Surname	Centre Number	Candidate Number
Other Names		2

GCE A Level – LEGACY

1215/01

S18-1215-01

GEOLOGY – GL5
Thematic Unit 1
Quaternary Geology

THURSDAY, 7 JUNE 2018 – MORNING

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**	

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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.

Examiner only

SECTION A

1. **Figure 1a** is a map of the sea floor in the Grand Banks area of the northwestern Atlantic Ocean showing the effect of a turbidity current in 1929.

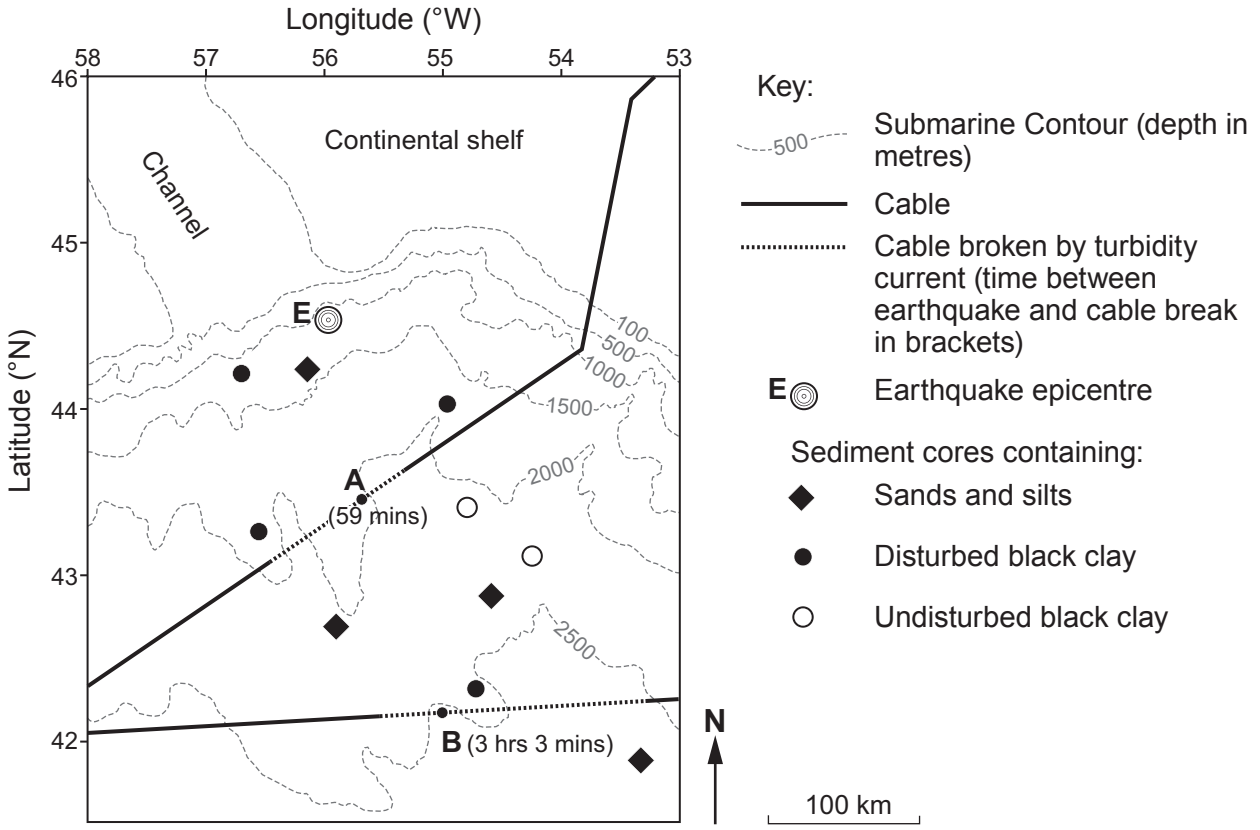

Figure 1a

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

(i) With reference to the breaking of the cables, draw an arrow on **Figure 1a** labelled T (T→) to show the direction of flow of this turbidity current. [1]

(ii) Suggest how this turbidity current was caused. [3]

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(iii) Calculate the speed of **this** turbidity current between points **A** and **B** in km min^{-1}. Show your working. [2]

..... km min^{-1}

Examiner only

Figure 1b is a model of part of the deep ocean floor showing sedimentary logs of cores taken in two locations marked **X** and **Y**.

