Moisture Content $w\% = (mass of moisture in sample before oven drying) x100 \%$ 1 $0.001$ gDepth of Hole6inweight of pan2.74 kgMoisture ContentMass after OvenMass After OvenResult $\gamma$ $0.001$ gDepth of Hole9.5inweight of can35.2 gMass Before OvenMass After OvenResult $\gamma$ $0.001$ g $1$ mg $1$ mg $0.001$ $g$ $1$ mg $0.01$ $g$ $1$ mg	Soil Calculations						Conversion tables				Volume tables				
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		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		weight of pan	2.74 kg
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Moisture Content					268.8	g	0.2688	kg	Width of Hole	9.5	in	I	weight of can	35.2 g
$ \begin{array}{ c c c c c c c c } \hline 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 &$		Mass Before Oven	Mass After Oven	Result	%	0.001	kg	1	g	Length of Hole	9.5	in	1	weight of can and soil	304 g
$ \begin{array}{ c c c c c c c c } \hline P & (mass of wet soil sample kg) / & 0.2377 kg & 0.22403879 lb & 8873560.5 mm^3 & 31.11 g \\ \hline & (Volume of soil sample m^3) & 1 lb & 0.4535923 kg & 8873560.5 mm^3 & 88$		21.4	67.9	31.51693667	70	0.001	g	1	mg		541.5	in <sup>3</sup>		dry weight of can	272.89 g
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Damp Soil Density	р	= (mass of wet soil sa	ample kg) /		0.2377	kg	0.524038797	lb		8873560.5	mm <sup>3</sup>			31.11 g
$\frac{\text{Mass of Wet Volume of Soil Result}}{Mass of Wet Volume of Soil Altitation of the second seco$		(Volume of soil sample m <sup>3</sup> )				1	lb	0.45359237	kg		8873.5605	cm <sup>3</sup>		_	
Solid Density       49.3       1.811359026 $^{Ng/11}$ 152.4 mm       15.24 cm       0.313368056       ft <sup>3</sup> Dry Soil Density $(Volume of soil sample kg) / (Volume of soil sample m3)       89.69 cm       0.8969 m       soil class as OL Organic silts         Mass of Dry       Volume of Soil       Result       mm       0.1524 m       m       89.69 cm         67.9       49.3       1.37781947       kg/m3       0       0       89.69       Toughees near near light   $		Mass of Wet	Volume of Soil	Result	$ka/m^3$	9.5	in	241.3	mm		0.008873561	m <sup>3</sup>	bagless	soil weight 19.5563	(g
Dry Soil Density     p <sub>p</sub> = (mass of dry soil sample kg) /     89.69 cm     0.8969 m     soil class as OL Organic silts       Ury Soil Density     (Volume of soil sample m <sup>3</sup> )     152.4 mm     0.1524 m     dry strength = high       Mass of Dry     Volume of Soil     Result     0     89.69     Reaction to shaking = quick to slow       67.9     49.3     1.377781947     kg/m <sup>3</sup> 0     0     89.69     Tourphees near nearting to the slow		89.3	49.3	1.811359026	кg/111	152.4	mm	15.24	cm		0.313368056	ft <sup>3</sup>			
Ory Soil Density       (Volume of soil sample m <sup>3</sup> )       152.4 mm       0.1524 m       dry strength = high         Mass of Dry       Volume of Soil       Result       0       89.69       Reaction to shaking = quick to slow         67.9       49.3       1.377281947       kg/m <sup>3</sup> 0       0       89.69       Tourphees near relative limit = slight	Dry Soil Density	p	o = (mass of dry soil s	ample kg) /		89.69	cm	0.8969	m				soil class a	as OL Organic silts	
$\frac{\text{Mass of Dry Volume of Soil Result}}{67.9} \frac{\text{Mass of Dry Volume of Soil Result}}{1.377281947} \frac{\text{kg/m}^3}{1.377281947} \frac{\text{Mass of Dry Volume of Soil Result}}{1.377281947} \text{Mass of$		(Volume of soil sample m <sup>3</sup> )				152.4	mm	0.1524 m	m			dry str	dry streng	th = high	
$67.9$ /9.3 1.3772819/7 $^{67/11}$ 0 0		Mass of Dry	Volume of Soil	Result	$ka/m^3$			0		89.69			Reaction t	o shaking = quick to slow	
		67.9	49.3	1.377281947	кg/111			0					Toughnes	s near plastic limit = sligh	t
y = (weight of wet soil sample lb) / U	Damp Unit Weight	y :	= (weight of wet soil s	sample lb) /				0							
Damp Unit Weight (Volume of soil sample ft') 0 0			(Volume of soil sam	nple ft <sup>2</sup> )	-			0							
Weight of Wet Volume of Soil Result 0		Weight of Wet	Volume of Soil	Result	lb/ft <sup>3</sup>			0							
arrente in soil / bag 19680 g 19680 g	Dry Unit Weight	0	= (woight of dry soil)	#DIV/U!				0					soil/bag	19680 g	268.8 g
$y_{\rm D}$ - (weight of dry solid anippe to)/		УD	- (weight of dry solls	sample ib) /										8	8
Dry Unit Weight Weight Wolume of Goil Deput		Waight of Dru	(Volume of Soil Sail	Ipie It )	r –			0					bag	123.7 g	237.69 g
Weight of Div         Volume of Soil         Result         0         1955.3 g         31.11 g           0         0         0         0         0         1955.3 lz         0         1955.3 lz         19555.3 lz         1955.3 lz         1955				#DIV/01	lb/ft <sup>3</sup>			0						19556.3 g 19 5563 kg	31.11 g
	Relative Density		PD = (mass of col	ide) /				-					4		
(Volume of Solids X) = 0		(Volume of solids X p of water)				0	$n = 1.911  {\rm g/cm}^3$		3						
Relative Density $p = 1.811$ g/cm				o	1	Question 1	p =	1.811 g/cm	2						
Mass of Solids Volume of Solids Result $p_D = 1.377 \text{ g/cm}^2$		Mass of Solids	Volume of Solids	Result			p <sub>D</sub> =	1.377 g/cm							
e = 0.93 cm <sup>3</sup>		67.9	25.526	2.660032908			e =	0.93 cm <sup>°</sup>							
e = (Volume of Voids) / w% = 31.52%	Void Ratio		e = (Volume of Vo	oids) /			w% =	31.52%							
Void Ratio (Volume of solids) n = 0.482		(Volume of solids)					n =	0.482							
Volume of Voids Volume of Solids Result S = 0.9		Volume of Voids	Volume of Solids	Result			S =	0.9							
23.774 25.526 0.931364099 cm <sup>3</sup>		23.774	25.526	0.931364099	cm3										
S = (Volume of Water) / Question 2 .844 = 1.693 / x	Degree of Saturation .		S = (Volume of Wa	ater) /		Question 2	.84	4 = 1.693 / x							
(Volume of Voids) 1.693 x .844 = 1.429		(Volume of Voids)				1.693 >	.844 = 1.429								
Volume of Water Volume of Voids Result Dry mass = 1.429 kg		Volume of Water Volume of Voids Result			1		Dry mass = 1.429 kg								
21.4 23.774 0.900143013		21.4	23.774	0.900143013											
n = (Volume of Voids) /	Porosity		n = (Volume of Vo	pids) /											
Porosity (Total Volume)		Volumo of Voida	(Total Volume	e) Rocult											
23.774 49.3 0.482231237		23.774	49.3	0.482231237											

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