

**Advanced GCE**

**GEOLOGY**

Unit F796: Fieldwork Task

**Specimen Task**

**For use from September 2008 to June 2009.**

## F796

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

### **INFORMATION FOR CANDIDATES**

- Fieldwork Task

### **INFORMATION FOR TEACHERS**

- Mark scheme.
- Instructions for Teachers and Technicians.

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**Advanced GCE  
GEOLOGY**

## F796

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### Specimen Task

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Candidates answer on separate writing paper.

Additional Materials:

loose leaf writing paper

#### 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 **3** printed pages and **1** blank page.

### Osmington Mills, Dorset

1 Describe, draw and identify the fossils from all the beds in the sequence as fully as possible. Consider the questions below.

- Which fossil groups are present in the area? Are the fossils common or rare?
- Identify (using the fossil sheet) and count the number of different types within each fossil group e.g. how many *Myophorella* and how many *Pleuromya* etc?
- How are the fossils distributed in the bed; are they in clumps or evenly spread around?
- What % of the fossil shells have ribs?
- Which way up are they found in the bed; right way up, inverted or random?
- What % of the fossils are broken or whole? Are the valves separated or together?
- Note: Some of these questions will be difficult to answer from the loose pebbles.

Use all the evidence from your observations and measurements to determine the environment of formation and the chances of the fossils forming a life or death assemblage.

2 In the oolitic limestone beds find any trace fossils especially "U" shaped burrows and draw and describe them in sufficient detail to suggest how they may have formed.

3 Identify, describe and explain mineral veins.

4 In the Bencliff Grit section you will measure and describe a vertical section of cliff about 2m high which shows a number of different beds and sedimentary structures. Make detailed measurements and descriptions and enter the data on to a graphic log blank using standard symbols.

5 Find, sketch and describe: cross-bedded "doggers" of Bencliff Grit and ripples. What can they tell us about the environment of deposition?

6 .Describe any field hazards and the safety procedures followed.

7 Describe the economic uses of the rocks seen from the Oxford Clay through the Corallian.

8 The Bencliff Grit in the cliff contains oil seeps. Check samples by smelling them!

- Describe the rock of the Bencliff Grit – is it a grit?
- Is there oil present?
- Is the rock a good reservoir rock?
- Is the rock porous/permeable?
- Is the rock well sorted?
- Is the rock well cemented?

**Total [20]**

**END OF TASK**

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

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Sample marking points that provide a range of marks to cover a variety of field work are given below. It is not an inclusive list as some localities will provide the opportunity for additional observations and measurements.

Question Number	Answer	Max Mark
<b>(a)(i)</b>	<p>safe working in the field, description of hazards, use of geological code, issues of geoconservation</p> <p>field sketches of sedimentary structures, structures such as joints and mineral veins</p> <p>observations of mineral veins, fossils of different types (bivalves, rare ammonites, lignite, trace fossils) and sedimentary structures of cross bedding and ripples.</p> <p>field sketches and fossil drawings annotated using technical terms with use of suitable scales</p> <p>observations of rock types using characteristics that allow them to be identified; colour, grain size, composition, cementation</p>	<p>[1] [1]</p> <p>[1]</p> <p>[1]</p> <p>[1]</p>
<b>(a)(ii)</b>	<p>measurements of dip of beds in the sequence and measurements of sedimentary structure directions and angles of dip of cross beds and ripples</p> <p>measurements of fossils and drawings to scale</p> <p>measurements of bed thicknesses and grain sizes for detailed graphic log</p>	<p>[1]</p> <p>[2]</p> <p>[2]</p>
<b>(b)(i)</b>	<p>descriptions of rocks using technical terms and evidence for the environment of formation</p> <p>identification of fossils using secondary sources (identification sheets) and evidence they show of environment and mode of life</p> <p>economic uses of oil reservoir rock with idea of porosity tested in the field and uses of Oxford Clay for bricks, oolite for building stone</p>	<p>[2]</p> <p>[2]</p> <p>[1]</p>
<b>(b)(ii)</b>	<p>graphic log completed in detail with changing environments indicated and measurements used to identify rocks and structures</p> <p>description of methods / techniques carried out in the field and validity</p> <p>reliability of data reviewed</p>	<p>[3]</p> <p>[2]</p>
<b>Paper Total</b>		<b>[20]</b>





**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**

**Advanced GCE**

**GEOLOGY**

**F796**

Unit F796: Fieldwork Task

**Instructions for Teachers and Technicians**

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**This task relates to Module 1, 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 Fieldwork 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 Fieldwork 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 Fieldwork 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.

Fieldwork tasks will need to be submitted to the board for approval before the fieldwork takes place to ensure that the activity is suitable for assessment. The example provided based at Osmington Mills is a half day exercise that covers quantitative measurements of bed thickness and grain size for the graphic log, of angles in the sedimentary structures and fossils. The qualitative observations are the rock, fossils, trace fossils, mineral veins and structures that are drawn and described.

The task has content that relates to the A2 units as well as being synoptic on the AS units.

Fieldwork may be assessed as an alternative practical task as it can provide all the same skills that are shown in the task provided by OCR.

The centre will need to ensure that the field location chosen provides suitable localities that will allow measurements of dips and a variety of structures and a range of rock types for observations, descriptions and sketches. The presence of fossils and the chance to have an element of economic geology provides a task that fits the A2 specification.

A sample field exercise based on the Jurassic of Osmington Mills in Dorset is an illustration of fieldwork that allows for a range of structures, fossils and rock types even though the geology is limited to sedimentary rocks.

Original pages from field notebooks or original looseleaf fieldnotes will be marked unless exceptional circumstances such as heavy rain do not allow this. The field work will be supervised by the centre so that the tasks take place under the same controlled conditions as the OCR provided task.

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