

## **CCIL Petrographic Analysis Workshops Description**

### **1. Introductory Workshop: Duration 1.5 days**

The introductory workshop is divided into four modules including aggregate durability and petrographic examination; Discussion of LS-609 test method; Mineral identification and Rock type identification.

Review of theory behind Petrographic analysis and presentations on aggregate, asphalt and concrete durability. Properties identified in laboratory tests and petrographic examination. Aggregate durability issues and field performance examples; Review of petrographic test methods to determine mineralogy and rock types; Properties influence aggregate performance identified in the petrographic examination; Discussion of LS-609 –procedures, basic tools needed, sample preparation, quality classification of sample particles, calculations and reporting; Common rock type categories classification schemes; Overview of physical characteristics and properties used to identify minerals; Steps for identification and hands-on exercise. Introduction of the basic rock type groups - igneous, sedimentary and metamorphic rocks and their environment of formation; Typical textures and mineral assemblages; Rock type identification exercises conducted on hand samples. A discussion on the CSA A23.2-15A and ASTM C295 test methods and how they compare to the LS-609 test method will also be carried out.

There will be quizzes and exercises following each portion of the introductory workshop. These will be marked and for PN certification candidates these marks make up 40% of the final total mark.

### **2. Petrography Certification and Re-Certification Workshop: Duration 2.5 days**

Prequalification requirements include participants know how to conduct LS-609 test method and have extensive previous experience of the test including participation in the MTO aggregate correlation proficiency. A total of five samples are available for testing by participants; samples are from across Ontario.

This workshop starts in the afternoon of the second day. At the start of the day however, certification candidates are asked to prepare their first sample for testing. This is a test to see how well participants understand the sample preparation portion of test method. During the introductory workshop a review of the test method and sample preparation is conducted so participants can make adjustments to their sample preparation before they begin testing. Testing includes weighing and performing calculations.

After analysis by workshop participants of test samples 1, 2, 3, and 4 a review and a group discussion is conducted of the sample rock type classification and quality classification. The afternoon of day four of the week is dedicated for testing the certification test sample 5 where participants will carry out the entire test method for PN certification purposes. The certification test sample 5 and reports are left for marking by CCIL after the workshop is completed.

The quizzes and exercises marks from the introductory workshop accounts for 40%, the four test samples 1 to 4 account for 20% and the final certification sample 5 for 40% of the total exam mark. Successful participants must obtain a minimum passing mark of 75%. The results will be sent to participants at a later date.