

Surname	Centre Number	Candidate Number
Other Names		2



**GCE A level**

1215/01



**GEOLOGY – GL5  
Thematic Unit 1  
Quaternary Geology**

A.M. TUESDAY, 16 June 2015

ONE of TWO units to be completed in 2 hours

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
<b>Section A</b> 1.	15	
<b>Section B</b> 2.	25	
3.		
4.		
<b>Total</b>	40	

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**ADDITIONAL MATERIALS**

In addition to this and one other examination paper, you will need 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 sketch of a cliff section of unconsolidated Quaternary sediments at Glanllynau, North Wales. **Figure 1b** is a photograph of the Criccieth Till. **Figure 1c** is a photograph of the fluvio-glacial deposit.

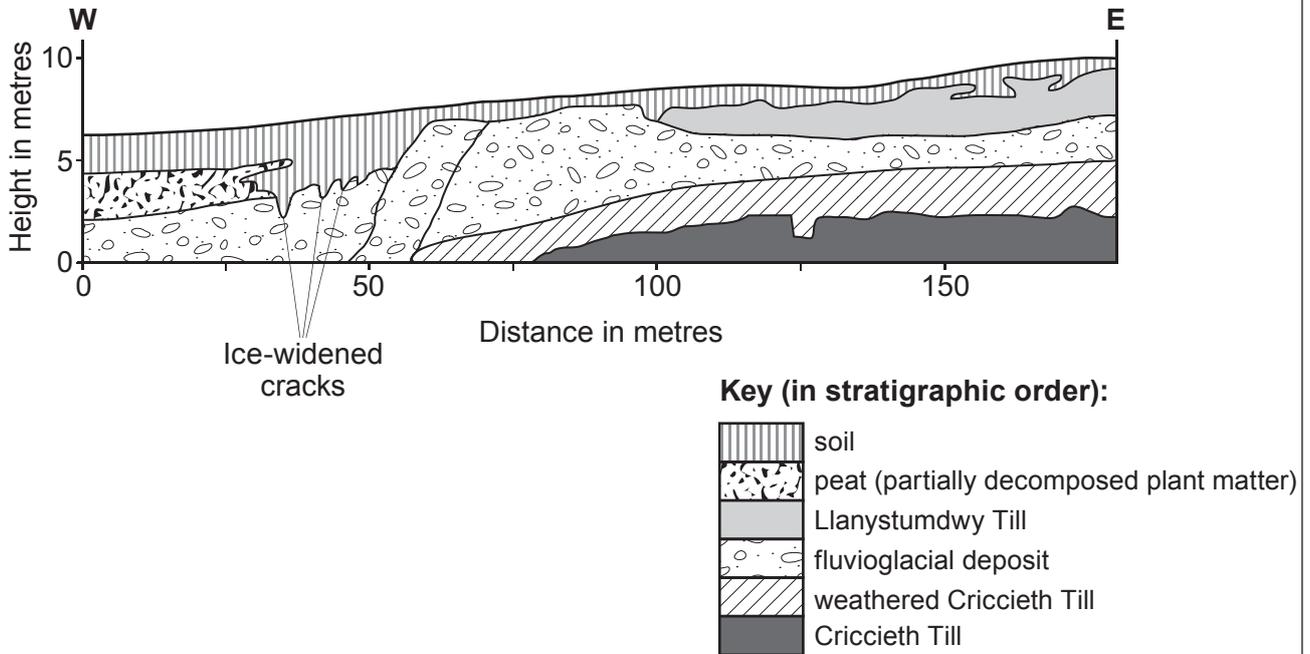


Figure 1a

Criccieth Till



Figure 1b

fluvio-glacial deposit



Figure 1c

The pen used as a scale is 12 cm long.

- (a) Refer to **Figures 1a** and **1b**.

- (i) Describe the texture of the Criccieth Till deposit.

[2]

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- (ii) The Criccieth and Llanystumdwy Tills have been interpreted as being of glacial origin. Explain how the texture of the Criccieth Till supports this glacial origin. [2]

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- (iii) Explain the evidence for a break in sedimentation between the Criccieth Till and the fluvioglacial deposit. [2]

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(b) Refer to **Figures 1a, 1b and 1c.**

- (i) Explain how the texture of the fluvioglacial deposit in **Figure 1c** supports the interpretation of it being formed by fluvioglacial processes. [2]

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- (ii) Suggest how changing climatic conditions may have led to the deposition of the fluvioglacial deposit on top of the Criccieth Till. [3]

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(c) Refer to **Figure 1a.**

Explain the evidence for climatic fluctuations after the deposition of the fluvioglacial deposit. [4]

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**SECTION B**

*Answer one question only.*

*Write your answer in the remaining pages of this booklet.*

2. (a) Explain the links between the continental ice sheets and sea level.
- (b) Evaluate how the geological evidence for sea level change can be used in the interpretation of Quaternary glacial and interglacial stages in Britain. [25]
3. (a) Explain how sediments typical of turbidite environments are the result of the physical processes in a turbidity flow.
- (b) Evaluate the use of sedimentary structures in the interpretation of turbidite environments. [25]
4. “*Geological structures and bodies result in a variety of relief forms.*”  
Evaluate this statement with reference to the relationship between geology and topography. [25]

Examiner  
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**Acknowledgements**

*Adapted from: Geological Conservation Review; Quaternary of Wales Nature Conservancy Council*

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**GCE A level**

1215/01-A



S15-1215-01A

**GEOLOGY – GL5**

A.M. TUESDAY, 16 June 2015

### **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.