

MAP 26: KIRKDALE BANK TO NEWTON HILL

Hinterland Geology and Coastal Geomorphology: The hinterland geomorphology alters radically as one travels east from Ravenshall Point. Dominated by till over exposed bedrock, the landscape rises sharply. The coastal edge is irregular overlooking steep rock cliffs. Ringdoo Point forms an exposed promontory headland. The shoreline comprises a series of small rocky bays. Low tidal flats with sand and mud occur at the MHW.

Erosion Class: As previously mentioned, the coastline east to Ravenshall Point is stable. From Ravenshall Point to just east of Ringdoo Point the coastline is considered to be definitely eroding. This is based on the presence of offshore stacks and caves. Modification to the base of the cliffs by wave attack will be an ongoing process. The rate of cliff-edge recession is hard to measure. The exposed position of the coast towards and beyond Ringdoo Point will promote weathering of the cliff face and overlying till cover by wind, rain and spray.

Built Heritage & Archaeology: This stretch of coastline contained a cluster of sites around Kirkclaugh including a motte and bailey, a boatdraught; both situated on the coastal edge; and the original location of a twelfth century cross slab situated further inland. The motte and bailey at Kirkclaugh is suffering from severe coastal erosion and a survey and monitoring programme is recommended. Further south in this stretch of coastline, at Mossyard, is a cup and ring marked stone, one of a series of cup and ring marks in the vicinity. It is under no threat.

Map 26: Hinterland Geology and Coastal Geomorphology

1. CARSLUTH GARDEN SANDS to RAVENSHALL

NX 510 530

3.4km

Low edge (< 10 m)

Marine derive sand and gravels

Marine sands and gravel overlie this straight stretch of coastline. The foreshore consists of a sand and shingle beach overlooking wide tidal flats.

2 RAVENSHALL WOOD to RINGDOO POINT

NX 537 520

3.5km

Cliff (<10m)

Till over exposed rock

Lower reach of Wigton Bay with till overlying exposed rock greywackee platforms on the promontory at Ringdoo Point. Rocks are bounded in parts by boulder and sand up to the MHWM.

