OCR
RECOGNISING ACHIEVEMENT

SPECIMEN

Advanced GCE

GEOLOGY

F796

Unit F796: Evaluative Task

Specimen Task

For use from September 2008 to June 2009.

All items required by teachers and candidates for this task are included in this pack.

INFORMATION FOR CANDIDATES

- Evaluative Task

INFORMATION FOR TEACHERS

- Mark scheme.
- Instructions for Teachers and Technicians.

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Unit F796: Evaluative Task

Specimen Task

For use from September 2008 to June 2009.
Candidates answer on this task sheet.
Additional Materials:

hand specimen of greywacke
hand specimen of shale
scientific calculator

INSTRUCTIONS TO CANDIDATES

- Answer **all** parts of the task.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [ ] at the end of each part of the task.
- The total number of marks for this task is **20.**

ADVICE TO CANDIDATES

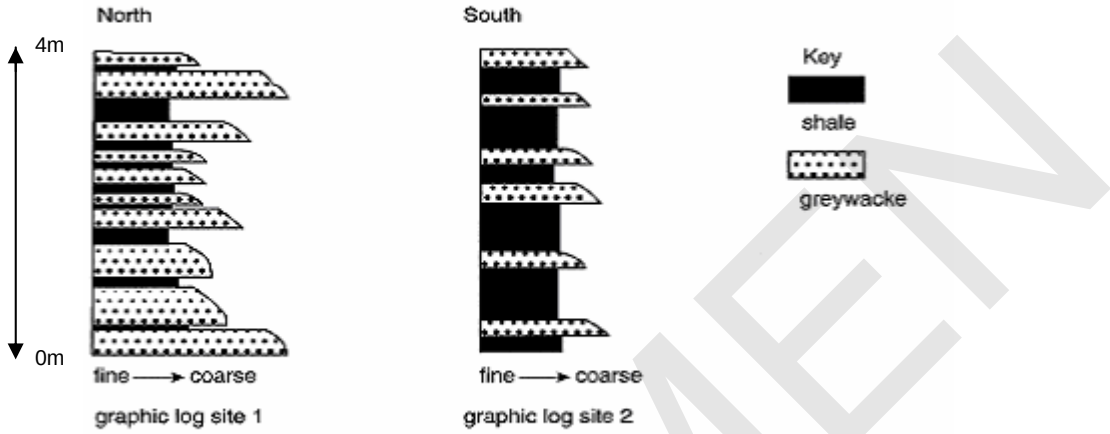
- Read each part carefully and make sure you know what you have to do before starting your answer.

FOR TEACHER'S USE		
	Max.	Mark
TOTAL	20	

This task consists of **7** printed pages and **1** blank page.

To identify and describe the environment of deposition using graphic logs and field data.

The two graphic logs show the same age of rocks, in the same sedimentary formation but drawn at two localities 15 km apart.



