



Geology in Sharp Island

Version 1.1

Objectives

1. To understand the geology and evidence of volcanic activity during Mesozoic Period of Sharp Island.
2. To understand the coastal depositional features of Sharp Island.
3. Distinguish the types of rock in relation to the erosional coastal features.
4. To understand how man utilizes the coastal resources and its impact on it.

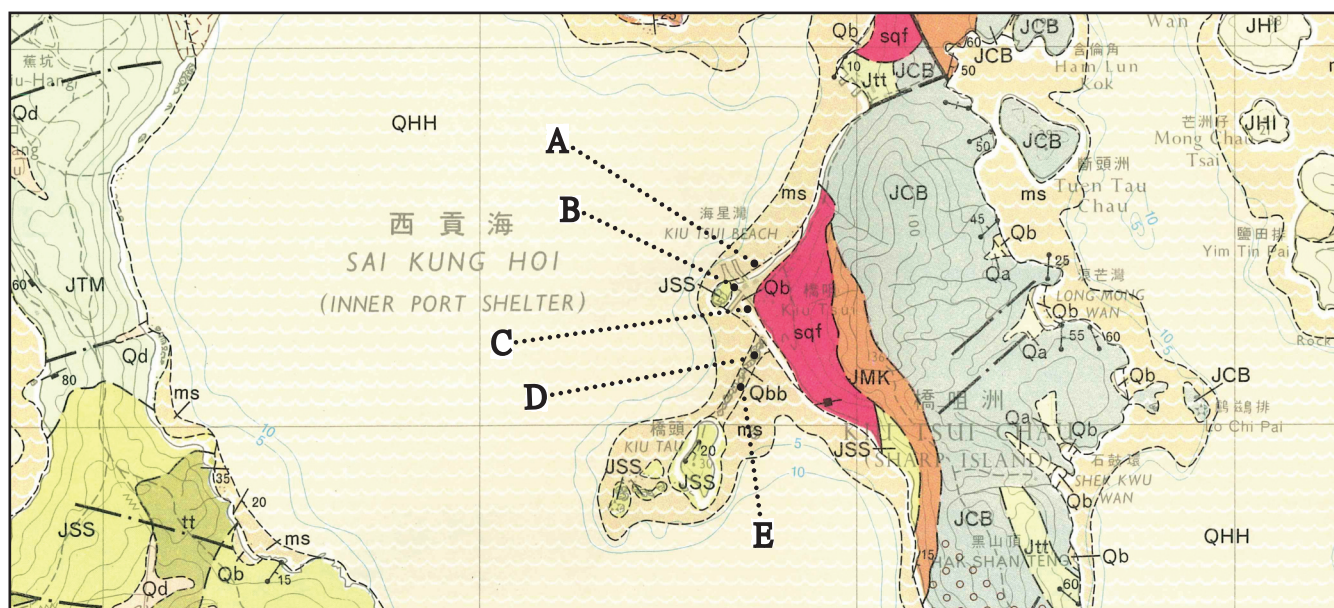
Equipment List

Items	Quantity	Checked	Returned
1. Base map	x2	<input type="checkbox"/>	<input type="checkbox"/>
2. Compass	x1	<input type="checkbox"/>	<input type="checkbox"/>
3. Bottle Set	x1	<input type="checkbox"/>	<input type="checkbox"/>
4. Vernier Caliper	x1	<input type="checkbox"/>	<input type="checkbox"/>

Field Work

Finish the followings items according to the maps provided.

Map 1 - Geological Map of Sharp Island



Point A

1. Write the name of the geographical features. Observe its area and the surrounding facilities. What do you discover?

Point B and Point D (Parent rock of the Sharp Island)

1. Observe a rock sample in Point B and Point D. Describe and identify in terms of grains size and colour.

Characteristics of the rock Location	Colour	Types of minerals	Grain size of minerals	Rock type
Point B				intrusive vulcanicity/ extrusive vulcanicity Name of the rock :
Point D				intrusive vulcanicity/ extrusive vulcanicity Name of the rock :

2. (Challenging Question) Observe the characteristics of the rock and find out the evidence of the past volcanic activities .

