

General Certificate of Education
June 2007
Advanced Level Examination



GEOGRAPHY (SPECIFICATION A)
Unit 7 Fieldwork Investigation

GGA7/PM

You will need no other materials.

To be issued to candidates on 1 May prior to the examination

Pre-release material

Instructions

- This material must be kept **unmarked** for use in the forthcoming examination.
- The centre 2-page section of this booklet contains maps and coloured photographs, which can be detached.

Advice

- You should use the information contained in this booklet to become familiar with the aim, objectives, methods and data provided. Methods of data presentation should be considered and subsequent analysis and conclusions drawn. Enquiry-related issues should be explored. You should use your own experience of fieldwork.

TITLE OF ENQUIRY

How have glacial and related processes shaped the landscape of the Helvellyn area of the Lake District?

AIM

The aim of this enquiry is to determine the impact of glacial erosion, periglacial, weathering and mass movement processes on the landscape and to assess their relative importance.

In order to complete this enquiry, a number of objectives can be identified.

- Objective 1. To determine how glacial erosion has shaped the landscape and whether its importance varies within the study area.
- Objective 2. To determine the relative importance of periglacial processes.
- Objective 3. To consider the role of weathering and mass movement.

BACKGROUND INFORMATION

The Lake District is renowned for its glacial landscape. It was a centre of accumulation during the Devensian advance of the Pleistocene ice age, which ended approximately 25 000 years ago. However, there was a more recent short-lived advance between 12 800 and 11 500 years ago. This was the Loch Lomond Stadial where glaciers were generally limited to the higher levels. **Figures P1a, P1b** and **P1c** summarise the processes and landforms which are typically found in areas experiencing glacial erosion, periglaciation and related weathering and mass movement.

This study focuses on the Glenridding and Grisedale valleys to the north and south of Helvellyn. The situation of the study area within the Lake District is shown in **Figure P2**, whilst **Figure P3** is a photomap of the study area.

