Data Sheet for Field Identification of Soil

General Information:

Location :

Date of boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

Color	
Odor	
Texture	
Major Soil Constituent	
Minor Soil Constituent	

Dispersion Test Results:

Soil Type	Approx. % by weight
Sand	
Silt	
Clay	

For Coarse Grain Soil:

Gradation:	
Particle Shape:	

For Fine Grain Soil:

Dry Strength:	
Dilatancy:	
Plasticity:	
Toughness:	
Soil Symbol:	
Moisture Condition:	

Data Sheet for determination of natural moisture content

General Information:

Location :

Date of Boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

SL. No.	Can no.	Weight of Can (gm)	Weight of Can + wet sample (gm)	Weight of Can + dry sample (gm)
1				
2				
3				
4				
5				

Data Sheet for Sieve Analysis

General Information:

Location :

Date of boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

Sieve No	Sieve Size (mm)	Weight of retained sample (gm)	Sieve No	Sieve Size (mm)	Weight of retained sample (gm)
#4	4.75		#4	4.75	
#8	2.36		#10	2.00	
#16	1.18		#20	850 μm	
#30	0.60		#40	425 μm	
#50	0.30		#60	250 μm	
#100	0.15		#100	150 μm	
#200	0.075		#140	106 μm	
Pan	-----		#200	75 μm	
			Pan	-----	

Data Sheet for Hydrometer (152H) Analysis

General Information:

Location :

Date of boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

Specific Gravity of soil, G_s = ……

ρ_c or ρ_w, Mass density of water at 20 ^{0}C = 0.99821 g/cm^3

Meniscus Correction, C_m = …….

Viscosity, μ of water at 20 ^{0}C = 0.01 g/cm-s

g, acceleration due to gravity = 980.7 cm/s^2

Volume of Hydrometer bulb up to the base of the stem, V_{hb} (cm^3) =……...

Cross-sectional Area of sedimentation Cylinder, A (cm^2) =……

H_{r1}(cm), distance between the center of (volume) buoyancy & the maximum hydrometer reading, r_1 = …….

H_{r2} (cm), distance between the center of (volume) buoyancy & the minimum hydrometer reading, r_2 = …….

Maximum hydrometer reading, r_1 = …….

Minimum hydrometer reading, r_2 = …….

V_{sp}, Volume of suspension (cm^3) = ……..

B, average mass shift (g/L) = $r_{d,m}$ = $R_{152,t}$ =……..

Initial dry mass of the sedimentation specimen (gm)=

Mass of soil particles passing through No. 200 sieve found from sieve analysis (gm)=

Total mass taken for the combined sieve and hydrometer analysis (gm)=

Elapsed Time, t_m (min)	Temperature, T_m (^{0}C)	Hydrometer Reading in suspension (g/L), r_m	Hydrometer Offset Reading from reference solution, $r_{d,m}$	Effective Depth, H_m (cm)	Diameter (mm), D_m	Mass % Finer, N_m
1						
2						
4						
15						
30						
60						
240						
1440						

Elapsed Time, t_m (min)	Temperature at reading, t (T_t)	Mass in reference solution hydrometer at reading, t (R152, t), g/L
1		
2		
4		
15		
30		
60		
240		
1440		

Data Sheet for combined grain size distribution curve

Particle size (mm)	% Finer	D_{10}=…….
4.75		D_{30}=…….
2.36		
1.18		D_{50}=…….
0.60		
0.30		D_{60}=…….
0.15		C_u=…….
0.075		
		C_c=…….

Data Sheet for determination of specific gravity of soil

General Information:

Location :

Date of Boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

(Calibration curve-experimental)

Pycnometer No.: ……

Weight of pycnometer (gm) =…….

Calibrated volume of pycnometer (ml) =……

Calibrated temp. of pycnometer (^{0}C) =……

ϵ = Thermal Coefficient of cubical expansion for Pyrex glass (0.100×10^{-4} per °C)

γ_a= Unit Weight of air at T and atmospheric pressure, 0.0012 gm/cm^3

SL. No.	Temperature, T (^{0}C)	Weight of pycnometer + water (gm)	Sp. Gr. or Unit Weight of Water at T ^{0}C
1			
2			
3			
4			
5			

SL. No.	Temperature (^{0}C)	Weight of pycnometer + water+ soil (gm)	Weight of pycnometer + water (gm) *(calibration curve)-Ex.*	Weight of pycnometer + water (gm) *(calibration curve)-Th.*	Dry weight of soil (gm)
1					
2					
3					

Data Sheet for Atterberg limit

General Information:

Location :

Date of boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

Specific Gravity of soil, G_s = ……

Test temp.= ……..

