

## GEOLOGY FIELDWORK TASK

### BARMSTON BEACH     HOLDERNESS, YORKSHIRE

#### Activity 1

- Make a brief assessment of any field hazards and list the safety procedures you will now follow.

#### Activity 2

- Draw a well labelled field sketch of the glacial till to show the size, shape, spacing and composition of boulders/clasts within the till.
- Use a clearly stated and relevant sampling technique to choose 10 clasts/ boulders from the till (this sample will be combined later with others for the follow-up work).
- For each clast/boulder:-
  - Use a compass-clinometer to:**
    - measure the orientation of the long axis
    - measure the dip of the long axis
  - Use a ruler or callipers to:**
    - measure the long, intermediate and short axes
  - Use POWERS scale to:**
    - assess the roundness
- Record this information accurately and clearly**
- Work out the approximate average orientation of long axes and state the direction you think the ice moved.
- What is imbrication and does your sample show it?
- Classify the sample into igneous, sedimentary and metamorphic rocks, how many are there of each? What rock types can you recognise?
- What problems did you experience in making sure your sample was appropriate and accurately measured?

#### Activity 3

- Find a section of fluvio-glacial material and take a sample of the gravels. from this sample 10 clasts and for each:
  - Measure the long, intermediate and short axes
  - Assess the roundness
- How and why does the fluvio-glacial sample differ from the till in terms of:
  - size
  - shape
  - sorting
- Find a section of laminated sands and clays (varve) and draw an annotated sketch that compares the characteristics of the two layers and the probable environments of deposition

AS BARMSTON BEACH Markscheme

Field sketch of till	2
1. no field sketch	
2. simple field sketch, simple labels	
3. good sketch, well labelled	
Data collection and recording ( Till )	4
1. no data collected	
2. some data collected and recorded	
3. most data collected and recorded	
4. all data collected and recorded with some accuracy	
5. all data collected and recorded accurately; sampling explained	
Data collection and recording ( Fluvio )	4
1. no data collected	
2. some data collected and recorded	
3. most data collected and recorded	
4. all data collected and recorded with some accuracy	
5. all data collected and recorded accurately; sampling explained	
Data collection and recording ( Varve )	2
1. no data collected	
2. some data collected and recorded	
3. all data collected and recorded with accuracy	
Field sketch of varve	2
1. no field sketch	
2. simple field sketch, simple labels	
3. good sketch, well labelled	
Classification of rocks	2
Observations on Till / Fluvio-glacial / Varve	4
Total	20