Analysis

1 Using the hand specimens describe the characteristic features of the greywacke and shale

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..... **[2]**

2 Analyse each of the two graphic logs and explain the differences between them.

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..... **[2]**

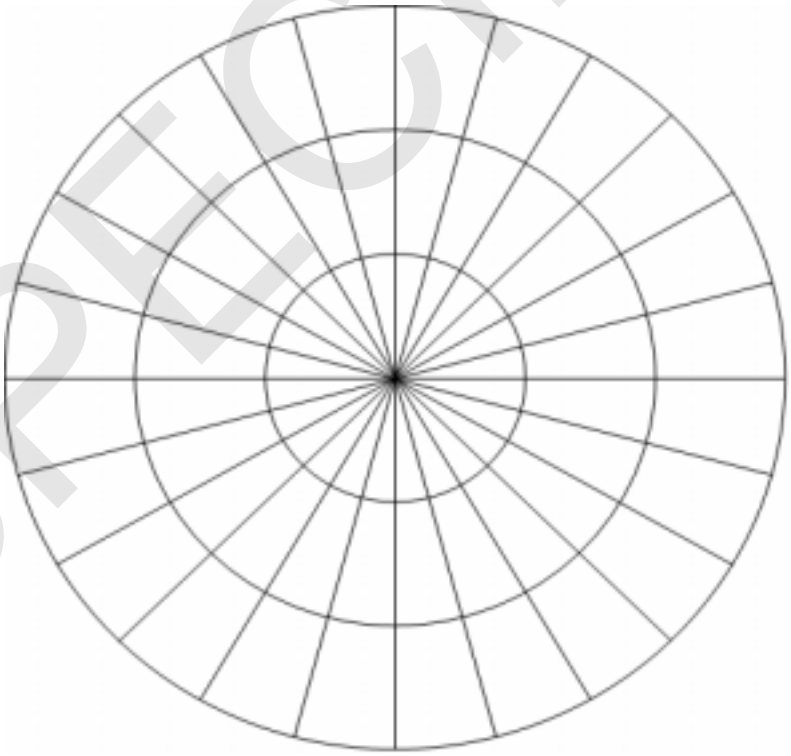
[Turn over

3 A number of sedimentary structures formed at the base of the greywacke units. The flute casts show a direction of flow and this was measured for 63 flute casts and the data is seen in the table below.

Plot a rose diagram and identify the flow direction of the flute casts. **[2]**

orientation	Number of flute casts
0 - 15° 181° - 195°	**17**
16° - 30° 196° - 210°	**12**
31° - 45° 211° - 225°	**8**
46° - 60° 226° - 240°	**6**
61° - 75° 241° - 255°	**2**
76° - 90° 256° - 270°	**1**

orientation	Number of flute casts
91° - 105° 271° - 285°	**2**
106° - 120° 286° - 300°	**1**
121° - 135° 301° - 315°	**0**
136° - 150° 316° - 330°	**2**
151° - 165° 331° - 345°	**3**
166° - 180° 346° - 360°	**9**



Interpretation

4 Use the analysis that you have done to draw a map or cross section to suggest how the two graphic log sites and the flute casts may be related geographically. **[2]**

5 Explain the likely environment of deposition for both logs 1 and 2 and any other sedimentary structures that may be associated with this type of sequence.

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.....**[3]**

Evaluation of methodology and results

6 Carry out research to find out what happened after the Grand Banks Newfoundland earthquake in 1927. Compare your interpretation of the data provided with the research data on the Newfoundland earthquake.

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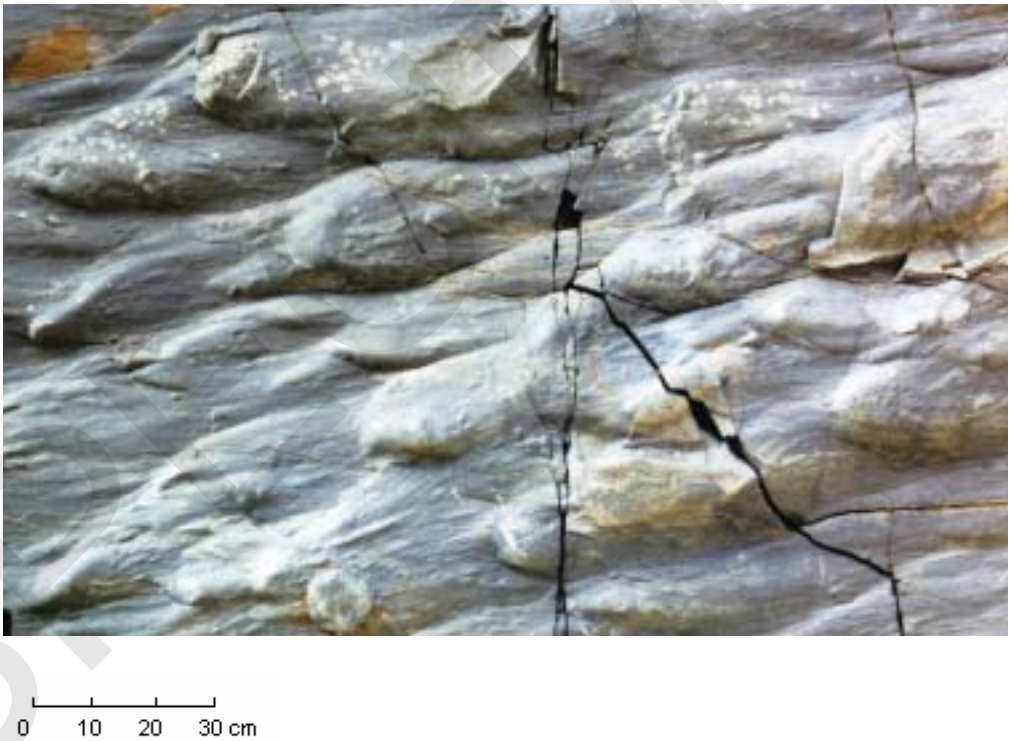
.....**[4]**

7 Suggest how you could improve the collection of field data on orientation of flute casts. Use the photograph below and sketches of flute casts in your answer to help explain the problems.