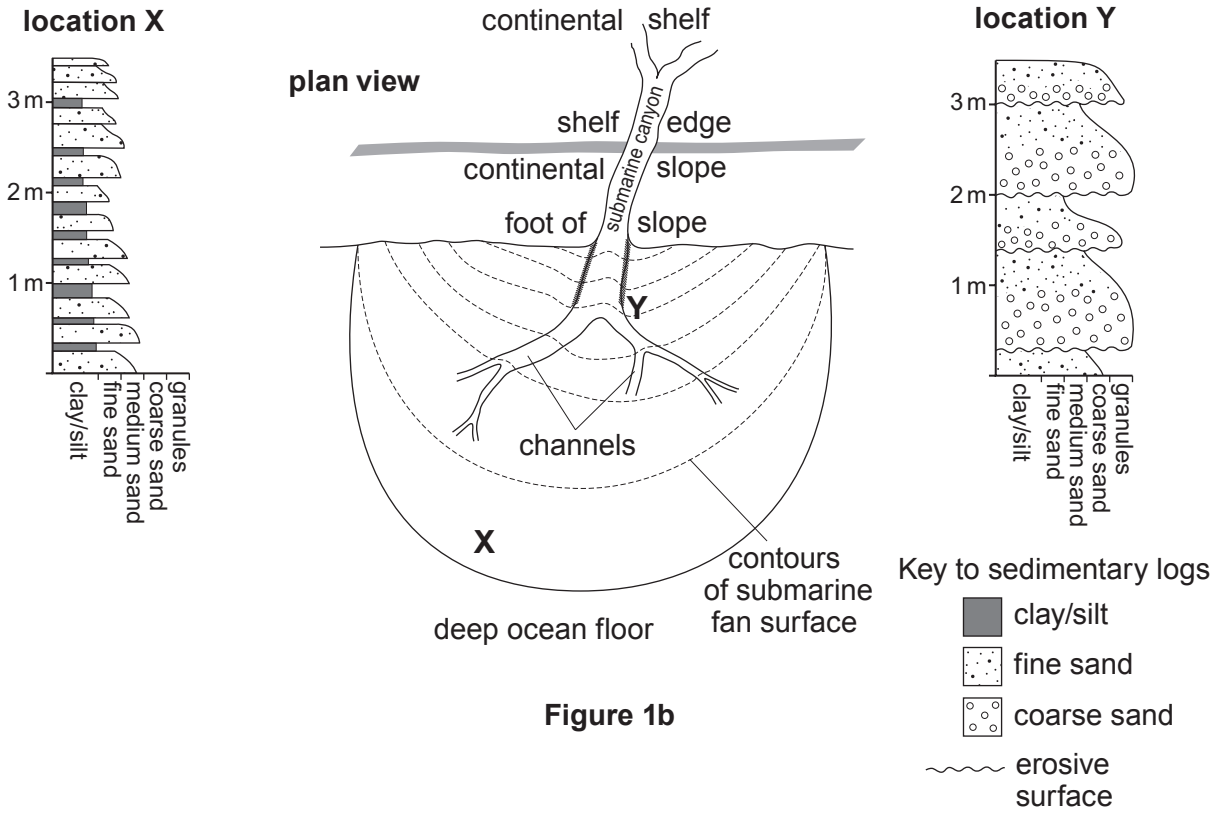

Figure 1b

(b) Refer to **Figure 1b**

(i) Describe **two** differences between the sedimentary logs at locations **X** and **Y**. [2]

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(ii) Explain how the differences are caused by the physical processes in a turbidity current. [4]

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(c) Using your knowledge, describe how the Hjulstrom graph could be used to interpret the processes in a turbidity current that formed the sediments at **Location Y** on **Figure 1b**. [3]

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15

SECTION B

Answer **one** *question only.*

Write your answer in the remaining pages of this booklet.

2. *"The study of modern carbonate environments enables us to interpret the link between process and product."*

Evaluate this statement with reference to the interpretation of ancient carbonate environments. [25]

3. *(a)* Describe the evidence from fossils for climatic fluctuations in Britain during the Quaternary period.

(b) Evaluate the use of radiocarbon (^{14}C) dating in establishing a timescale for these climatic fluctuations. [25]

4. Evaluate the significance of:

(a) geological structures and bodies

and *(b)* glaciation

in the formation of a variety of relief forms. [25]

Turn over.

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END OF PAPER

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