3. RINGDOO POINT to DRUMMUCKLOCK CARAVAN PARK

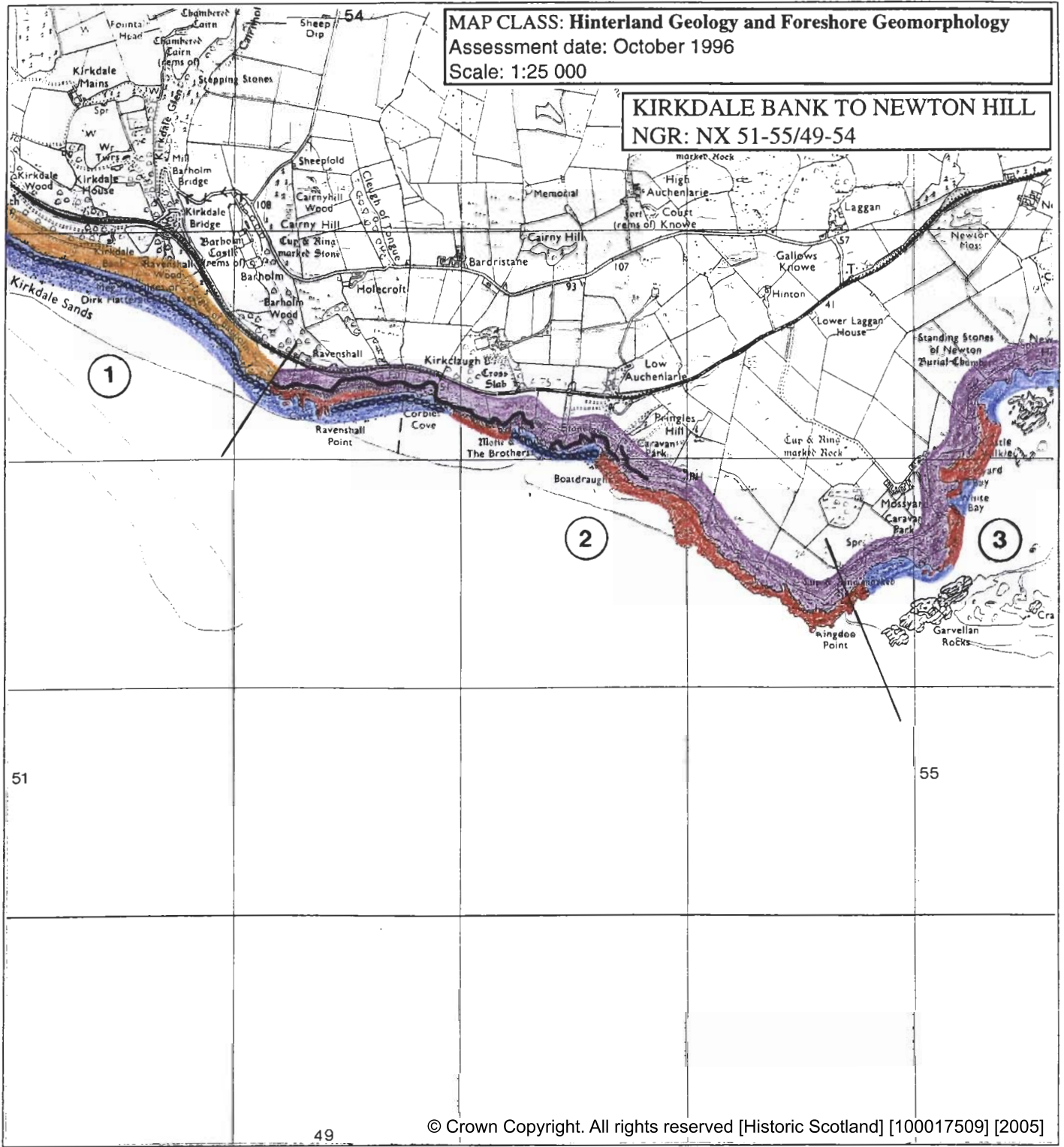
NX 556 524

4km

Cliff (< 5m)

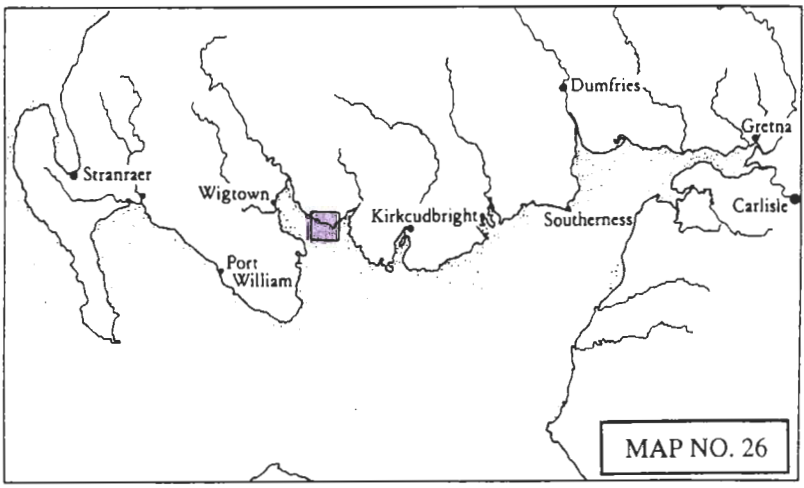
Till over exposed rock

Lower estuary of Fleet Bay. The hinterland consists of till over exposed rock platform. The shoreline is fractured into a series of small rocky bays. Low tidal flats with sand and mud at MHWM.



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KEY		
Hinterland Geology	Derwent Code	Colour
Drift, boulder clay	French Grey	
Drift, boulder clay over visible rock	Dark Violet	
Raised beach and marine deposits	Golden Brown	
Blown sand	Pink Madder Lake	
Glacial sand and gravel	Magenta	
Alluvium	Emerald Green	
Coastal Geomorphology		
Mainly rock platform	Deep vermilion	
Mainly sand	Ultramarine	
Mainly alluvial/marine mud	Venetian Red	
Marsh	May Green	
Coast Edge		
Low edge (<5m)	Thin black line	
Cliff (>5m)	Solid black line	
Man made barrier	Black line with spines	
Shingle beach	Small circles	
Human disturbance	Black carats	



MAP 26: EROSION

1. LOWER KIRKBRIDE FISHERY to RAVENSHALL

NX 250 536

4.5km

Stable

This unit consists of shingle and sandy beaches with a wide intertidal area. The MHW is consolidated with reed beds and salt marsh vegetation.

2. RAVENSHALL to south-west of BOATDRAUGHT

NX 535 520

1.8km

Definitely eroding

This unit has an exposed south westerly aspect with an irregular incised crenellated coastal edge. Deep fault gullies and exposed rock platforms persist in parts. Boulders sand and shingle are abrading the base of the Greywackee cliffs. Cliff-edge retreat is considered to be slow due to the resilient nature of the geology.

