GRAIN SIZE ANALYSIS DATA SHEET - HYDROMETER

ASTM D7928

Sample _____

PROJECT

Project No.:	Project:			
Date Tested:	Date Sampled	Date Received:		
Boring No.:	Sample No.:	Elevation/depth:	Sample Length:	Test Requested By:
Location:				
Description/visual Classification:				
☐ Bulk ☐ SPT ☐ Thin wall ☐ Other:				

SPECIMEN AND EQUIPMENT DATA

Prior Testing ☐ No ☐ Yes Type:	Sp. Gravity: ☐ Assumed ☐ Measured	Balance ID: Oven ID:	Thermometer ID: Wet Wash Sieve ID:
Separation Sieve: ☐ No. 10 or:	Specimen Prep Method: ☐ Moist ☐ Air Dried		Companion D 6913: ☐

Estimated Moisture and Mass: W_{cest}(%): _____ f_{est}(%): _____ M_{mest}g): _____ $M_{mest} = H_c$ x (100 /% fines est) x (1 + (w_{cest}/100)) Hc = 45 for 151, 55 for 152	Mass of Moist Soil M_m+Tare (g) _____ Tare (g) _____ **M_m (g):**_____ Specimen Mixing Container ID: _____	Dry Mass of Soil: ☐ Moisture Content Method: Tare No.: _____ Wet soil & tare (g): _____ Dry soil & tare (g): _____ Tare (g): _____ Water Content (%): _____	☐ Direct Method: Tare No.: _____ M_{dd} & tare (g): _____ Tare (g): _____ M_{dd} (g): _____ Dry Mass, M_d (g) = M_{dd} - M_{disp}
		Dry Mass, M_d (g): _____	

Dispersed/Mixed: Date: Device: ☐ cup & mixer ☐ air jet @ 69 kPa (sand) ☐ air jet @ 172 kPa (clay)

Mixing Method: ☐ Agitator ☐ Tipping: time: _____	Amount of Dispersant, M_{disp} (g) _____ Direct Add: ☐ Dispersed in 100 ml water: ☐	Dispersant mixed using:
Temperature-Density Correction: ☐ Control Cyl. ☐ Calib. Relationship Temperature Control: ☐ Room Control ☐ Chamber/Water bath		Foam inhibitor used: ☐ Yes ☐ No Flocculation? ☐ Yes ☐ No

Calibration Constant Data

Temp.°C	Reading, $R_{151/152}$	A/B
Ave. A or B =		
Std. Dev.=		☐ Pass ☐ Fail

Max: 0.0005 (151H) 0.5 (152H)

Amount of dispersant used in calibration solution (g):

No. 200 Wash Information

Oven Drying Container ID:	
Container Mass, (g):	
Dry Mass Retained after Washing + tare, (g):	
Dry Mass Retained after Washing over No. 200, M_{dr} (g):	
Percent passing No. 200 (%) = (1-(M_{dr} / M_d)) x 100%:	

Hydrometer Calibration Data

Hydrometer ID:_____

☐ 151H r_1 = 0.995 r_2 = 1.038 **H_{r1}** = _____ **H_{r2}** = _____

☐ 152H r_1 = -5 r_2 = 60 **H_{r1}** = _____ **H_{r2}** = _____

Submerged Volume

☐ direct graduated cylinder, V_{hb} = Vol_2 - Vol_1

V_{hb} = _____ - _____ = _____ cc

☐ indirect water displacement, V_{hb} = W_w (g) / 1 (g/cc)

V_{hb} = _____ cc

SPECIMEN AND EQUIPMENT DATA (cont.)

Sample _____

Starting Date:		Starting Time:	

Sedimentation Cylinder				Annex A1 Sedimentation Cylinder Specifications		
ID:		Vol of Suspension		Minimum	Maximum	Annex A1 Pass/Fail
Inside Area, A_c (cm^2):				22.9	32.2	☐ Pass ☐ Fail

Is the sample a subspecimen?	☐ Yes ☐ No	Percent passing the separation sieve (2 decimal places):	

HYDROMETER TEST DATA

Time Date	Elapsed Time, T (min)	Temp (°C)	Hydrometer Reading r_m		☐ Calibration ☐ Companion Offset, $r_{d,m}$	Effective Depth, H_m (cm)	D (mm)	Mass Percent (%) Finer, N_m
			151H 0.001's	Actual				

Describe if any material was excluded and if any problems were encountered:

Meniscus Correction: _____

A or B constant: _____

Notes: _____

_____

_____

_____

_____

_____ 20.10.19

Tested by: _____

Calculated By: _____ Date: _____

Checked By: _____ Date: _____ **Title:** _____