Point B	Point D

Point C

1. Count the numbers of swash and backwash in a minute.

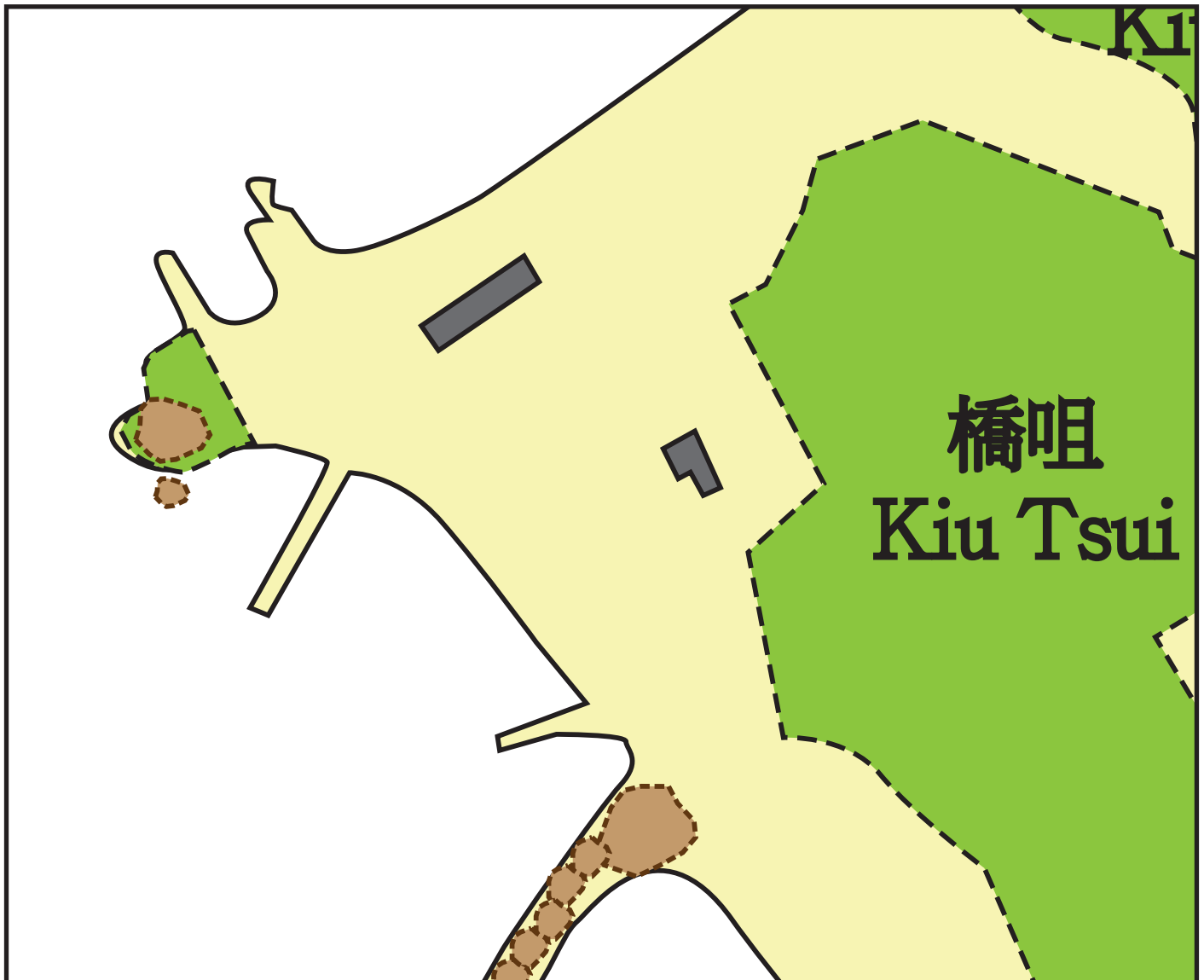
(a) Number of swash: _____ (Strong/Weak) Number of backwash: _____ (Strong/Weak)

(b) It is called _____ wave which favour the formation of _____ landform.

2. Throw the water bottle into the sea. Observe its route of movement carefully and answer the following questions.

(a) Plot the route of the floating bottle in Map 2.

Map 2 - Sharp Island



(b) From the route of the floating bottle, what type of wave action has been shown?

(c) With the passage of time, what will be the changes of the landform in Point C?

Point D

1. Observe a rock sample in Point D, describe and identify it in terms of grains size and colour. (Fill the answer in the table on page 2)
2. Observe carefully the surrounding area, you will discover some rock boulders look like “pineapple buns”. Describe the weathering processes which favour the formation of this feature.

Point E

1. Observe the surrounding environment. List the favorable conditions that caused the formation of depositional features here.

2. Measure the diameter of cobbles found at site E. (Find a transect across the tombolo) Diameter of cobbles:

Diameter of cobbles (cm)									Average diameter(cm)

Compare the size of the deposited materials with point C and E. Explain the differences with wave energy.

Extended Questions

Hong Kong National Geopark was accepted as a member of the Global Geoparks Network (GGN), which is supported by the UNESCO, and was renamed Hong Kong Geopark of China in 2011. (included area of High Island Reservoir and Sharp Island)

1. What are the locational advantages for these area as a member of geopark?

2. What are the positive and negative impacts as the establishment of the geopark?