Figure P1a

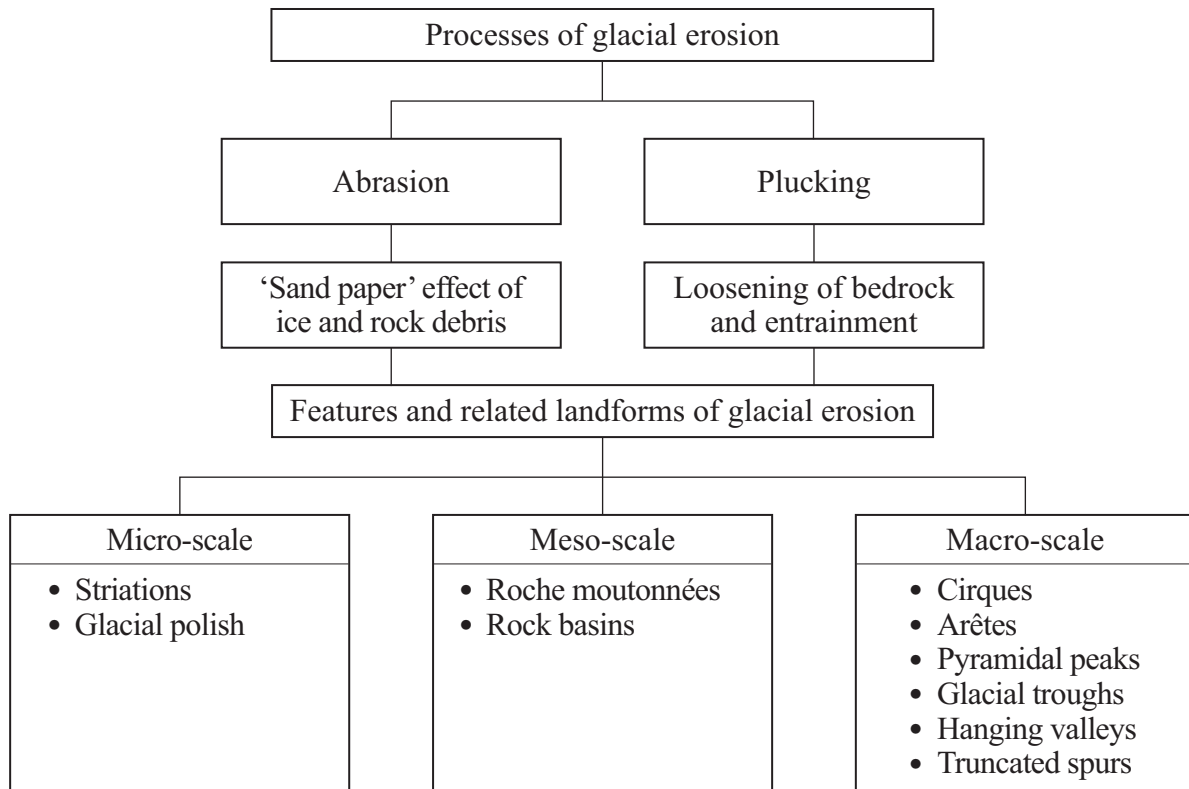


Figure P1b

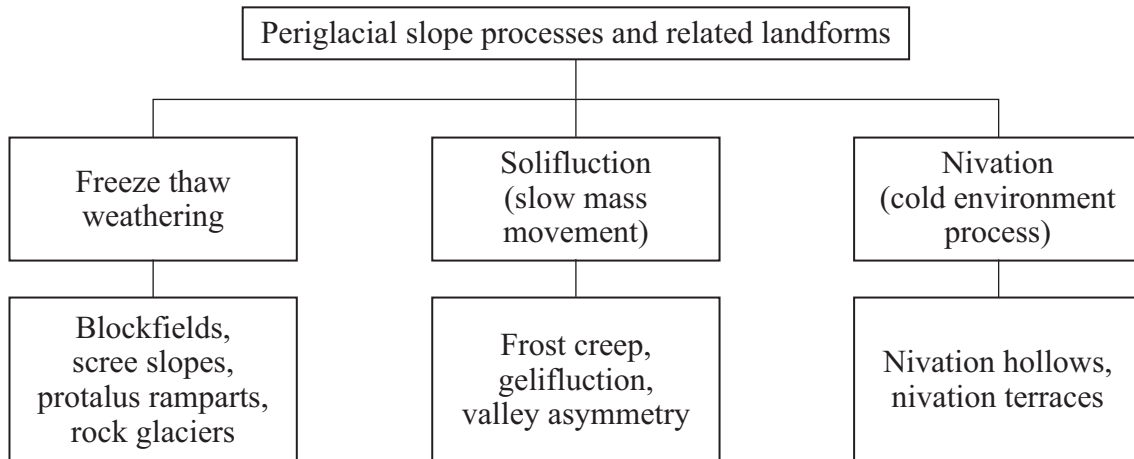
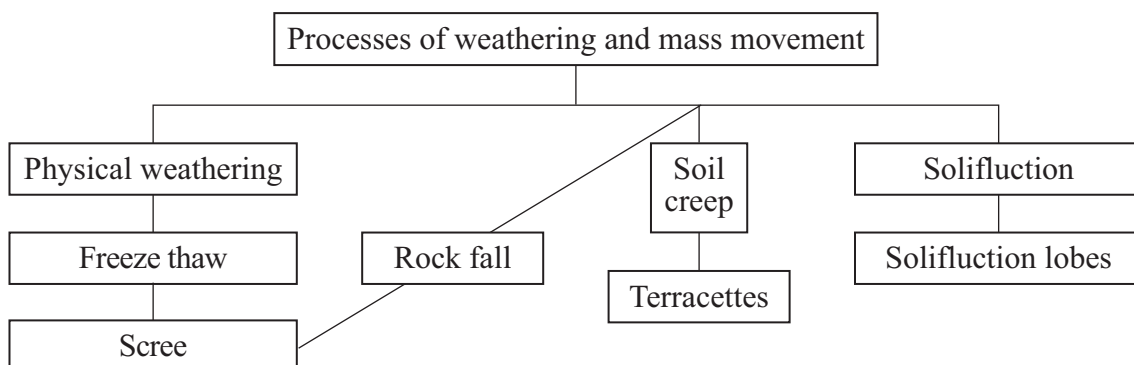


