METHOD OF TEST FOR LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS

1. SCOPE

This method covers the determination of the liquid limit, plastic limit, and plasticity index of a soil.

2. RELEVANT DOCUMENTS

2.1 AASHTO T 89 Standard Method of Test for Determining the Liquid Limit of Soils

2.2 ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

3. PROCEDURE

Procedures of ASTM D4318 shall be followed.

4. USE OF LABORATORY CONTROL SAMPLE

4.1 Every 10 samples, or once in 6 months, a sample of the standard reference soil shall be tested. A supply of clay from Dresden, Chatham is available from the Soils and Aggregates Section, Ministry of Transportation, 1201 Wilson Avenue, Downsview, Ontario, M3M 1J8, Phone (416) 235 – 3735, Fax (416) 235 - 4101. The limits of acceptable Atterberg Limit test results for the reference soil sample obtained in accordance with ASTM D4318 test procedures are as follows:

Results	Lower Limit	Mean	Upper Limit
LL	30.4	32.7	35.0
PL	17.3	19.0	20.7
PI	11.0	13.8	16.6

4.2 Control Chart Use: The liquid limit, plastic limit, and plasticity index of the last 20 samples of reference material shall be plotted on control charts in order to monitor the performance of the laboratory.

5. REPORT

The report shall include the following:

5.1 The liquid limit and plastic limit shall be plotted on a graph from which the plasticity index can be determined and reported (see Figure 1, Atterberg Limits Soils Data Card).

5.2 With each test report, include the results of the most recently tested reference material and the control charts for the last 20 samples of reference material.

Ministry of Transportation
Ontario

ATTERBERG LIMITS

LABORATORY SERVICES

W.O. OR W.P. NO. _____ BOREHOLE NO. _____

OPERATOR _____ DATE _____

Ⓐ LIQUID LIMIT									
SAMPLE NO.									
NO. OF BLOWS									
DISH NO.									
DISH + WET SOIL									
DISH + DRY SOIL									
MOISTURE									
DISH									
DRY SOIL									
% MOISTURE									
Ⓑ PLASTIC LIMIT									
DISH NO.									
DISH + WET SOIL									
DISH + DRY SOIL									
MOISTURE									
DISH									
DRY SOIL									
% MOISTURE									
PLASTIC LIMIT %									
LIQUID LIMIT %									
PLASTICITY INDEX									

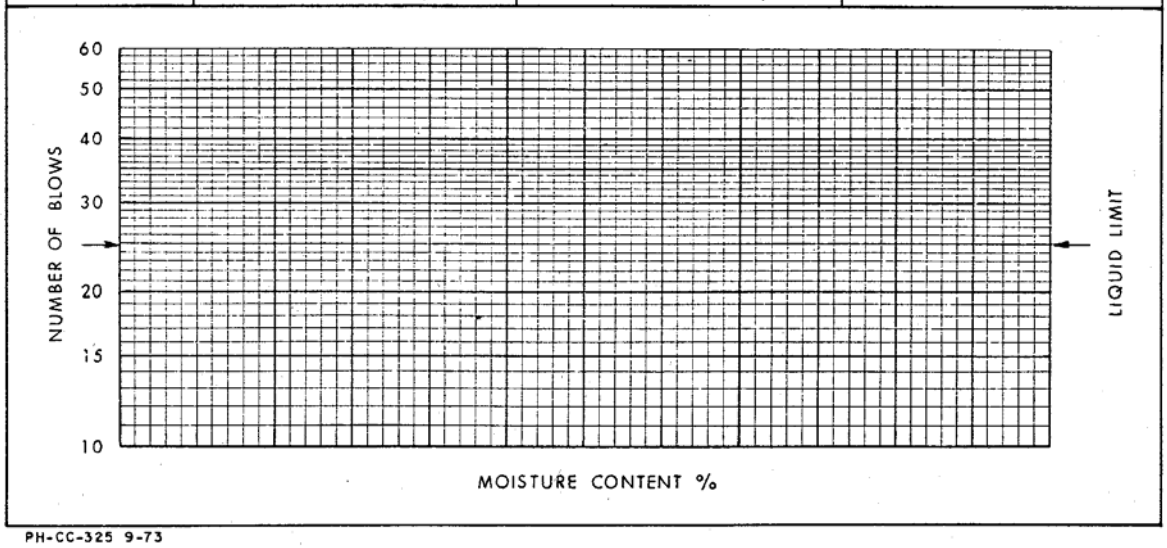

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Figure 1: Atterberg Limits of Soils Data Card