

**PRACTICAL TEST : LA BOUILLIDE - QUESTION FORM****實作：LA BOUILLIDE –考卷**

Below is a list of questions. Read all the instructions carefully and complete the answer section at the end of the file.

試題如下，仔細閱讀須知，回答下列問題。

**Question 1: The outcrop B corresponds to... (one possible answer)**

- 1- a sedimentary rock characterized by successive beds marking a stratification.
- 2- a volcanic rock characterized by a uniform appearance and having scattered minerals (around 1 mm).
- 3- a plutonic rock with a massive appearance consisting solely of cohesive minerals (3-6 mm).
- 4- a metamorphic rock whose major deformation is revealed by its schistosity.

第 1 題：露頭 B 是? (單選)

- 1- 沉積岩，連續地層出露，呈現層理。
- 2- 火山岩，單一外觀，有散狀分布的礦物，約 1 mm 大。
- 3- 深成岩，塊狀，單一聚集礦物，3 - 6 mm 大。
- 4- 變質岩，主要的變形呈現片理。

**Question 2: The rock forming outcrop B... (several possible answers)**

- 1- is a succession of limestone beds.
- 2- is a succession of limestone and clay beds.
- 3- shows non-crystallized silica nodules called flint.
- 4- is a magmatic rock.
- 5- is intersected by a horizontal intrusion of basalt.
- 6- is a schist.

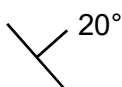
第 2 題：形成露頭 B 的岩石是? (多於一個選項)

- 1- 一套石灰層
- 2- 一套石灰岩和黏土互層
- 3- 為無結晶的二氧化矽團塊，即燧石
- 4- 火成岩
- 5- 被水平侵入的玄武岩截切
- 6- 片岩

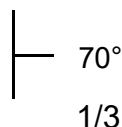
**Question 3: From the structural symbols below, choose the one that best matches your measurements on the outcrop B: (one possible answer)**

第 3 題：下列的構造符號中，哪一個是你在露頭 B 量到的結果? (單一選項)

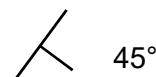
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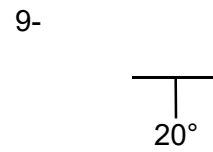
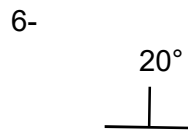
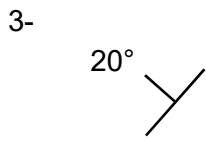
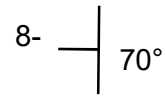
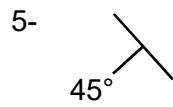
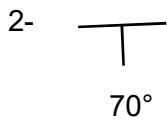


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**Question 4: The rock presented on outcrop A... (several answers possible)**

- 1- is identical to that of outcrop B.
- 2- is different from that of outcrop B.
- 3- shows flint nodules in contrast to outcrop B.
- 4- contains igneous intrusions.

第 4 題：露頭 A 的岩石是? (多於一個選項)

- 1- 與露頭 B 的岩石相同
- 2- 與露頭 B 的岩石不同
- 3- 和露頭 B 不同，露頭 A 有燧石團塊
- 4- 有火成侵入岩

**Question 5: Site A has been identified as a brittle deformation zone. Select the description that matches your observations. (one answer only)**

- 1- The dips in the layers between site A and site B are different by more than 10 degrees.
- 2- Several changes in lithology are observed at a nearby altitude.
- 3- The presence of cargneule is observed at site B.
- 4- The rock at the site is fractured, it is a breccia.
- 5- The rock has other indications of brittle deformation.
- 6- Fracture planes are visible and can be seen as indications of relative movement of the rock blocks.

**What are the cargneules ?**

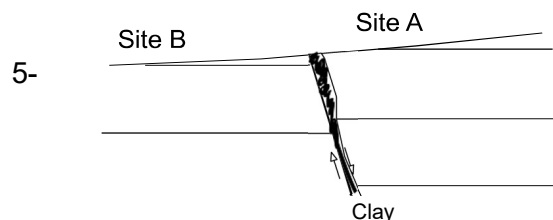
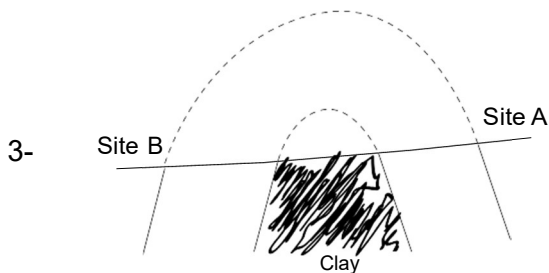
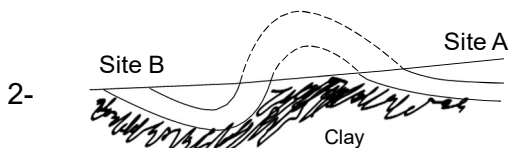
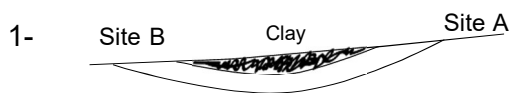
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第 5 題：A 站已鑑定為破碎變形帶，選出符合你觀察的描述: (單一選項)

- 1 在 A 站和 B 站的地層傾斜角度，相差超過 10 度
- 2 在相同高度的附近地點，有不同岩性
- 3 B 站可見 cargneule 岩 (何謂 cargneule 岩? 請見手冊最後一頁的補充說明)
- 4 此站的岩石破碎，是角礫岩
- 5 此站的岩石有其他脆性變形的跡象
- 6 破裂面明顯可見，可看出岩塊相對運動的跡象

**Question 6: Among the diagrams below, indicate the one that best corresponds to your observations. (Only one answer possible)**

第 6 題：下列哪圖最符合你的觀察結果? (單一選項)



**Question 7: The presence of clay is noted on the surface. Its initial position deduced from the field observation indicates that... (several answers possible)**

- 1- the rocks of the Bathonian (167 Ma) are an unconfined aquifer that allows a river to form.
- 2- the rocks of the Bajocian (171 Ma) are an unconfined aquifer that allows a river to form.
- 3- the significant folding of the layers allows the creation of reservoirs made watertight by the presence of clay.
- 4- the underlaying clay along the fault indicates that there is a layer of underground clay.

