

QA LAB TESTER DAILY RESPONSIBILITIES

This list was created to provide a reminder of the daily responsibilities of a QA lab tester. This list is not all inclusive of every task you will need to complete each day. Also, slight variations in your daily duties may exist by district or project. Always communicate questions or concerns to your supervisor and/or the local district materials coordinator.

This guide is intended for the QA lab tester but may be provided to the QC tester also for their information.

QC – Quality Control (contractor) QA-Quality Assurance (DOT/Consultant) IA – District Materials Coordinator or his designated representative

This document will be periodically updated. It is current as of 5.21.2018

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Section 1 Field Lab, Startup, Verify

- 1) Review lab equipment condition (706.04 B), beginning and end of project
- 2) Lab equipment. Record on *SFN 61067 Field Lab Equipment Checklist* at beginning of project*
 - a) Provide completed checklist to Materials Coordinator
- 3) Copies of current lab equipment calibration forms are available in both labs
- 4) Quality Control and Quality Assurance plans are posted in both labs (Section 430.04 A)
- 5) QC tester onsite has required certifications
 - a) Aggregate Field Lab or Aggregate Designer and Asphalt Mix Tester
 - b) This can be verified online at: <http://www.dot.nd.gov/dotnet/ttqp/Search.aspx>
- 6) Mix design is posted in both labs
 - a) You will need to know the bin splits (percentages used of each aggregate source for the fine specific gravity (SpG value for FAA calculation.)
 - b) Any changes to bin splits will need to be recorded
 - c) Specific gravity will need to be recalculated for FAA calculation
- 7) Forms used are current NDDOT forms
 - a) Verify with Materials Coordinator
 - b) The (Excel) Daily Paving Workbook will be used for recording and reporting daily test results.
- 8) A separate [Daily Paving Workbook Guide](#) is available for the Daily Paving Workbook
- 9) PDF/Excel standalone forms: <http://www.dot.nd.gov/dotnet2/view/forms.aspx>

Section 2 Daily Responsibility Spec Book 430/FSTM 430

- 1) Assign random numbers for testing and notify QC (one at a time)
 - a) Use method in Field Sampling and Testing Manual or an Engineer approved method
 - b) Document method used to determine numbers
- 2) Verify QC Sampling
- 3) QC reduces the original sample of aggregate and asphalt mix and gives (labeled) half to QA (FSTM 430.02 C.1 and Section 430.04 E.3)
 - a) The half you take is stored for future use if needed. It is not automatically tested. If you need to test it, it does not replace your requirement for an independent test sample.
- 4) Samples are correctly numbered in lots
- 5) Observe sampling of liquid asphalt (and labeling) (FSTM 430.02 C.e)
- 6) Verify/Observe QC testing to ensure ND tests and procedures are followed

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- 7) QC is performing all required tests (including moisture tests) at the correct frequency (FSTM 430.02 C.2.a)
- 8) Results are reported correctly
- 9) QC results are added/control charts are correct
 - a) Control charts are available in the QC lab and kept up-to-date (Charts should be readily available to anyone that walks into the lab) (Section 430.04 E.4)
- 10) Test results are within tolerances Section 430.04 E.5, Table 430-07
 - a) Tolerances are different for single test, moving average, QA and IA
 - b) Watch moving averages, if trending toward tolerance limits, notify Project Engineer and Materials Coordinator
- 11) All testing forms are completely filled out (lot number, sample number, date and time sampled) and legibly signed
- 12) Corrective Action (Section 430.04 E.5.a and b)
 - a) Contractor is following specifications (corrective action, shutdown)
 - b) If corrective action is taken, required testing must still be completed

Section 3 QA Sampling and Testing FSTM 430.03

- 1) Obtain or observe sampling of asphalt mix and aggregate
- 2) Complete required QA testing
- 3) Samples are independent samples (Section 430.03. 3.1 FSTM)
 - a) IA samples are only ones that are a split sample
- 4) Verify results are in tolerance (FSTM Table 430-09 or 430-11)
 - a) FSTM Table 430-15 if an IA 3-way split
- 5) Notify project engineer **immediately** of any failing tests
- 6) Test density cores received from QC for bulk specific gravity (FSTM 430.03 3.2)
 - a) Report core results to Engineer when completed
- 7) Additional forms to complete
 - a) SFN 10072 – Aggregate Quality Tests Summary
 - b) SFN 5650 – PG Sample Information
 - c) SFN 10084 Emulsion/Cutback Sample Information

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Section 4 Plant Startup - Inspection

- 1) Before paving begins
- 2) Check scale certification, does it meet specifications (109.01.J.1)
- 3) Check that the contractor's plant is calibrated (Section 154.01 Mixing Plants)
- 4) Identify plant manual plus volume conversion tables for storage tank calibration and quantity determination
- 5) Verify if plant is equipped with a scalping screen:
 - a) Maximum aggregate size - Plus ½ inch max
- 6) Bins are equipped with divider plates to prevent intermingling of aggregates
 - a) Which bin will be used for each stockpile
- 7) All of this information should be documented in the diary
- 8)

Section 5 Daily Observation

- 1) Plant settings (record in diary) every morning and throughout the day
 - a) Verify district preference of recording in diary if plant provides a print out
- 2) Temperature of liquid asphalt in storage tanks throughout the day
- 3) Temperature of mix (and stack) coming out of the plant throughout the day (record in diary)
- 4) Verify all scale checks required are being done and are within tolerance (Section 109.01)
- 5) Loader/stockpile operations throughout the day
 - a) Most critical at end of project as material is being depleted
- 6) Bins – is the material is flowing freely from the bins?
 - a) Observe throughout the day
- 7) Check bin splits – have they changed?
 - a) Document in diary
 - b) Document on FAA form SFN 51701 in Daily Paving Workbook
- 8) Manifests -verify the correct grade of asphalt is delivered and stored in correct tank
 - a) If switching different grades of asphalt, switching between virgin and RAP during the day, or switching to a mix design with a different AC target - contractor must shut down and stick the tank for a separate cut-off report (SFN 9988) (observe from ground)
 - b) The CARS manual, Chapter 4, pg 24, Mix Bitumen Report provides more detail
- 9) Cut-off report is to be updated throughout day and finalized each day (SFN 9988). Compare with the QC cut-off. They should be within a couple hundredths of each other. If not, find out why

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Section 6 Diary

- 1) A diary needs to be completed daily
 - a) SFN 16767 or CARS version
 - b) See Construction Records Manual, Section 3, pg 5 for suggested items to record
Note: Not all items on the list pertain to a QA lab
- 2) Record items you have been instructed to verify throughout this document
- 3) Verify with Materials Coordinator format preference and detail expectations
 - a) Example diaries are available for review in the [Daily Paving Worksheet Examples](#) PDF available through the TCP web page

References Manuals

[2014 Standard Specification for Roads and Bridges \(Spec Book\)](#)

[2016 Field Sampling and Testing Manual \(FSTM\) Section 430](#)

[2017 Construction Records Manual \(CARS\)](#)

DOT Website

<http://www.dot.nd.gov/>

DOT Forms

<http://www.dot.nd.gov/dotnet2/view/forms.aspx>

(TCP) Technical Certification Program

Includes: Certification registry, Daily Paving Workbook Guide, QA Lab Tester Daily Responsibilities Guide

<http://www.dot.nd.gov/divisions/materials/techniciancertification.htm>