

Surname	Centre Number	Candidate Number
Other Names		2



GCE A level

1215/03



GEOLOGY – GL5
Thematic Unit 3
Geological Evolution of Britain

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

1215
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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** shows the simplified geology of the area around the Shap Granite in north west England.

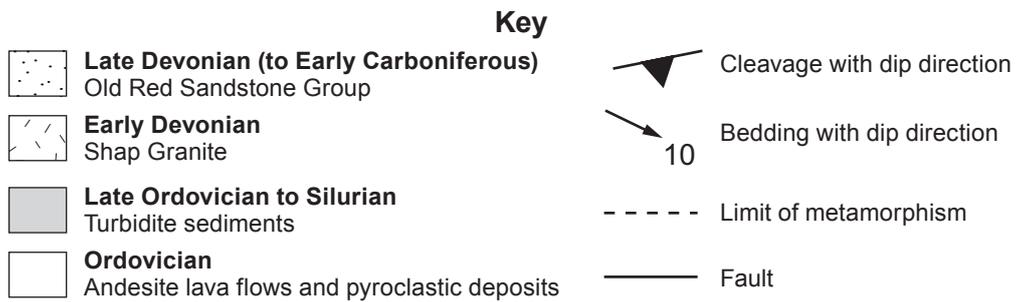
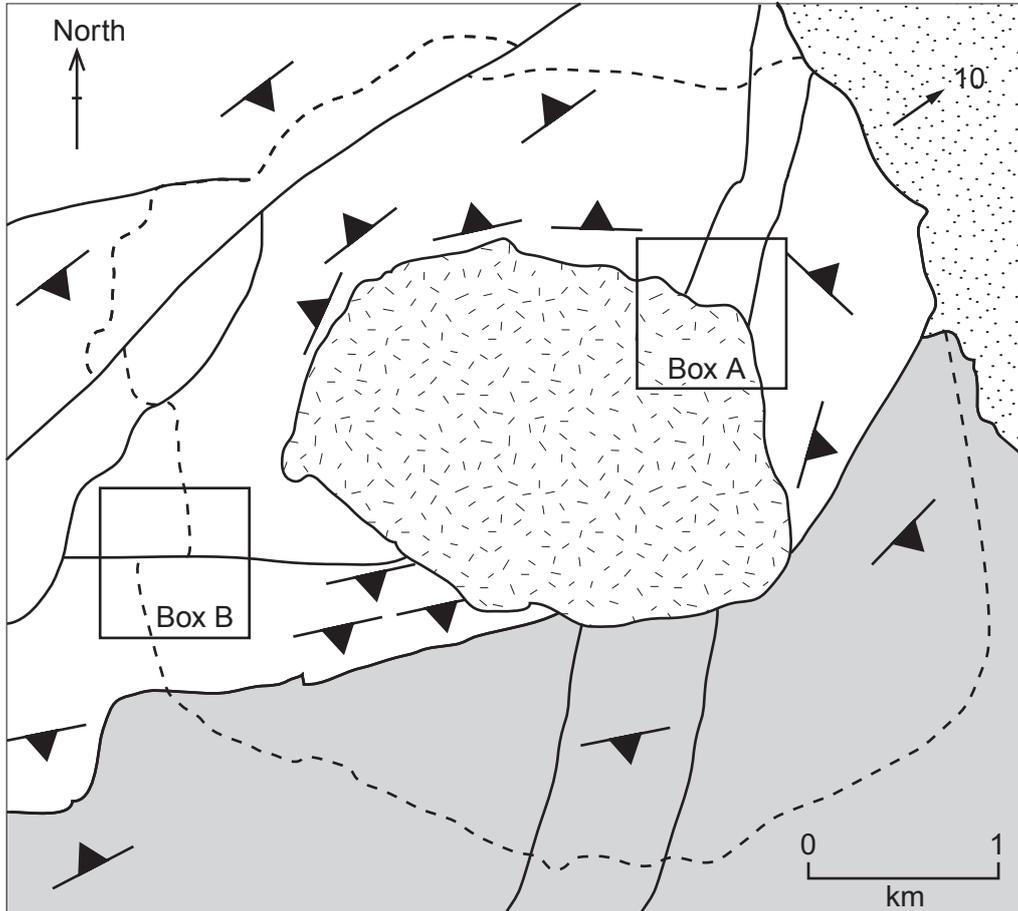


Figure 1a

Refer to **Figure 1a**.

