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تقارير

لاب جيو

إعداد : ريناد الرفاعي

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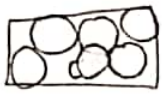
5-11-2020 , Exp -2- , Sec. 3

#	(Felsic / Intermediate Mafic)	Texture	Rock Name	Sketch the texture
1	Mafic	Glassy	obsidian	
2	Mafic	Vascular	Scoria	
3	Felsic	phanertitic	Granite	

1) a- Mafic darker

2) c- obsidian

3) a- aprophary

4) b- Because they contain large amount of silica

5) b- andesite

	Rock major minerals
1	potassium
2	pyroxene, and plagiclase feldspar
3	quartz, alkali feldspar, and plagioclase

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#	Color	luster (metalic /Non)	Streak (color /Nostreak)	Hardness No.	cleavage/ fracture	special characteristcs	Mineral Name
1	white - gray - yellow	Non	No	2.5-3.5	C (3-direction)	react with HCL , launch a bad smell	Calcite
2	black and gray	Metallic luster	black streak	1-2.5	F	No reaction with Hcl	Graphite
3	white to gray	Non	No	6	C (2-direction)	No reaction with HCL	plagioclase feldspar

Q1 : a- Talc

Q2 : b- natural, inorganic, and has a crystalline structure

Q3 : a- streak

Q4 : d- non of them

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Sec. 3

5- November - 2020

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Exp-3 12-11-2020

#	color	Texture (Grain size)	Sedimentary rock type	Reaction with HCL (Y/N)	Sediment location	Rock name
1	White	clay size (very fine texture)	chemical (organic)	Yes (Y)	Far shelf	Chalk
2	whitish with grey	15% matrix of sand and the rest of larger grains with varying sizes. [Gravel size]	clastic	No (N)	Beach	Conglomerate
3	white	Sand size	Clastic	No (N)	Beach	Sand stone

Q_1 : c - Sedimentary

Q_2 : C - Lithification or cementation

Q_3 : b - gypsum

Q_4 : The shape of the larg particls ; Breccia → are composed of angular glaver, but Conglomerate → composed of round gravel.

Q_5 : It forms mainly from plant debris that usually accumulate in a swamp environment. it composed of Carbon from altered plant remains. It is combustible and it used as fuel.

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Sec 3 , Thuersday 19-11-2020 , Geo Exp-4.

Q1 :

sample No#	Foliation (Foliated / weakly Foliated / Non-foliated)	Texture (Grain size) Fine / Medium coarse	sketch the texture	Parent Rock	Reaction with Hcl (Y / N)	Rock name
1	Foliated	Medium to coarse		shist granite or volcanic rock	No (N)	gneiss
2	Foliated	Medium to coarse		phylite	No (N)	Schist
3	Non- Foliated	Fine		Coal bitminous	No (N)	Anthracite

Q2 :

1) C- slateic texture

2) a- gneiss, schist, phyllite, slate

3) D- migmatite

4) a- Marble

b- Schist

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Sec 3 , Thuersday 26-11-2020 , Exp-5-

→ $WC * 100\% = \frac{\text{Wt of water}}{\text{dry weight}} * 100\% = \frac{W - W_B}{W_B} * 100\%$

$= \frac{575 - 574}{574} * 100\% = 0.1742\% \simeq 0.17\%$

⇒ 2^N slake durability index $* 100\% = \frac{\text{Wt of Sample } 2^{nd} \text{ cycle}}{\text{dry weight}} * 100\%$

$= \frac{W_A}{W_B} * 100\% = \frac{571}{574} * 100\% = 99.477\% \simeq 99.5\%$

Water content * 100 %	WC	0.17 %
2nd slake durability index * 100 %	ID_2	99.5 %

* Type 1

- The edges of the Samples has a slight change.
- and the water became impure.
- So, the pieces almost Unchanged.

