

2 SITE INVESTIGATIONS

2.1 THE GENERAL VIEW OF THE AREA

During three site visits, field and geological investigations totaling 15 days have been carried out by the consultants of UKM and their assistants, in accordance with the number of man-days stated in the agreement. The details are shown in Table 1.

Fig. 5 depicts the southern part of the South Hill, as viewed from the west. Fig. 6 shows the North Hill as observed from the south. The closer appearances of the North Hill, as viewed from the southeast and the south, respectively, are shown in Fig. 7 and Fig. 8. In general, all the hills display typical karst topographic features, i.e. almost vertical rock wall, caves, and thick vegetation.

2.2 GEOLOGICAL FIELDWORKS

The geological fieldworks have gathered information on the (1) topography of the area, (2) geologic setting of the hills, and (3) lithology of the dolomitic limestone, including their colour, composition, texture, alteration and weathering.

Table 1: Site, Field and Geological Investigations.

Date	No. of Days	Purpose
17th – 25th August, 2007	9	(1) Recognisance survey for all areas. (2) Geological fieldwork and surface sampling for the South Hill. (3) Geophysical survey for the South Hill. (4) Estimation of above-surface reserve for the South Hill. (5) Locating sites for drilling for the South Hill and supervision.
29th – 30th August, 2007	2	(1) Logistic work — seeking permission to enter the North Hill area from the management of Ladang Sungai Siput. (2) Geological fieldwork and surface sampling for the North Hill and supervision. (3) Locating sites for drilling for the North Hill and supervision.
8th – 10th September, 2007	3	(1) Geophysical survey for the North Hill. (2) Estimation of above-surface reserve for the North Hill.
8th October, 2008	1	(1) Follow-up site inspection



Fig. 5: The southern part of the South Hill (west view), showing vegetation cover.



Fig. 6: The North Hill (south view), showing vertical rock wall and thick vegetation cover.



Fig. 7: A closer view of the North Hill (southeast view), showing vertical rock wall of pale grey limestone.



Fig. 8: The North Hill (south view), showing vertical rock wall and notches due to paleoerosion.

2.2.1 Geological Setting

Traces of bedding have been observed on the vertical wall of the South Hill (Fig. 9). The limestone has a gentle dip of about 20 degrees. This is an important finding because drilling the low dipping rock formation straight downwards will encounter complete layers within the hill, resulting in more representative composition of the hill.

2.2.2 Above Ground Sampling

A total number of 40 fresh, above ground rock samples at various elevations were collected. The overall sample size is 10 cm x 10 cm x 10 cm, with weight ranging from 2.5 to 3 kg each. The exact locations of the samples were determined by the Global Positioning System (GPS). The collected samples comprise (1) 20 samples from the South Hill (refer to Table 2 for location), and (2) 20 samples from the North Hill (refer to Table 3 for location). It should be noted that more than one sample may have been collected from the same location.

Fig. 10 and Fig. 11 show the sampling localities for the South Hill and the North Hill, respectively.

In general, the surface samples range in colour from pale grey, grey to pinkish light grey. The samples are generally fine-grained.

Table 2: Location (GPS coordinates) of surface sample collected from the South Hill.

Sample No.	GPS Coordinates	Height from sea level (m)
59	N004 51.268 E101 07.217	75
60	N004 51.280 E101 07.239	77
61	N004 51.237 E101 07.276	77
62	N004 51.209 E101 07.347	78
63	N004 51.251 E101 07.387	79
64	N004 51.347 E101 07.407	82
77	N004 51.413 E101 07.316	96
78	N004 51.415 E101 07.331	93
79	N004 51.385 E101 07.373	82
80	N004 51.315 E101 07.360	86

Table 3: Location (GPS coordinates) of surface sample collected from the North Hill.

Sample No.	GPS Coordinates	Height from sea level (m)
81	N004 51.916 E101 07.421	81
82	N004 51.894 E101 07.402	82
83	N004 51.901 E101 07.376	84
84	N004 51.923 E101 07.321	83
85	N004 51.979 E101 07.325	83
86	N004 52.013 E101 07.376	82
87	N004 52.001 E101 07.434	85
88	N004 51.984 E101 07.464	82
89	N004 51.956 E101 07.469	81
90	N004 51.947 E101 07.465	81
91	N004 51.938 E101 07.450	82
92	N004 51.931 E101 07.446	80

2.3 DRILLING

All drilling works have been out-sourced to a local company, Carita Sdn. Bhd.. Carita Sdn. Bhd. is a private limited company totally independent of UKM. A rotary drilling machine with diamond bits was used to get continuous, 52 mm (2½ inches) diameter core samples.