第 7 題：此地表有黏土層出露，觀察到的黏土層初始位態可以告訴你: (多於一個選項)

- 1 - 167 百萬元所形成的 Bathonian 岩層，為一開放的儲水層，它是此河流形成的構成條件

- 2 - 171 百萬年所形成之 Bajocian 岩層，為一開放的儲水層，它是此河流形成的構成條件
- 3 - 此岩層之褶皺與黏土層的存在，形成了封閉儲水層
- 4 - 斷層的底層黏土表示地底下有黏土層

**Question 8: Fill in the table with the values measured at site C. (see answer sheet)**

第 8 題：在 C 站量得的資料，填入答案卷的表中。(見答案卷)

**Question 9: At site C, the map indicates the presence of a spring. Choose the correct statement for the scenario:**

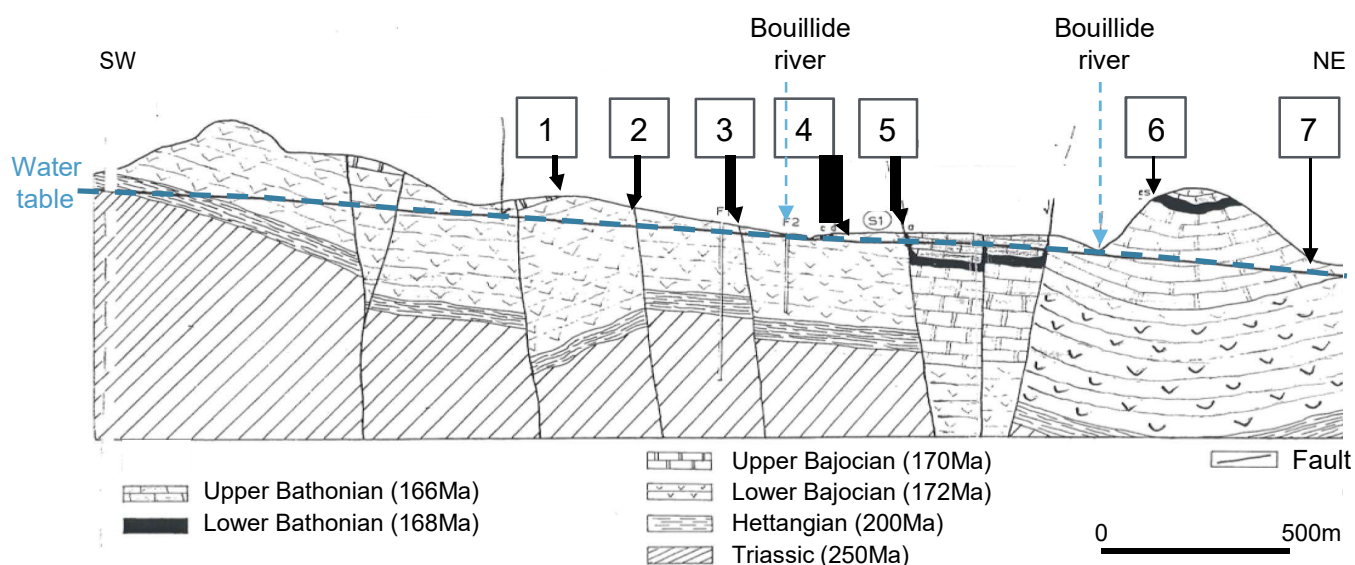
- 1- The spring is at the same level as the river. The waters mix in the bed of the river.
- 2- The spring is at a higher level than the river. The spring flows into the river.
- 3- The spring is at a lower level than the river. It does not act as a source. The river water partially escapes from its bed.

第 9 題：在 C 站，圖顯示有湧泉，下列哪一選項的敘述正確？

- 1 湧泉和河同一高度，這些水在河床混合了
- 2 湧泉高度比河水高，泉水流入河
- 3 湧泉高度比河水低，泉水不是源頭，部分河水從地層流出

**Question 10: On the answer sheet, mark the positions of the 4 sites where you made your measurements and observations using the cross section below. (numbers can be used multiple times, once or not at all.)**

第 10 題：在答案卷中，用下列的剖面圖，選出你做測量觀察的 4 個站位置(號碼可用多次、一次或不用)。



**Question 11: Using the data from the site and the cross section above, select the best hypothesis to explain the difference in the level of the river along its course through the park.**

- 1- The presence of a fault allows the water to escape or reappear at random along the course of the Bouillide.
- 2- The folding of the area raises the base of the aquifer, which brings the water out of the ground.
- 3- A collapse basin has retained a layer of shallow clay at the level of Bouillide Park. The water emerges from underground when it reaches this layer.

第 11 題：用你的測量資料和上方的剖面圖，下列哪一選項最能說明公園中河道中的河水具有不同的高度？

- 1 斷層使水在 Bouillide 河道上任意地流走或再出現
- 2 此區的褶皺使儲水層的底部變高，讓地面的水流走
- 3 因為盆地塌陷，讓 Bouillide 公園地表有一薄黏土層，而地下水藉由此黏土層溢流出地面