Figure P1c



Turn over ►

Figure P2

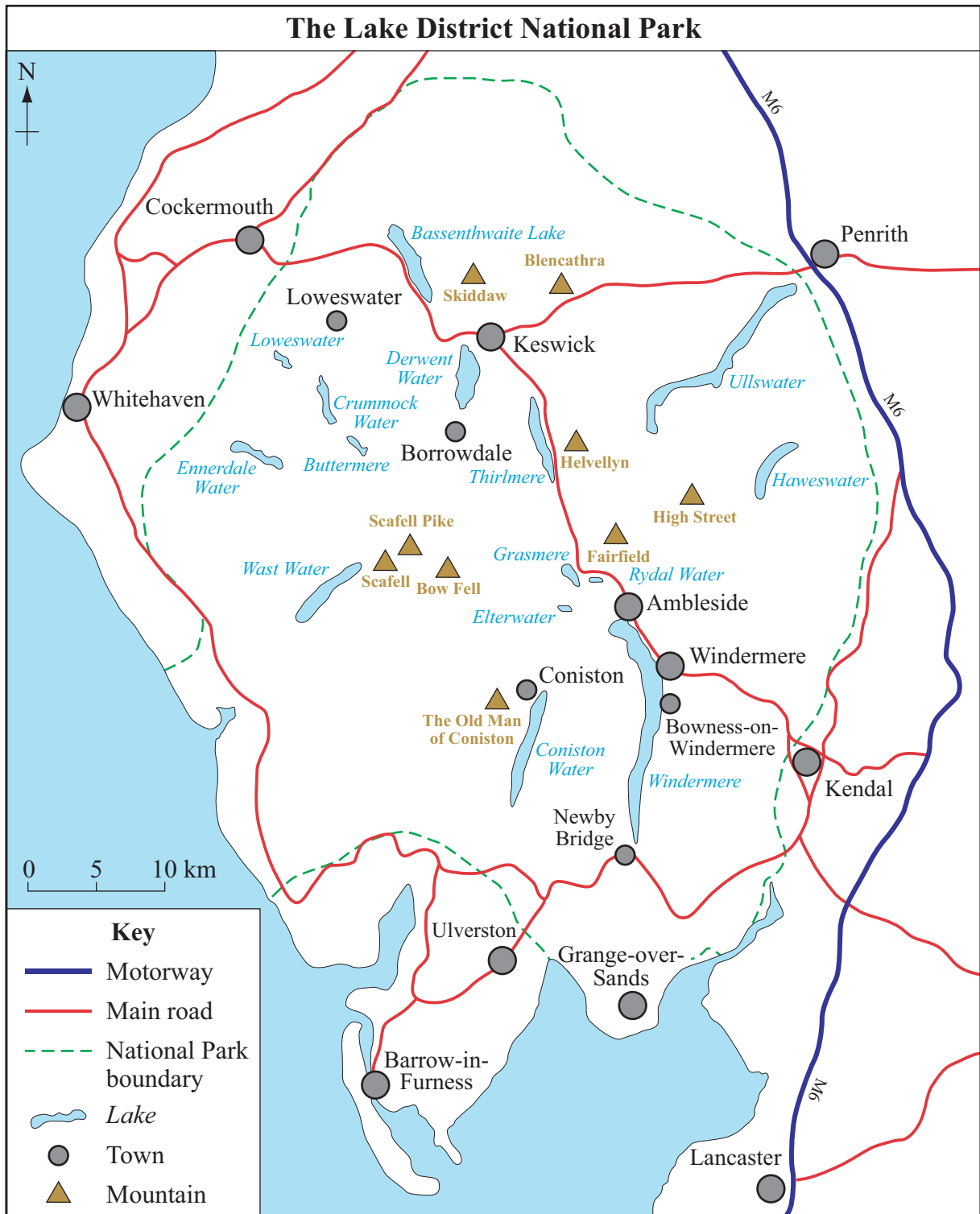


Figure P3



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DATA COLLECTION

Figure P4 is a 1:25 000 Ordnance Survey map of the study area. Photographs of some of the landforms of glacial erosion are shown in **Figure P5** (in the centre of this booklet) and these are located on a 1:50 000 Ordnance Survey map.