2.3.1 The South Hill

Three sites have been selected on the eastern side of the hill, marked BH-1, BH-2 and BH-3 (Fig. 10). The drilling started on 21st August, 2007 and completed on 10th September, 2007.

Fig. 12 shows the drilling of borehole BH-1 at the South Hill.

2.3.2 The North Hill

Three sites have been chosen and drilled, namely BH-4, BH-5 and BH-6 (Fig. 11). The drilling started on 12th September, 2007 and completed on 26th September, 2007.

2.3.3 Borehole Samples

The borehole samples are kept in 2 m long wooden boxes with four compartments, so that 8 m of continuous samples are stored in each box (Fig. 13). Fig. 14 shows the close-up of such samples, with the selected portion to be pulverized for mineralogical and chemical analyses clearly shown.



Fig. 9: Part of South Hill showing traces of bedding on the vertical wall.

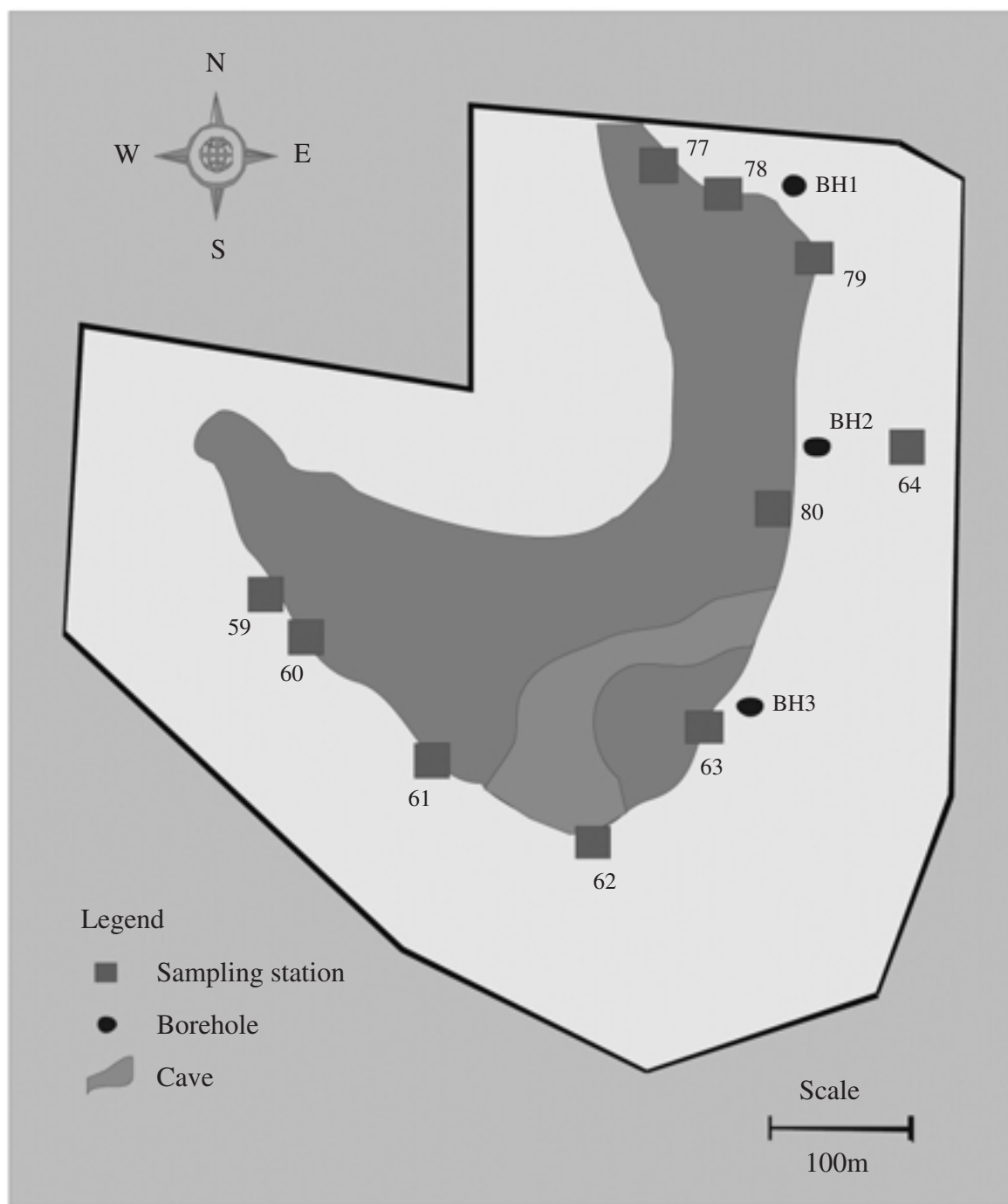


Fig. 10: The GPS locations of above-surface samples from the South Hill.