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.....**[2]**

[Turn over

8 Explain why fossils are very rare in rock sequences of shale and greywacke.

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..... **[3]**

Total [20]

END OF TASK

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Unit F796: Evaluative Task

Specimen Mark Scheme

The maximum mark for this task is **20**.

For use from September 2008 to June 2009.

[Turn Over

(c)

Analyse (ci) , interpret (cii), explain and evaluate the methodology (ciii) , results (civ) and impact of their own and others' experimental and investigative activities in a variety of ways

Question Number	Answer	Mark
1	greywacke colour, grain size, composition, graded bedding if present shale colour, grain size, composition, fissile bedding if present	[1] [1]
2	analyse graphic log 1 as proximal 2 as distal	[1]
2	identify differences between the two logs with log 1 mainly coarse greywacke with 10 turbidity flows and log 2 mainly fine shale with 6 thin greywacke beds	[1]
3	plot the data as a rose diagram	[1]
3	analyse the direction of current flow as north – south	[1]
4	map or cross section to show land in north, continental shelf to the south deep ocean basin further to the south	[1] [1]
5	description of turbidite environment of turbidity currents depositing greywackes and scouring out flute casts low energy deposition of the shales Tool marks and graded bedding also common	[1] [1] [1]
6	investigation of Grand Banks earthquake and turbidity flow with breaking of phone cables, later mapping of sediments deposited by the turbidity flow	[2]
6	comparison with this data which is a series of turbidity flows not just one, similarity of thickness of greywacke thinning with distance from source	[2]
7	sketch of flute casts with correct orientation	[1]
7	improvements to the methods used to measure flute casts	[1]
8	explanation of high energy destroying fossils, deep sea has few fossils, planktonic organisms delicate or dissolved or very small or scavenged	[1] [1] [1]
		[20]

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Unit F796: Evaluative Task

Instructions for Teachers and Technicians

For use from September 2008 to June 2009.

This document consists of **2** printed pages.

This task relates to Module 4, Unit F795. There is no time limit but it is expected that it can be completed within one timetabled session.

It is assumed that you will have completed the teaching of the above module before setting your students this task. This module has links to other modules which contain related learning experiences – please refer to your specification.

Candidates may attempt more than one Evaluative task with the best mark from this type of task being used towards the overall mark for Unit F796.

Preparing for the assessment

It is expected that before candidates attempt the Evaluative Task (Unit F796) they will have had some general preparation in their lessons. They will be assessed on a number of skills such as demonstration of skilful and safe practical techniques using suitable qualitative methods, the ability to make and record valid observations, and the ability to organise results suitably. It is therefore essential that they should have some advance practice in these areas so that they can maximise their attainment.

Preparing candidates

At the start of the task the candidates should be given the task sheet.

Candidates must work on the task individually under controlled conditions with the completed task being submitted to the teacher at the end of the lesson. Completed tasks should be kept under secure conditions until results are issued by OCR.

Candidates should not be given the opportunity to redraft their work, as this is likely to require an input of specific advice. If a teacher feels that a candidate has under-performed, the candidate may be given an alternative task. In such cases it is essential that the candidate be given detailed feedback on the completed assessment before undertaking another Evaluative Task. Candidates are permitted to take each task **once** only.

Assessing the candidate's work

The mark scheme supplied with this pack should be used to determine a candidate's mark out of a total of 20 marks. The cover sheet for the task contains a grid for ease of recording marks. To aid moderators it is preferable that teachers mark work using red ink, including any appropriate annotations to support the award of marks.

Notes to assist teachers with this task

Teachers must trial the task before candidates are given it, to ensure that the apparatus, materials, chemicals etc provided by the centre are appropriate. The teacher carrying out the trial must complete a candidate's task sheet showing the results obtained, and retain this, clearly labelled, so that it can be provided to the moderator when requested.

Health and Safety

Attention is drawn to Appendix C of the specification.