B, C, D, etc.
Type: Split Sample	Type: ASR
or	
Replicate Sample	

1.2.2 Sample 1-86-4231 represents an actual witnessing of an assurance testing or sampling procedure. This information should show as:

<u>Non-CMS</u>	<u>CMS</u>
Lab. No.: 1-86-4231	ID No.: Preassigned
Type: Witness	Type: ASW

1.2.3 Sample 2-86-3014 represents a sample of asphalt cement taken as a part of the monitoring process conducted for manufactured and certified materials. This information should show as:

<u>Non-CMS</u>	<u>CMS</u>
Lab. No.: 2-86-3014	ID No.: Preassigned
Type: Verification-Certified Materials	Type: VER

- 1.3 The identification numbers assigned by district personnel for "other" Samples and Tests should be for sample and test types not listed in the Sampling and Testing Frequency Chart. "Other" tests and samples are designated as "OTH" in CMS.

(2) Assurance Tests reported by the Materials and Research Center must show the CMS ID number or central laboratory number under which the sample was tested, and in addition, will show the district laboratory number and identification number under which the sample was taken or submitted, if not entered into CMS. The district laboratory number or CMS ID number should appear in the upper right hand corner of the report.

5.20.03 SAMPLE IDENTIFICATION FORMS

- (a) DOT Form No. 610

This form is to be used when submitting concrete cylinders and beams. All information required in the upper part of the form is to be entered except the following:

Laboratory Number, Date Received, Date Reported

In the area under "Field Test Data," the Field Engineer will enter information under the following headings:

Specimen Number
Portion of Structure or Pavement Section, etc.
Slump
Date Made

Cylinders are normally tested at 28 days. If they are to be tested at a different age, an appropriate note is placed under "Remarks."

The type and brand of admixture (Air-Entraining, Water-Reducing, Set-Retarding, etc.) is entered in the proper space.

The Percent Air (actual), Yield Cement Factor and Slump are determined on the particular batch from which the specimens were made. The water (kg per kg (pounds per pound) of cement) is the actual water-cement ratio of the concrete at the time the specimens are made. The method of air content determination is to be shown.

- (b) DOT Form No. 624

This form is to used when submitting samples representing materials other than soils and concrete specimens.

(1) (Sample of _____). The precise name of the material as set forth in the specifications is to be used. For example, use the term "Emulsified Asphalt (SS-1H)" instead of "Emulsion."

- a. Do not use one information sheet for two or more nonrelated items. For example, do not put cement and reinforcing steel on the same sheet.

(2) (Specification Number). Use correct, applicable and complete specification number including the subarticle, if necessary. When the material submitted is covered by special provision or project special provision, these references to the applicable document should be listed.

(3) (Quantity _____). Except in the case of Assurance Samples, show the quantity of material represented by the sample. If the sample consists of several different items, write "See Below" and show the number of units represented by each sample under the "Remarks" column in the main body of the form. An approximate figure may be shown for deposits and stockpiles of aggregates.

(4) (Property of or Mfd. by). Include name of company manufacturing the material as well as the supplier. It may be one and the same, however, it may be two different companies, i.e., hot pour joint compound manufactured by W.R.M. Co., Ginel, Illinois supplied by C-W Co. at Kansas City, Missouri.

(5) (Location _____). It is very important that this item be completed accurately and in full detail. For aggregate samples, the full legal description including the 1/4 section, section number, township, range and county should be included. If characteristics of location or nature of production are such that it is required for proper control or identification of a material, the 1/16 corner of the section should be shown. Stockpile samples should show the stockpile location, i.e., Jones Ready-Mix Plant at Smithville, as well as the legal description of the deposit and the county from which the aggregate was produced. The mailing address of the manufacturer or the supplier should be shown for manufactured products.

(6) (Field Lab No. _____). This number is assigned by the individual who submits the sample or samples and is based on an established system. It is necessary that all individual samples listed on a single sheet be submitted under a single field laboratory number.

(7) (Description). A description of the sample is entered in this column.

(8) (Tests Required). If complete quality tests of aggregates are required, it is only necessary to indicate "Complete Quality." If only certain specific tests are required, it is necessary to list these.

Tests specified for items other than aggregates are listed in somewhat general terms. For example, the tests listed for structural steel are "physical and chemical," or for galvanized items the listing would show "weight of zinc coating." The term "Complete Tests" should be entered only when all tests listed in the Specifications are to be conducted.

(9) (Remarks). Applicable information not previously listed elsewhere is entered here. The quantity of miscellaneous items such as fasteners, fencing items, etc. may be shown in this column.

