In response to client inquiries regarding our lab's degree of readiness with the new silica lab standard published in the **Federal Register** (Volume 81, No. 58, Appendix A: Methods of Sample Analysis**)** on March 25, 2016, SGS Galson has compiled a concise outline addressing how we meet all of your analytical needs. Explanations are highlighted in orange beneath each item.

All items below are taken from "Appendix A" to "§ 1910.1053—Methods of Sample Analysis**,"** which "*specifies the procedures for analyzing air samples for respirable crystalline silica, as well as the quality control procedures that employers must ensure that laboratories use when performing an analysis required under 29 CFR 1910.1053 (d)(5). Employers must ensure that such a laboratory:*"

1. Evaluates all samples using the procedures specified in one of the following analytical methods: OSHA ID–142; NMAM 7500; NMAM 7602; NMAM 7603; MSHA P–2; or MSHA P–7.

We offer silica analysis by both XRD (OSHA ID-142/NMAM 7500) and IR (NMAM 7603).

2. Is accredited to ANS/ISO/IEC Standard17025:2005 with respect to crystalline silica analyses by a body that is compliant with ISO/IEC Standard 17011:2004 for implementation of quality assessment programs.

We are accredited to ISO/IEC 17025:2005 standards for crystalline silica analysis through AIHA-LAP, LLC.

3. Uses the most current National Institute of Standards and Technology (NIST) or NIST traceable standards for instrument calibration or instrument calibration verification;

We use current NIST Standard Reference Materials for all Quartz and Cristobalite calibrations and quality control checks. There is not currently a NIST standard for Tridymite, so we use a NIOSH/IITRI reference material for that.

4. Implements an internal quality control (QC) program that evaluates analytical uncertainty and provides employers with estimates of sampling and analytical error.

Yes, we have such a program in place and regularly provide statistical accuracy information on our reports when applicable. More information is available upon request.

5. Characterizes the sample material by identifying polymorphs of respirable crystalline

silica present, identifies the presence of any interfering compounds that might affect the analysis, and makes any corrections necessary in order to obtain accurate sample analysis.

XRD analysis enables us to identify and quantitate Quartz, Cristobalite, and Tridymite polymorphs. When interferences impact an analysis, their presence and impact is footnoted. When our alternate (high temperature) preparation procedure can be used to eliminate or lessen known or suspected interferences, we offer it as an option.

6. Analyzes quantitatively for crystalline silica only after confirming that the sample matrix is free of uncorrectable analytical interferences, corrects for analytical interferences, and uses a method that meets the following performance specifications:

6.1 Each day that samples are analyzed, performs instrument calibration checks with standards that bracket the sample concentrations,

6.2 Uses five or more calibration standard levels to prepare calibration curves and ensures that standards are distributed through the calibration range in a manner that accurately reflects the underlying calibration curve; and

6.3 Optimizes methods and instruments to obtain a quantitative limit of detection that represents a value no higher than 25 percent of the PEL based on sample air volume.

Our instrument calibrations meet or exceed the criteria noted above and all required daily calibration checks are consistently performed with each batch of sample analyses. Sample concentrations outside the calibration range and uncorrectable analytical interferences are quite rare, but are addressed with dilutions, proper documentation/qualification, and consultation with our clients when they arise. Additionally, our Quartz and Cristobalite LOQ is 6.1 ug/m3 for the recommended sampling volume of 816L, which is significantly lower than 25% of the PEL (12.5 ug/m3).

If the above responses to the new silica lab standards do not address all of your concerns and questions, please do not hesitate at all to contact the laboratory and we will provide further clarification or details. As a client, we appreciate your business and want to ensure that we consistently provide data and service of the highest quality.