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DISCARD PAGE

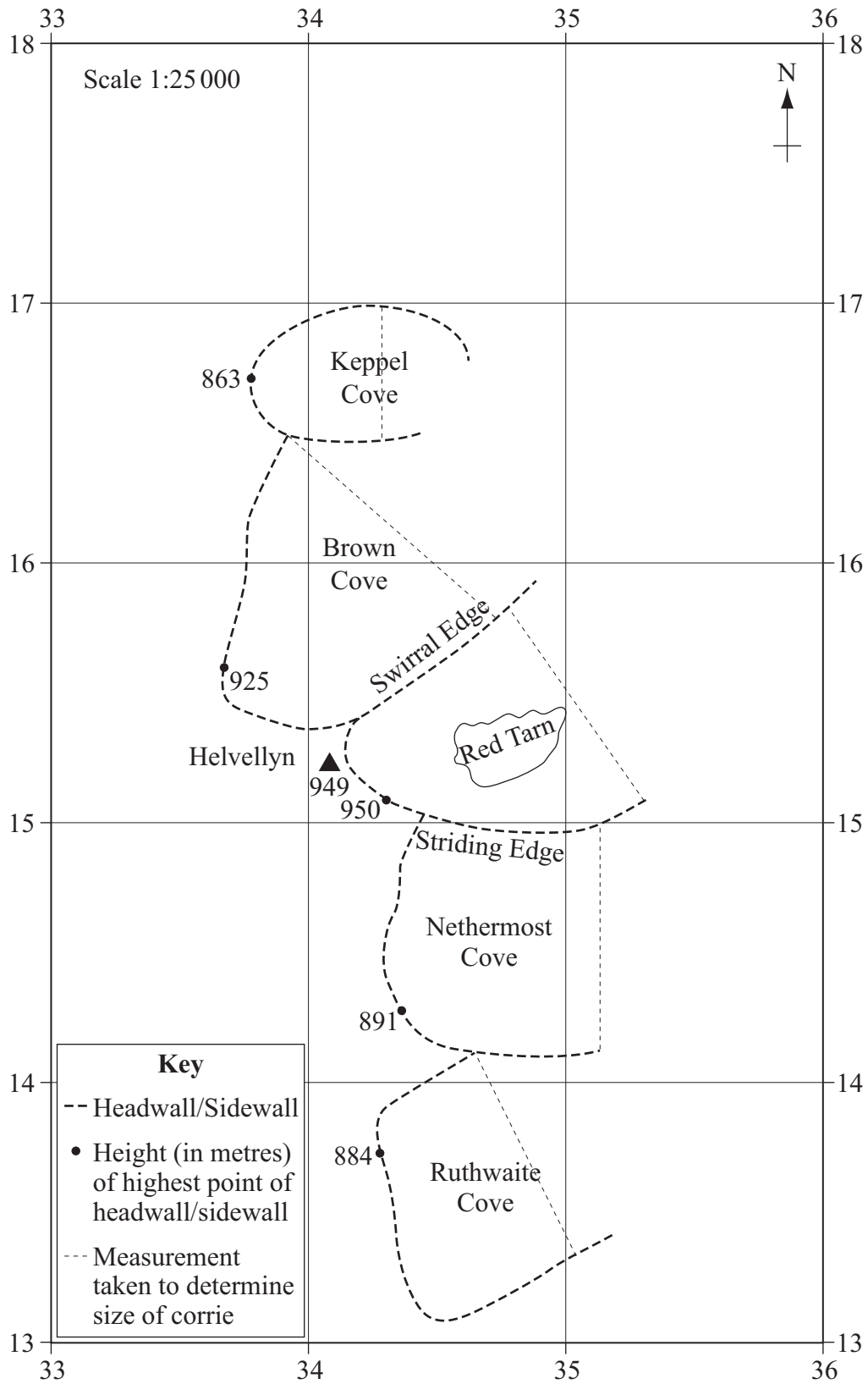
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DISCARD PAGE

Figure P6 was drawn using **Figure P4** as a base, and shows the location, size, altitude and orientation of corries in the study area.

Figure P6



Turn over ►

Information on ten striations in front of Red Tarn (approximately between grid references 351152 to 351154) was recorded. This involved measuring the length, width and depth with a ruler and the orientation with a compass. These results are summarised in **Figure P7**.

Figure P7

	Length (cm)	Width (cm)	Depth (cm)	Bearing from North (°)
1	11	1.7	0.8	62
2	50	0.2	0.1	46
3	52	0.6	0.5	80
4	26	1.0	0.6	74
5	39	0.8	0.5	76
6	24	0.5	1.0	80
7	16.5	1.3	0.9	66
8	72	0.6	0.5	80
9	53	0.3	0.4	80
10	66	0.3	0.8	78

Scree is found on the backwall of the corrie occupied by Red Tarn. A photograph of this is shown in **Figure P8**.

At approximately grid reference 347151, 10 samples of scree were selected at 15 sites, at one metre intervals up the backwall. Their median axis was then measured. Simultaneously, the slope angle at each sampling point was measured. The results recorded are shown in **Figure P9**.