(10) (Other Instructions _____). All information not to be shown on the test report is entered under "Other Instructions." Typists copy much of the information appearing on the test report directly from the sample identification sheet and often copy special instructions or references which are not appropriate to the test report. Such information is to be disregarded by the typist if entered under "Other Instructions."

- a. An appropriate statement is entered to indicate samples that are submitted at the request of District Materials, Headquarters, Research or other personnel. This affords laboratory personnel the opportunity to discuss the background of the sample, tests required, etc. with the individual who requested that the sample be submitted.
- b. Scheduling - Unless otherwise indicated on the information sheet, samples submitted to the Laboratory will be placed in line for test in the order received and following similar samples already in the laboratory. Reports will be issued by mail when tests are complete.

If special handling is required, this is noted on the information sheet under "Other Instructions." Good judgment should be exercised in deciding whether special handling is necessary, and if so, which of the following types is required.

1. "Urgent Scheduling" - Samples so designated will be placed in line for immediate testing ahead of other samples of the same material. Testing and reporting will be expedited as much as possible but no overtime or weekend work will be scheduled. Test results will be reported by phone followed by a copy of the test report. A rapid means of transportation should be employed to deliver the sample to the laboratory. The date on which test results are needed should be noted on the information sheet.
2. "Emergency Scheduling" - This is to be specified only for extreme cases when the following conditions or other extenuating circumstances exist.
 - A. The results of tests might influence contractor's bids at a scheduled letting.
 - B. Delay of testing might delay the completion of a project or opening of a section of road so that a detour must be maintained through a winter.
 - C. Delay of testing might delay a critical bridge pour when stream flooding is a possibility.
 - D. Other emergency situations.

When "Emergency Scheduling" is specified, the laboratory will establish a 24 hour/day, 7 day/week schedule to complete the tests as soon as possible. The submitter must alert the Engineer of Tests by phone on or before the date the sample is shipped so that testing schedules and work shifts can be arranged to complete tests as rapidly as possible. The most rapid means of transportation available should be used to deliver the sample to the laboratory. The date on which test results are needed should be noted on the information sheet. Test results will be reported by phone followed by a copy of the test report.

(11) Assurance Samples are indicated by entering the proper notation with capital letters at the extreme upper right hand corner of the sheet.

(12) When samples are delivered to the Laboratory by Department personnel, the copy of the sample identification sheet that would ordinarily be mailed may be handed to laboratory receiving personnel along with the sample.

(c) DOT Form No. 667.

This form is to be used only when submitting samples of soil.

KANSAS DEPARTMENT OF TRANSPORTATION
 FIELD SPECIMEN OF CONCRETE AND
 REPORT OF COMPRESSIVE STRENGTH

{
 Beams
 }
 Cylinders
 }

Date Received _____ Date Reported _____ Laboratory No. _____

Identification Marks _____

Submitted By _____ Address _____

County _____ Project No. _____ Type of Constr. _____

Bridge No. }
 Culvert Sta. } _____ Source, Brand and Type of Cement _____
 Pavement Sta. }

Source and Type of Fine Agg. _____ % by wt. of agg. _____

Source and Type of Coarse Agg. _____ % by wt. of agg. _____

Source and Type of Mixed Agg. _____ % by wt. of agg. _____

Source of Mixing Water _____ Lab. No. _____

Note: Give legal descriptions for the locations of all aggregate sources.

Class of Concrete _____

Mix Method
 (Transit, Job Mix, etc.) _____

Spec. Made By _____

Admixtures

{ Type.....
 | Brand.....
 { Fl. oz. per 100 lb. Cement..
 | % Air (Design).....
 { % Air (Actual)....., by _____

PROPORTIONS - PER CUBIC YARD

Weight of Cement, Pounds (Design)	Weight of Water, Pounds(Design)	Weight of Aggregates, Saturated and Surface Dry (Design)			Field Information	
		Fine Aggregate, Pounds	Coarse Aggregate, Pounds	Mixed Aggregate, Pounds	Y.C.F.	W/C (lb./lb.) (Used)

FIELD TEST DATA				LABORATORY TEST RESULTS					
Specimen Number	Portion of Structure or Pavement Section Represented by Specimen	Slump	Date Made	Date Tested	Age	Diam.	Height	Weight	Unit Strength Pounds Per Square Inch

Average = _____

VI = _____

Remarks. _____

Reported by _____
 Title _____

D.O.T. Form No. 610