* Extremely High [96 - 100 ⇒ ID_2]

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3-12-2020, Thuersday , Sec -3-

* Sample measurments :-

Sample #	Diameter (mm)	Length (mm)	$\frac{D}{L}$	Case test	D_e, (mm)	D_e^2, (mm)
1 core Sample	68	138	0.49	Diametral	68	4624
2 core Sample	54	80	0.675	Diametral	54	2916
3 Lump	65	50	1.35	Axial	64.3	4138

* Calculations :

Sample #	P (N)	I_s (Mpa) P/D_e^2	F $(D_e/50)^{0.45}$	$I_{s(50)}$ (Mpa) $F \times I_s$	σ_{uc} (MPa) $24 \times I_{s(50)}$	Strength Classification
1	$0.98 * 10^5$ 980	0.211	1.15	0.2415	5.796	low
2	$16.4 * 10^3$ 16400	2.98	1.19	3.5462	85.1	Very High
3	$1.46 * 10^3$ 1460	0.35	1.12	0.392	9.408	Medium

* Comments : When the length increased , the test differed :

Sample 1 : Thin slabs break by Heavy hand pressure

Sample 2 : Lumps broken by Heavy hammer blows

Sample 3 : Thin slabs break by Heavy hand pressure

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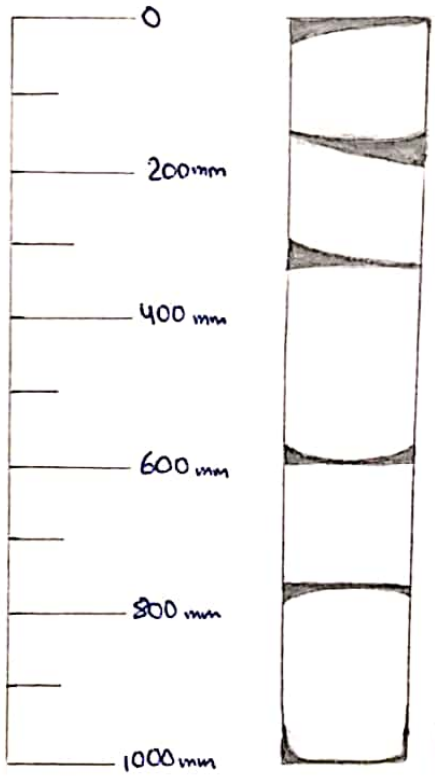
Sec -3 , Thuersday 10 - 12 - 2020 Exp-7

RQD Data Sheet

Core diameter 5cm			Length of core run 100 cm		
length pices (cm)	Sketch of Core		RQD %	LR %	Discribitio of rock quality
16.4 cm 15 cm 27.2 cm 16.7 cm 18.9 cm			$\%100 * \frac{16.4 + 15 + 27.2 + 16.7 + 18.9}{100}$	$\%100 * \frac{16.4 + 15 + 27.2 + 16.7 + 18.9}{100}$	Excellent RQD = (90 - 100)
			94.2 %	94.2 %	

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Sec -3-

Sample num.	Sample description	$\theta(1)$	$\theta(2)$	$\theta(3)$	θ Avg.
1	coarse size > 2mm	x = 16 cm y = 17 cm $\theta_1 = 34.5°$	x = 15 cm y = 10 cm $\theta_2 = 33.69°$	x = 17 cm y = 12 cm $\theta_3 = 35.21°$	34.46°
2	Sand size 1 - 1/2 mm	x = 14.5 y = 7 $\theta_1 = 25.76°$	x = 16.5 y = 8.5 $\theta_2 = 27.25°$	x = 16 y = 8 $\theta_3 = 26.56°$	26.52°

Comments :

θ_{Avg} for Coarse size (34.46°) is > than θ_{Avg} for Sand size (26.52°)

∴ θ_{Avg} for Coarse size is more steeper than θ_{Avg} for Sand size.

1. Yes, Saturated Sand makes the greatest angle of repose that is 45°, but it cannot maitain it for a longer time, because the wate in the voids will reduce the fraction. and the angle of repose will reduce.
2. Dry. Due to the big friction between its particles.

3. Yes, of course, because the difference between the slope angle and the angle of repose will Surly causes Mass movement.

4. the Winter mohthes [November - December - January - February]

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