NVLAP®	**DEPARTMENT OF COMMERCE** National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program	**ISSUE DATE:** March 04, 2016
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		LAP: Asbestos - PLM

SUBJECT: Use of Computerized Systems for the Recording of Bulk Asbestos Analysis Data

The purpose of this Laboratory Bulletin is to clarify NVLAP requirements regarding the use of computerized systems for the recording of bulk asbestos analysis data.

Laboratories must document that analyst(s) are actually gathering all the required data from every single sample by PLM examination. This includes the optical properties as measured by the analyst, including the refractive index determined by using dispersion staining colors or Becke line. The use of computerized systems that populate default values for optical data based on the macroscopic identification of the asbestos in the sample or the refractive index of the oil does not meet these requirements.

A blank entry field with a drop-down menu for manually entering or selecting the measured results (data), defined in the clause 5.10.2 in the NIST Handbook 150-3 Checklist (REV. 2011-02-18) below, obtained from the actual observation made by PLM examination may be allowed, provided the analyst is utilizing the real test data against the information built in the laboratory's computer system to determine the asbestos type investigated.

In May of 1999, Lab Bulletin LB-3-1999 was issued to clarify NVLAP requirements for the recording of bulk asbestos analysis data. That Lab Bulletin stated:

> It has been reported that some of the NVLAP Bulk Asbestos Analysis laboratories are using a "default" system for recording the optical measurements performed on fibers detected in bulk building materials. A "default" system is a computerized system whereby an analyst enters his or her best guess as to the asbestos type a fiber may be and the computer then enters all the required optical data, without the analyst ever performing the optical measurements. NVLAP assessors are told that the analyst then performs the optical measurements and edits the screen if his or her data is different than the default values the computer has entered.

The information in the 1999 Bulletin was incorporated into the 2006 version of NIST Handbook 150-3, Bulk Asbestos Analysis in the following clauses.

> **5.4.5** Computerized systems that provide default optical measurements do not meet NVLAP requirements. Laboratories shall have documentation to show that analysts are measuring optical data by PLM examination.
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> **5.10.2** If original data are entered using a computer, analysts shall type the determined refractive indices into the corresponding fields. A set of fixed default values of refractive indices for respective asbestos types automatically generated by the computer is not acceptable (see 5.4.5).

The following language in the NIST Handbook 150-3 Checklist (REV. 2011-02-18) differs from the

language in Handbook 150-3, but addresses the requirements.

5.4.5 The laboratory shall determine the identification of fibrous materials by measuring the optical properties (see 5.10.2).

5.10.2 The laboratory shall record the following data for the asbestos type(s) identified by PLM examination:

a) morphology;
b) color and pleochroism;
c) indices of refraction (n_D) parallel and perpendicular for each asbestiform mineral;
d) birefringence;
e) extinction characteristics, including measurement of extinction angles, if observed;
f) sign of elongation;
g) estimated concentration of asbestos;
h) temperature at the workstation at the time of analysis;
i) result of the analysis.

This bulletin should be maintained with your copy of NIST Handbook 150-3 until the next edition of the handbook is released. Questions regarding the bulletin should be directed to Hazel M. Richmond, NVLAP Program Manager, at 301-975-3024, or hazel.richmond@nist.gov.