

## Principal Assessor Report 2002

**Assessment Panel:**

**Geology**

**Qualification area**

**Subject(s) and Level(s)  
included in this report**

**Geology – Higher Level**

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## Statistical information: update

<b>Number of entries in 2001</b>	54
<b>Pre appeal</b>	
<b>Post appeal</b>	

<b>Number of entries in 2002</b>	88
<b>Pre appeal</b>	
<b>Post appeal</b>	

### General comments re entry numbers

It is pleasing to note that the number of candidates has doubled since 2000.

### General comments

The performance of candidates was very variable. Some did very well. Nine candidates achieved A grade passes. Of these, six scored 85/110 or above. On the other hand, some performances were very poor. Six candidates scored 33/110 or below. Many candidates performed fairly well. Twenty-two scored from 50/110 to 54/110. The mean mark for the exam paper was 45.8/95 and the mean mark for the field work study was 11.7/15. In percentage terms, the mean mark rose by 2.3% from 2001.

## Grade boundaries at C, B and A for each subject area included in the report

A	$\frac{77}{110}$
B	$\frac{65}{110}$
C	$\frac{53}{110}$

### General commentary on grade boundaries

#### *Notional percentage cut-offs for each grade*

Question papers and their associated marking schemes are designed to be of the required standard and to meet the assessment specification for the subject/level concerned.

For National courses the examination paper(s) are set in order that a score of approximately 50% of the total marks for all components merits a grade C (based on the grade descriptions for that grade), and similarly a score of 70 % for a grade A. The lowest mark for a grade B is set by the computer software as half way between the C and A grade boundaries.

### Comments on grade boundaries for each subject area

In 2000, the C grade boundary was 50%. In 2001, the boundary was set at 48%. In percentage terms, the C grade boundary in 2002 is 48.2%. This meant that 59.1% of candidates achieved a C grade or better. This pass rate is consistent with that in 2001. The B and A grade boundaries (at 59 and 70% of the total marks, respectively) were thought to be appropriate.

## Comments on candidate performance

### General comments

Fieldwork studies were not moderated so no specific comments can be made. However, the mean mark of 11.7/15 shows that most candidates performed well.

In the written paper, responses were variable but generally satisfactory.

The main strengths were:

- ◆ Drawing geological sections
- ◆ Writing the geological history of an area shown on a map

The main weaknesses were:

- ◆ Stratigraphy
- ◆ Explaining the difference between high and low place values
- ◆ Describing the process by which residual ores are formed and naming the metals extracted from residual ores.
- ◆ Explaining why P- and S- wave shadow zones differ
- ◆ Performing calculations
- ◆ Interpreting geological features seen in photographs

Responses to the following were variable:

- ◆ Writing essays
- ◆ Mapwork involving structure contours

### Areas of external assessment in which candidates performed well

Q1(b) on a rock seen in this section. (Though part (iii) was not well done).  
Q2(b) Drawing a graph and describing the relationship shown by the graph.  
Q4(b)  
& (g) Making and justifying predictions related to plate movements.  
Q10(c) Drawing a geological section.  
Q10(d) Describing the geological history of an area seen on a map.

### Areas of external assessment in which candidates had difficulty

Q1(a) The question asked for evidence seen in this field. Many candidates answered only in terms of the diagram  
Q2(a) Naming corals  
Q2(e) Explaining how high and low place values differ  
Q2(f) On residual ores  
Q3 Performing calculations; drawing and interpreting graphs; explaining aspects of the behaviour of P- and S- waves.  
Q4(a)  
to (d) Performing calculations; applying the results of calculations to the interpretation of a map showing sea-floor magnetic anomalies.

Q5 On stratigraphy

Q6,7,8 Essays. Performance was very variable.

Q6: Essay on sedimentary rocks. Mean mark 9.1 / 15  
Highest mark 14.5; lowest mark 2.0. Answered by 33 candidates

Q7: Essay on rock dating and correlation. Mean mark 7.9 / 15  
Highest mark 13.5; lowest mark 2.5. Answered by 16 candidates

Q8: Essay on oil. Mean mark 9.6 / 15.  
Highest mark 15.0; lowest mark 0.0. Answered by 34 candidates

Q9 Interpretation of geological features (tor, dyke) seen in photographs.

Q10(a)

& (b) Aspects of a geological map; movements on faults.

Q11 Performance was very variable. Some candidates scored very high marks. Others were unable to draw structure contours so made no progress.

Performance in questions not specifically mentioned was satisfactory.

### **Areas of common misunderstanding**

- ◆ Performing calculations
- ◆ Drawing and interpreting graphs
- ◆ Difference between high and low place values
- ◆ Stratigraphy
- ◆ Behaviour of P- and S- waves
- ◆ Formation of residual ores; metals found in residual ores

And for some candidates:

- ◆ Writing essays
- ◆ Drawing and using structure contours
- ◆ Interpreting features seen in photographs

## Recommendations

### Feedback to centres

Most candidates gave a good or satisfactory performance. There was, however, a fair number of candidates who had little hope of achieving a pass mark.

The main weaknesses lie in these areas:

- ◆ Writing essays
- ◆ Drawing and using structure contours
- ◆ Determining the directions of movements on faults shown in a geological map
- ◆ Performing calculations
- ◆ Drawing and interpreting graphs
- ◆ Defining high and low place values
- ◆ Formation of residual deposits; metals found in residual deposits
- ◆ Interpreting features shown in photographs
- ◆ Stratigraphy
- ◆ Behaviour of P- and S- waves