

Surname	Centre Number	Candidate Number
Other Names		2



GCE A level

1215/01

**GEOLOGY - GL5
THEMATIC UNIT 1
QUATERNARY GEOLOGY**

P.M. THURSDAY, 14 June 2012

ONE of TWO units to be completed in 2 hours

			Examiner only
Section A	1.	15	
Section B	2.	25	
	3.		
	4.		
Total		40	

1215
010001

ADDITIONAL MATERIALS

In addition to this and one other examination paper, you may require a calculator.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **question 1** in Section A (15 marks) and **one** question from Section B (25 marks).

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

SECTION A

1. **Figure 1a** is a geological map of Gower, South Wales. **Figure 1b** is a diagrammatic cross-section through a series of Quaternary sediments on the coast of Gower (with ¹⁴C dates given for some sediments).

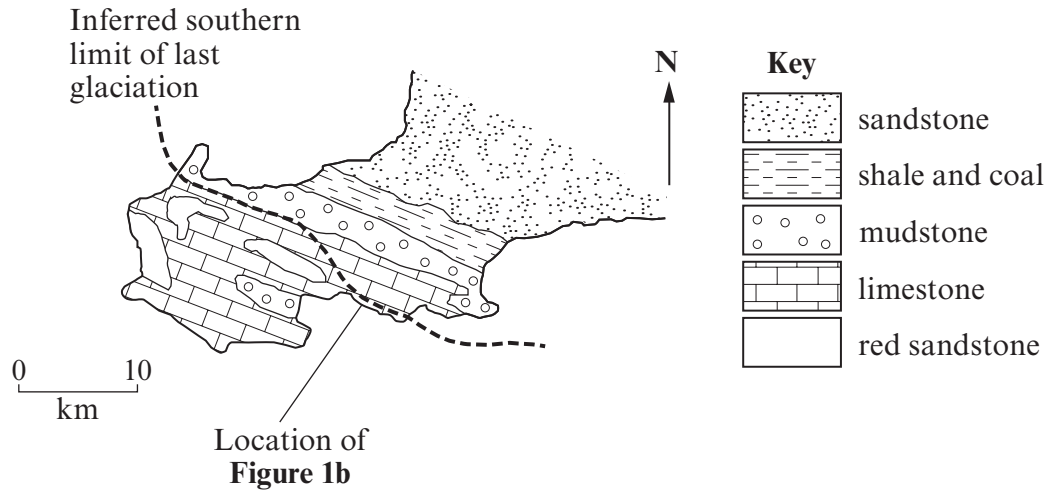


Figure 1a

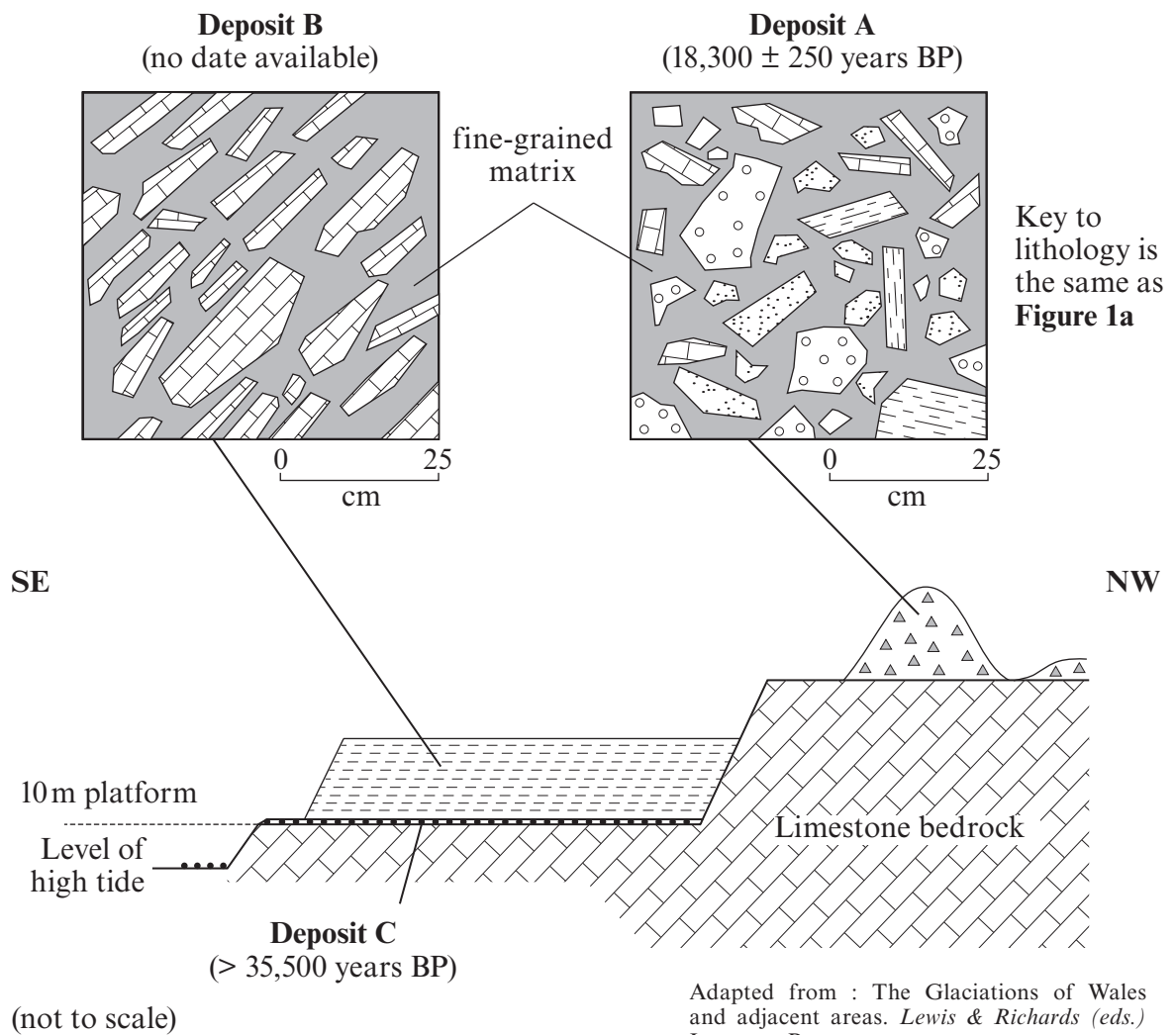


Figure 1b

Adapted from : The Glaciations of Wales and adjacent areas. *Lewis & Richards (eds.)* Logaston Press

(a) Using **Figures 1a** and **1b**:

(i) Describe **two** similarities between **Deposit A** and **Deposit B** shown in **Figure 1b**. [2]

.....
.....
.....

(ii) Describe **two** differences between **Deposit A** and **Deposit B** shown in **Figure 1b**. [2]

.....
.....
.....

(iii) **Deposit A** has been interpreted as having been deposited by a glacier. Evaluate the evidence that supports this interpretation. [3]

.....
.....
.....
.....

(iv) **Deposit B** has been interpreted as being deposited in a periglacial environment. Evaluate the evidence that supports this interpretation. [3]

.....
.....
.....
.....

(b) Using **Figure 1b**:

The 10 metre platform and **Deposit C** is an example of a raised beach.

(i) Suggest how **Deposit C** would be different from **Deposit B**. [2]

.....

.....

.....

(ii) A student wrongly concluded that **Deposit C** was laid down after the glaciation that produced **Deposit A**. Explain the geological processes that lead to the deposition of **Deposit C** before **Deposit A**. [3]

.....

.....

.....

.....

Total 15 marks

SECTION B

Answer one question only.