γ_w, unit weight of water at test temp.= ……..

G_T, specific gravity of water at test temp. = …….

Liquid limit:

SL. No.	No. of blows	Can No.	Weight of Can (gm)	Weight of Can + wet sample (gm)	Weight of Can + dry sample (gm)
1					
2					
3					
4					
5					

Plastic limit:

SL. No.	Can No.	Weight of Can (gm)	Weight of Can + wet sample (gm)	Weight of Can + dry sample (gm)
1				
2				
3				

Shrinkage limit:

SL. No.	Dish No.	Weight of Porcelain dish (gm)	Weight of dish+ wet sample (gm)	Weight of dish + dry sample (gm)	Initial weight of Mercury (gm)	Final weight of Mercury (gm)	Weight of displaced Mercury (gm)
1							
2							
3							

Data Sheet for relative density of soils

General Information:

Location :

Date of boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

Dia. of Mold (cm)	Height of Mold (cm)	Weight of Mold with base (gm)

SL. No.	Weight of soil at loosest state	Average Weight of soil at loosest state	Weight of soil at densest state	Average Weight of soil at densest state	In-situ Weight of soil	Average In-situ Weight of soil
1						
2						
3						

Data Sheet for Density and Unit Weight of soil in Place by Sand-Cone Method

General Information:

Location :

Date of sample collection :

Date of test :

Weight of Ottawa Sand in the sand cone

SL No.	Wt. of filled pouring cylinder (g)	Wt. of pouring cylinder after fill up the sand cone (g)	Wt. of sand that filled sand cone (g)
1			
2			
3			

Bulk Density of Ottawa Sand

SL No.	Wt. of Proctor Compaction mold (g)	Wt. of sand and Proctor Compaction mold (g)	Wt. of sand in Proctor Compaction mold (g)	Dia. (cm)	Avg. dia. (cm)	Height (cm)	Avg. height (cm)
1							
2							
3							

Field data

Wt. of filled pouring cylinder (g)	Wt. of pouring cylinder after pouring (g)	Wt. of sand to fill up the hole (g)	Wt. of excavated soil (g)	Wt. of dry soil (g)

SL No.	Can No	Wt. of can (gm)	Wt. of can+wet soil (gm)	Wt. of can+dry soil (gm)
1				
2				
3				

Data Sheet for Proctor Compaction Test (Standard/Modified Effort)

General Information:

Location :

Date of collection :

Sample type : D/UD

Date of test :

Dia. of Mold (cm)	Height of Mold (cm)	Weight of Mold with base (gm)

Trial No.	Weight of mold + soil (gm)	Can no.	Weight of Can (gm)	Weight of Can + wet sample (gm)	Weight of Can + dry sample (gm)	Trial No.	Weight of mold + soil (gm)	Can no.	Weight of Can (gm)	Weight of Can + wet sample (gm)	Weight of Can + dry sample (gm)
1						**6**					
2						**7**					
3						**8**					
4						**9**					
5						**10**					

Data Sheet for Unconfined Compressive Strength Test

General Information

Location :

Date of boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

SI	Sample Dia. (mm)	Avg. Sample Dia. (mm)	Sample Height (mm)	Avg. Sample Height (mm)
1				
2				
3				
4				

Deformation Dial Reading	Loading Dial Reading	Deformation Dial Reading	Loading Dial Reading

Data Sheet for Direct Shear Test

General Information:

Location :

Date of boring :

Sample depth (m) :

Type of sample : D/UD

Date of test :

Size of the shear box = **50 mm x 50 mm**

Normal Load: 6.5 kg		Normal Load: 13 kg		Normal Load: 19 kg		Normal Load: 26 kg	
Deformation dial reading	Load dial reading	Deformation dial reading	Load dial reading	Deformation dial reading	Load dial reading	Deformation dial reading	Load dial reading