Figure P8



Figure P9

Site	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Distance up slope (m)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Angle of slope (°)	29	29	30	32	31	31	31	30	35	44	40	40	46	48	45
Median axis of scree samples (cm)	18	17	20	18	16	17	9	12	13	7	6	4	4	4	4
	37	20	18	14	19	18	9	15	6	9	4	6	4	6	5
	8	15	17	15	11	20	7	6	8	12	10	9	13	5	6
	19	15	16	20	22	10	11	11	10	18	9	7	4	1	3
	23	16	23	16	13	9	13	21	11	14	5	10	6	6	2
	21	11	19	13	8	19	16	20	13	5	9	11	8	3	6
	30	19	23	22	14	15	20	20	15	10	11	4	5	5	5
	35	21	30	25	19	17	10	14	4	13	8	5	6	2	3
	9	22	21	10	20	21	19	16	8	15	14	11	7	4	7
	10	11	23	8	12	23	17	18	17	12	11	12	4	6	6
Mean median axis (cm)	21.0	16.7	21.0	16.1	15.4	16.9	13.1	15.3	10.5	11.5	8.7	7.9	6.1	4.2	4.7

Some features resulting from weathering and mass movement are shown in **Figure P10**.

Figure P10



Turn over ►

Information relating to the use of the area for tourism can be found in **Figures P4** and **P5**. Additional information relating to the two main settlements in the immediate vicinity – Patterdale and Glenridding – was obtained from the website www.lakedistrict.uk7.net. An adapted version is presented in **Figure P11**.

Figure P11

Patterdale

Patterdale is situated about a mile south of Ullswater and a mile south of Glenridding along the A592, at the foot of Grisedale. A footpath leads to Glenridding avoiding the roadside for most of the way. It has one pub called The White Lion, which also has several rooms available, and a hotel, The Patterdale Hotel, which has a public bar. There is also a church and a small post office cum village shop opposite the pub. Patterdale is also home to the local Mountain Rescue, who can be busy throughout the year but especially so during the winter months.



This area was the setting for the extremely popular BBC series, 'The Lakes' and it is a good start for a great number of walks, so the region gets quite popular during the summer months. For strong walkers, the route to Helvellyn via Striding Edge is one of Lakeland's classic walks. Fairfield and St Sunday Crag provide stupendous views over the valley and should not be missed. Grisedale provides access to a stunning valley hike up to Grisedale Tarn. There are plenty of low level walks, not least the lakeside walk from Howtown to Glenridding. One can catch the steamer from Glenridding and walk back.

Glenridding

Glenridding is situated on the south western shore of Ullswater and can be reached from Ambleside via the Kirkstone Pass. It has an attractive location, surrounded on three sides by mountains, and is a favourite haunt of fell walkers, providing the starting point for walks on Helvellyn, Fairfield and Place Fell.

Glenridding is an old mining village, with lead ore being discovered here in the mid 17th century and commercially exploited for the next 300 years. Tourism is now its main industry and there are several shops and pubs in the village. There is also plenty of accommodation available with a number of good guest houses.

People come here to walk, cycle, climb, or just to enjoy the scenery or to cruise around the lake on one of the old steamers. The 'Lady of the Lake' and 'Raven' date from 1877 and 1889. They can be boarded either at Glenridding, Howtown or Pooley Bridge at the northern end of Ullswater.



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- Figure P2: www.lake-district.com
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- Figure P11: Edward Rokita - Lake District Villages