- (a) Determine the relative ages of the events listed in **Table 1**. [2]

Box	Events	Relative Age	Explanation
A	1) Faulting 2) Intrusion of Shap Granite	Older event is	
B	1) Faulting 2) Contact metamorphism	Older event is	

Table 1

- (b) Explain **two** pieces of evidence that might suggest that the cleavage is older than the Shap Granite. [2]

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- (c) A student concluded that the **rocks** and **structures** formed before the Late Devonian in **Figure 1a** were the product of the Caledonian Orogeny. Evaluate this conclusion. [4]

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Figure 1b is a photograph of the Late Devonian (Old Red Sandstone Group) sedimentary rocks exposed just above the unconformity in the north eastern part of **Figure 1a**.

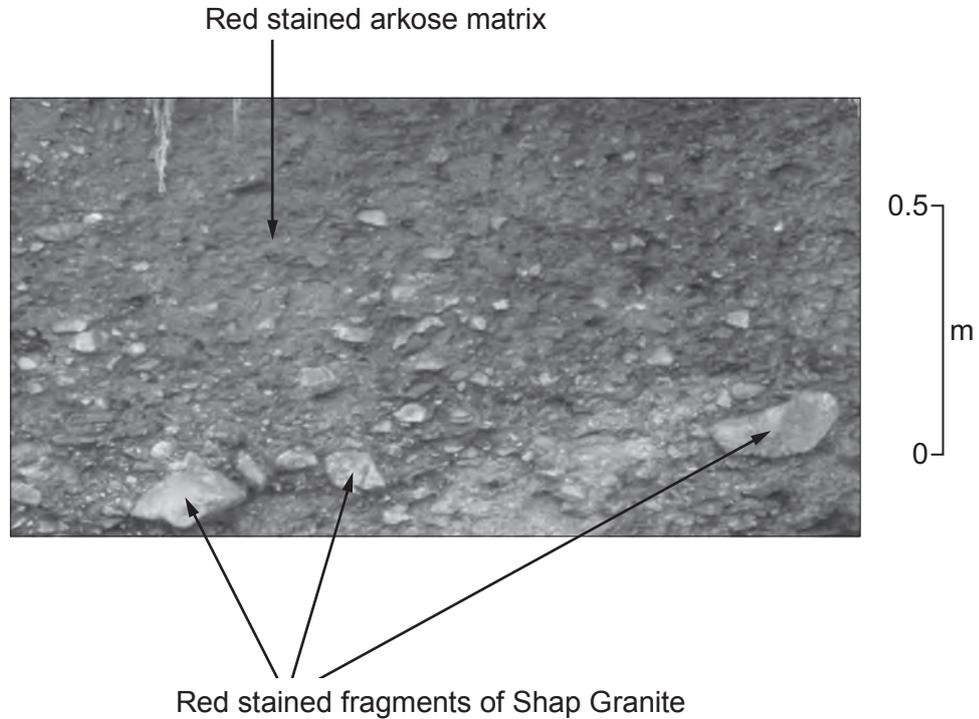


Figure 1b

(d) State the evidence in **Figures 1a** and **1b** for an unconformity at the base of the Late Devonian Old Red Sandstone Group. [3]

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(e) With reference to **Figure 1b** only, state with reasons, the environment of deposition of the Late Devonian sedimentary rocks. [4]

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SECTION B

Answer **one** question only.

Write your answer in the remaining pages of this booklet.

2. (a) Describe the sedimentary and fossil evidence for Britain undergoing major environmental change during the Upper Palaeozoic.
- (b) Evaluate the assumptions made in interpreting this evidence. [25]
3. (a) Explain how palaeomagnetic data including:
- magnetic inclination
 - apparent polar wandering curves
- can be used to determine palaeolatitude changes through time.
- (b) Evaluate the assumptions made in using these methods. [25]
4. “During the Tertiary, Britain was subject to two contrasting plate tectonic regimes.” Describe and evaluate the geological evidence for this statement. [25]

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