

## 2020 ONTARIO AND QUÉBEC MINI-CORRELATIONS – SOILS

Please read the following Mini-correlation instructions carefully BEFORE you start testing!

- Testing shall be according to the 2019 MTO instructions within the MS Excel file “SASTPImport.xlsx” MTO provided to your lab in the summer of 2019, except where otherwise stated below for SAMPLES for Mini-Correlation Testing “Correlation Instructions – Soils” that are included in this document.
- Submission of MS Excel data worksheets referred to in the 2019 MTO instructions is not required.
- Please report the Results by the date indicated in the letter from CCIL notifying you that an additional testing program(mini-correlation) is required.
- In the event of a conflict between the “SASTPImport.xlsx” instructions and the following mini-correlation instructions, the mini-correlation instructions take precedence.
- All test results MUST be reported through your CCIL lab portal at <https://portal.ccil.com/>. After signing into the portal, all mini-correlation reporting forms appropriate to your lab certification will be accessible under the tab for Reporting Forms. You will be able to enter your test results into the forms and submit to CCIL through the portal.
- **New:** Please record the mini-correlation sample identification information found on the sample labels in the “Comments” section of the reporting forms.

### SAMPLES FOR MINI-CORRELATION TESTING

- Samples for the mini-correlation are shipped to the laboratory at the time the laboratory is notified a mini-correlation is required.
- **The mini-correlation samples are pre-prepared to meet the requirements of the appropriate test method and are to be tested as received unless instructed otherwise.**
- Generally, only one sample will be shipped for each test requiring a mini-correlation. Tests for a mini-correlation are not generally carried out in pairs.
- The mini-correlation samples are in a dry state and therefore no drying should be necessary.
- Should you find it necessary, dry the soil mini-correlation samples to a constant mass at no more than 60°C.
- Dry the LS706 mini-correlation sample to a constant mass at  $110 \pm 5^\circ\text{C}$ .

**MINI-CORRELATION INSTRUCTIONS – SOILS****LS-702 PARTICLE SIZE ANALYSIS OF SOILS:**

**DO NOT** use the specific gravity values determined by your lab.

Use the following parameters to perform the test and calculations for  $\alpha$  and constant K.

	Sample Year		
	2018	2019	2020
Sodium Hexametaphosphate per litre (g)	40	40	40
Adjusted pH	8 to 9	8 to 9	8 to 9
Specific Gravity	2.775	2.776	2.750

Report the Percent Passing the 425 $\mu$ m, 75 $\mu$ m, 20 $\mu$ m, 5 $\mu$ m and 2 $\mu$ m to the nearest 0.1 percent.

**LS-703/704 LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS:**

Determine the Liquid Limit, Plastic Limit and Plasticity Index of soil samples according to ASTM D4318. Prepare the test specimens as outlined in Section 11.2 Dry Preparation, and determine the Liquid Limit according to the procedure described in Section 12.0, Method A Multi-Point Liquid Limit. Determine the Plastic Limit using a minimum of two trials and report the mean value. Report the Liquid Limit, Plastic Limit and Plasticity Index to the nearest 0.1 percent.

**LS-705 SPECIFIC GRAVITY OF SOILS:**

Determine the specific gravity of soil samples in according to MTO LS-705. Carry out the test according to the procedures as outlined in Section 8.1 Procedures for Oven Dried Specimen.

Perform the test on minimum of three specimens and report the Mean Specific Gravity of the soil to the nearest three decimal places (0.001). The calculated test results from three specimens (range) should be within 0.02 of each other. If the range exceeds 0.02, the test must be repeated.

**LS-706 MOISTURE-DENSITY RELATIONSHIP:**

Dry the LS706 mini-correlation sample to a constant mass at 110  $\pm$  5°C.

Report the maximum wet density and maximum dry density in Mg/m<sup>3</sup> to three decimal places (equivalent to g/cm<sup>3</sup>, i.e. 2.345 Mg/m<sup>3</sup>), and optimum moisture content to the nearest 0.1%.

Follow LS-706 (ASTM D698 Method C). Use the following values to compute the correction for oversize particles.

	Sample Year	
	2019	2020
Bulk specific gravity of the oversize fraction	2.690	2.650
Water content of the oversize fraction	0.91%	0.93%