

Soil Calculations				Conversion tables			Volume tables			
Moisture Content	w % = (mass of moisture in sample before oven drying) / (mass of sample after oven drying) x100 %			1		0.001	g	Depth of Hole	6	in
	Mass Before Oven	Mass After Oven	Result	268.8	g	0.2688	kg	Width of Hole	9.5	in
	21.4	67.9	31.51693667	0.001	kg	1	g	Length of Hole	9.5	in
Damp Soil Density	p = (mass of wet soil sample kg) / (Volume of soil sample m ³)			0.2377	kg	0.524038797	lb		541.5	in ³
	Mass of Wet	Volume of Soil	Result	1	lb	0.45359237	kg		8873560.5	mm ³
	89.3	49.3	1.811359026	9.5	in	241.3	mm		8873.5605	cm ³
				152.4	mm	15.24	cm		0.008873561	m ³
Dry Soil Density	p _D = (mass of dry soil sample kg) / (Volume of soil sample m ³)			89.69	cm	0.8969	m		0.313368056	ft ³
	Mass of Dry	Volume of Soil	Result	152.4	mm	0.1524	m			
	67.9	49.3	1.377281947							
Damp Unit Weight	γ = (weight of wet soil sample lb) / (Volume of soil sample ft ³)									
	Weight of Wet	Volume of Soil	Result							
	0	0	#DIV/0!							
Dry Unit Weight	γ _D = (weight of dry soil sample lb) / (Volume of soil sample ft ³)									
	Weight of Dry	Volume of Soil	Result							
	0	0	#DIV/0!							
Relative Density	RD = (mass of solids) / (Volume of solids X ρ of water)									
	Mass of Solids	Volume of Solids	Result							
	67.9	25.526	2.660032908							
Void Ratio	e = (Volume of Voids) / (Volume of solids)									
	Volume of Voids	Volume of Solids	Result							
	23.774	25.526	0.931364099							
Degree of Saturation	S = (Volume of Water) / (Volume of Voids)									
	Volume of Water	Volume of Voids	Result							
	21.4	23.774	0.900143013							
Porosity	n = (Volume of Voids) / (Total Volume)									
	Volume of Voids	Total Volume	Result							
	23.774	49.3	0.482231237							

weight of pan 2.74 kg
weight of can 35.2 g
weight of can and soil 304 g
dry weight of can 272.89 g
31.11 g

bagless soil weight 19.5563 kg

soil class as OL Organic silts
dry strength = high
Reaction to shaking = quick to slow
Toughness near plastic limit = slight

soil/bag 19680 g difference in soil weigh 268.8 g
bag 123.7 g 237.69 g
19556.3 g 31.11 g
19.5563 kg

Question 1 p = 1.811 g/cm³
p_D = 1.377 g/cm³
e = 0.93 cm³
w% = 31.52%
n = 0.482
S = 0.9

Question 2 .844 = 1.693 / x
1.693 x .844 = 1.429
Dry mass = 1.429 kg

