Reviewed: February 07, 2017 W. Greenwood

## **Procedure Checklist** ASTM D4643: Determination of Water (Moisture) Content of Soil by **Microwave Oven Heating**

		Р	F	N/A	
Sample					
1.	Samples stored in non-corrodible airtight containers at a temperature between approximately 3 and 30°C out of direct sunlight prior to testing.				
2.	100 to 200 g of soil no more than 10% retained on #10 sieve.				
3.	300 to 500 g of soil no more than 10% retained on #4 sieve.				
4.	500 to 1000 g of soil no more than 10% retained on 3/4 in sieve.				
5.	For smaller samples, a representative portion is selected from a thoroughly mixed non-cohesive sample, or the inner section of a cohesive sample.				
6.	Test samples stored in a sealed container to until tested.				
Procedure					
7.	Mass of non-metallic container recorded.				
8.	Test sample placed in non-metallic container and mass immediately recorded.				
9.	Container with sample placed in the microwave.				
10.	Oven ran for 3 minutes (adjusted time allowed based on experience with material).				
11.	Tested sample immediately weighed OR placed in a desiccator to cool then weighed.				
12.	Sample carefully mixed so to prevent any loss of material from the container.				
13.	Container with sample returned to oven and reheated for 1 minute.				
14.	Steps 11-13 repeated until a change of 0.1% or less moisture content is determined for two consecutive points.				
15.	Moisture content samples should be discarded and not used in any other tests.				
	Calculation				
	Moisture calculated correctly. $w = [(M_1 - M_2)/(M_2 - M_c)] \times 100$ where:				
	w = Moisture content (%)				
	$M_1$ = Mass of container and moist soil. $M_2$ = Mass of container and oven-dried soil.				
16.	M <sub>c</sub> = Mass of container				
Remarks: Comparison Criteria: N/A					

Date:	Technician:	IA Observer:				
Technician's E-mail Address:						
Employer's/ Supervisor's E-mail Address:						