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Figure P1a

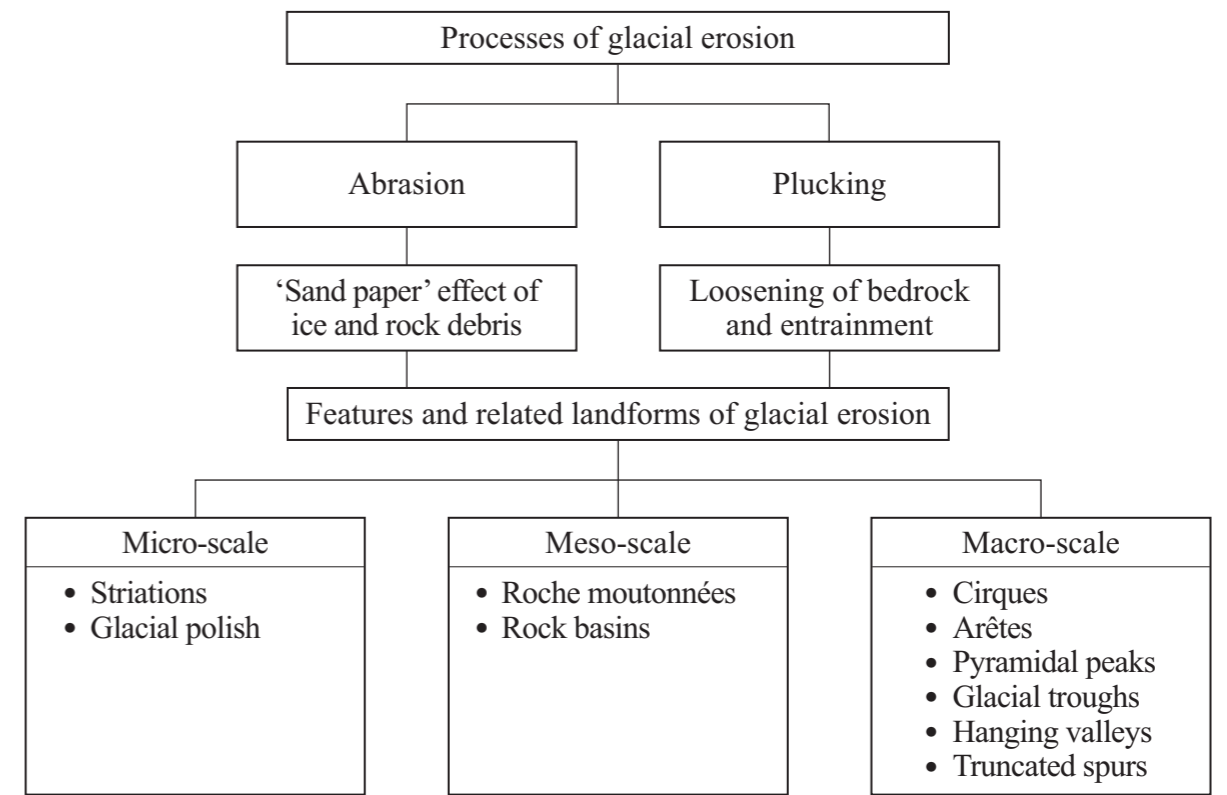


Figure P1b

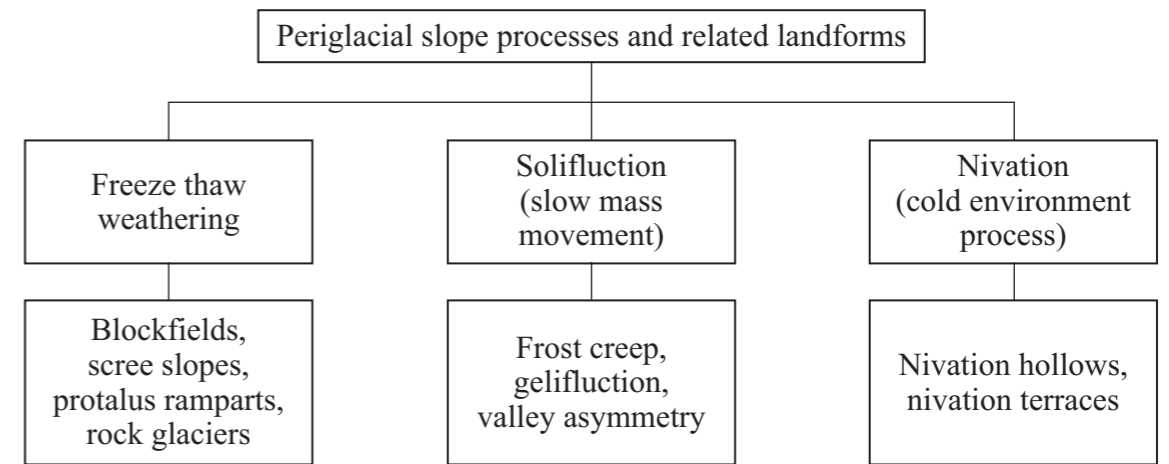


Figure P1c

