Equipment Checklist
AASHTO T 89 Liquid Limit of Soils

		P	F	N/A
Item				
1.	Porcelain dish about 4.5 in (115 mm) in diameter.			
2.	Spatula or pill knife having a blade about 3 - 4 in (75 – 100 mm) in length and about 0.75 in (20 mm) wide.			
Liquid Limit Device				
3.	Manual or Mechanically operated (circle one).			
4.	Base constructed of hard rubber, not excessively worn, and have a resilience of 80-90%.			
5.	Base width: 125 ± 5 mm.			
6.	Base length: 150 ± 5 mm.			
7.	Base thickness: 50 ± 5 mm.			
8.	Brass cup – Thickness 2.0 ± 0.1 mm.			
9.	Depth of cup27 ± 1 mm.			
10.	Cup at cam follower to base: 47.0 ± 1.5 mm.			
11.	In good working condition.			
12.	Pin connecting the cup not worn to allow side play.			
13.	Screws connecting cup to hanger arm are tight.			
14.	Points of contact on cup and base not excessively worn (> 13 mm diameter).			
15.	Rim of cup worn to half original thickness.			
16.	Pronounced groove has not been worn in cup through long use.			
17.	Drop height of cup 10.0 ± 0.2 mm (verified and adjusted immediately prior to testing).			
Grooving Tool				
18.	Curved (steps 19-23) or Flat (steps 24-35) tool (Circle one).			
19.	Curved tool end thickness 10.0 ± 0.1 mm. (Curved tool only).			
20.	Curved tool width of cutting edge 2.0 ± 0.1 mm.			
21.	Curved tool width bottom of shaft/top of curved end 13.5 ± 0.1 mm.			
22.	Gauged end depth: 10.0 ± 0.2 mm.			
23.	Gauged end length: 15.9 mm.			
24.	Flat tool cutting triangle point: 2.0 ± 0.1 mm.			
25.	Flat tool cutting edge triangle back end: 11.0 ± 0.2 mm.			
26.	Flat tool cutting end width: 40.0 ± 0.5 mm.			
27.	Flat tool cutting triangle edge depth: 8.0 ± 0.1 mm.			
28.	Flat tool cutting end radius: 50 ± 5 degrees.			
29.	Flat tool thickness (overall): 2.0 ± 0.1 mm.			
30.	Flat tool back end gauge width: 10 mm minimum.			
31.	Flat tool back end gauge height: 13 mm.			
32.	Flat tool bevel edge angle: 60 degrees.			
33.	Flat tool shaft length: 60 mm.			
34.	Flat tool back end gauge thickness: 10.0 ± 0.05 mm.			
35.	Flat tool back end maximum width: 20 mm.			
Miscellaneous Tools				
36.	Gauge block: 10.0 ± 0.2 mm thick, approximately 50 mm long (if separate from grooving tool).			
37.	Containers resistant to corrosion and not subject to a change in mass or disintegration on			

	repeated heating and cooling. Closed fitting lids. One container for each moisture content determination.			
38.	Balance: Conforming to the requirements of M 231, Class G 1.			
39.	Oven: Capable of maintaining 110 ± 5°C (230 ± 9°F).			

Remarks:

Date: _____ **Technician:** _____ **IA Observer**: _____

Technician's E-mail Address: _____

Employer's/Supervisor's E-mail Address: _____