Write your answer in the remaining pages of this booklet.

2. Evaluate the statement:
“*There is a strong relationship between geology and topography that results in a variety of relief forms.*” [25]
3. (a) Describe how the Hjulstrom Graph can be used to enable the reconstruction of earlier environments recorded in sedimentary rock sequences.
- (b) Evaluate the use of sedimentary structures in interpreting the physical processes that lead to the formation of turbidites. [25]
4. (a) Describe the evidence from ice cores for climatic fluctuations.
- (b) Evaluate how fossils can be used to provide evidence for climatic fluctuations in Britain during the Quaternary period. [25]

A series of horizontal dotted lines spanning the width of the page, intended for handwritten responses or annotations.

A series of horizontal dotted lines for writing, spanning the width of the page.

Ruled writing area consisting of 20 horizontal dotted lines.

A series of horizontal dotted lines spanning the width of the page, intended for handwritten notes or answers.



GCE A level

1215/01-A

GEOLOGY GL5

P.M. THURSDAY, 14 June 2012

REMINDER

A copy of this reminder should be given to all candidates before the examination begins and should be available to all invigilators.

INSTRUCTIONS TO CANDIDATES

You are required to complete **two** units during this 2 hour examination.

You will be given both units at the beginning of the examination and are advised to spend approximately 1 hour on each.

Please ensure that you write your name, centre number and candidate number in the spaces on the front cover of both units. At the end of the examination you should place one unit inside the other.

INFORMATION FOR INVIGILATORS

Candidates are required to complete **two** units during this 2 hour examination.

Both units should be given to candidates at the beginning of the examination and they should be advised to spend approximately 1 hour on each.

Candidates should be reminded that their name, centre number and candidate number should be written in the spaces on the front cover of both units. At the end of the examination they should place one unit inside the other.