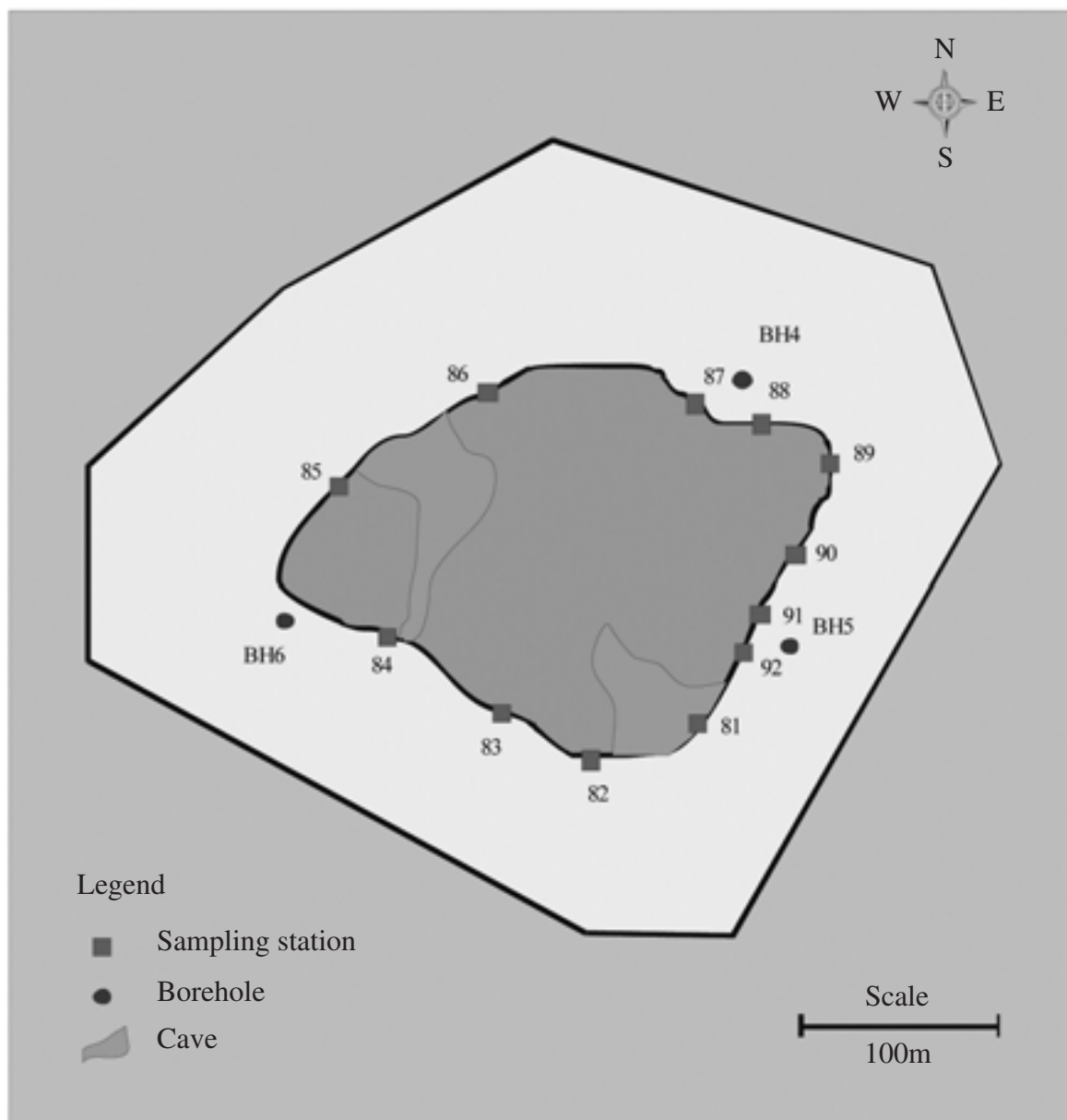


Fig. 11: The GPS locations of above-surface samples from the North Hill.