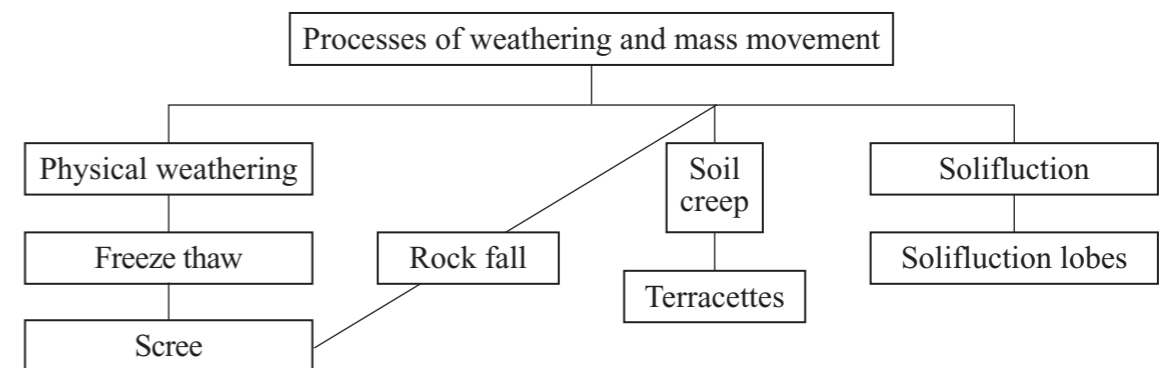


Figure P2



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Figure P3



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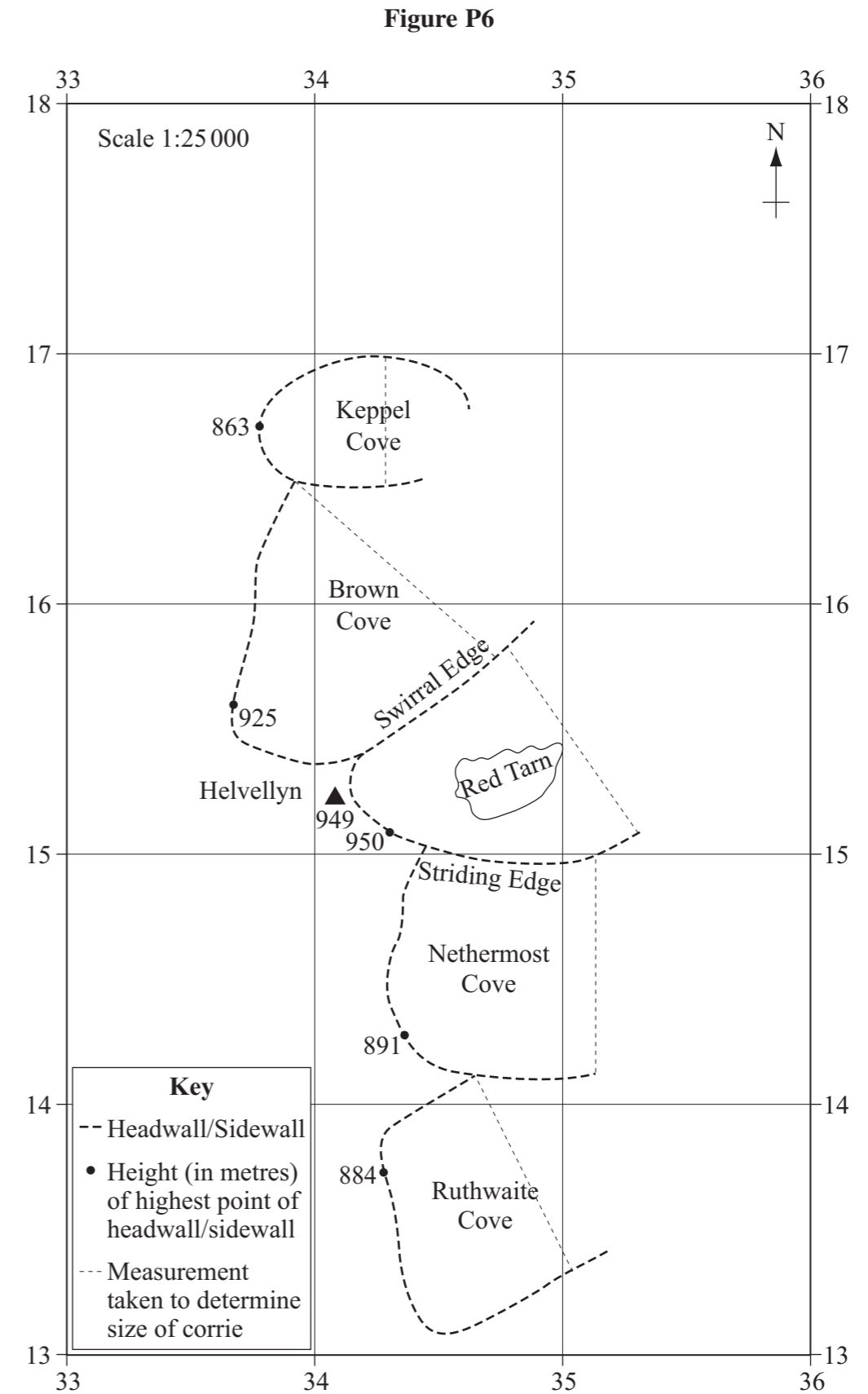
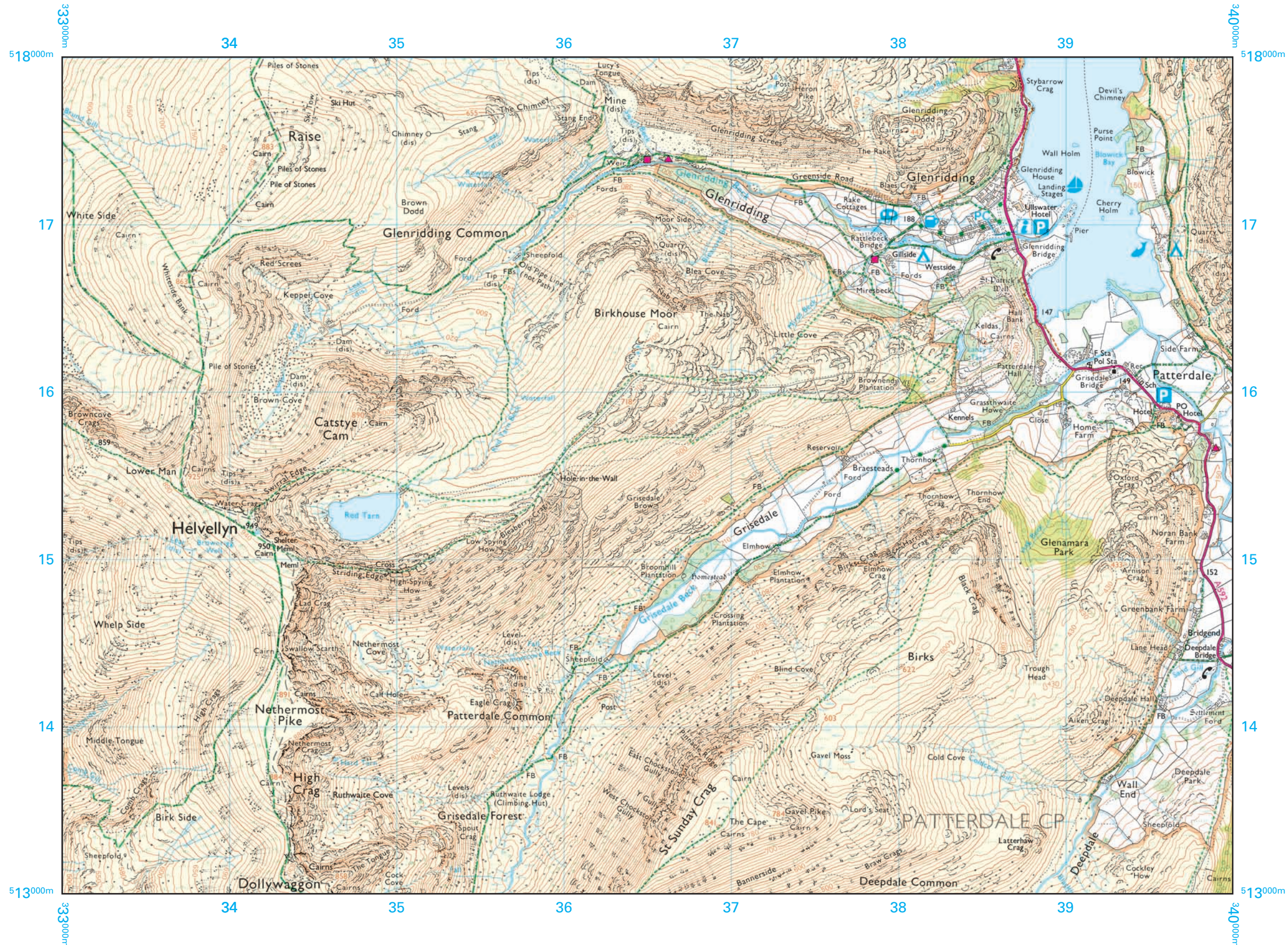


Figure P4



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Figure P5