3. South-west of BOATDRAUGHT to RINGDOO POINT

NX 546 513

1km

Definitely eroding

This unit consists of steep cliffs on an exposed promontory headland. The cliffs are cleaved and folded into narrow gullies. The MHW lies at the base of the cliffs. It is easy to observe wave-induced or accelerated mass-movement in the numerous faults and clefts which crop out along the cliffs.

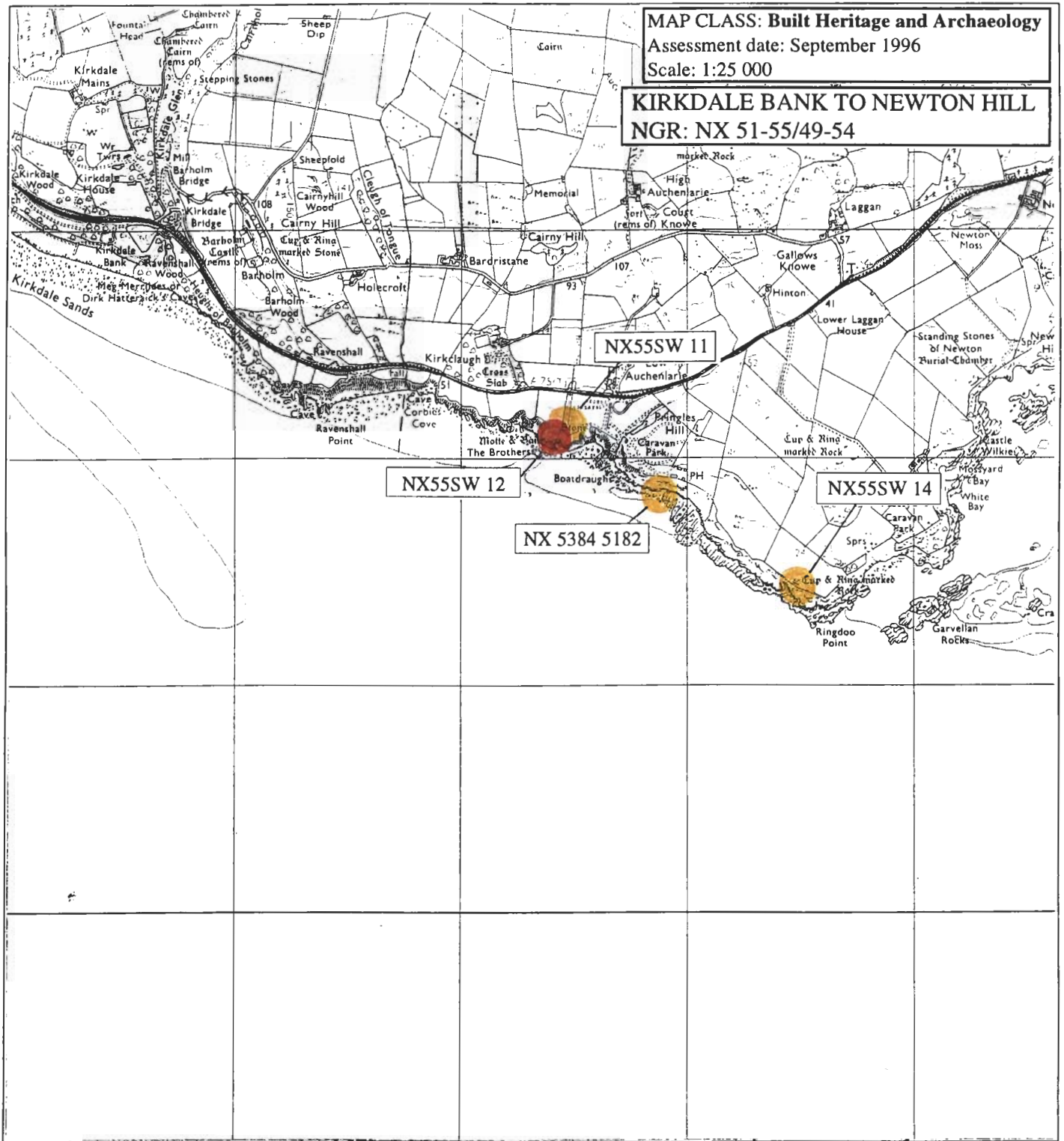
4. RINGDOO POINT to CARDONESS PINNACLE

NX 557 524

2.5km

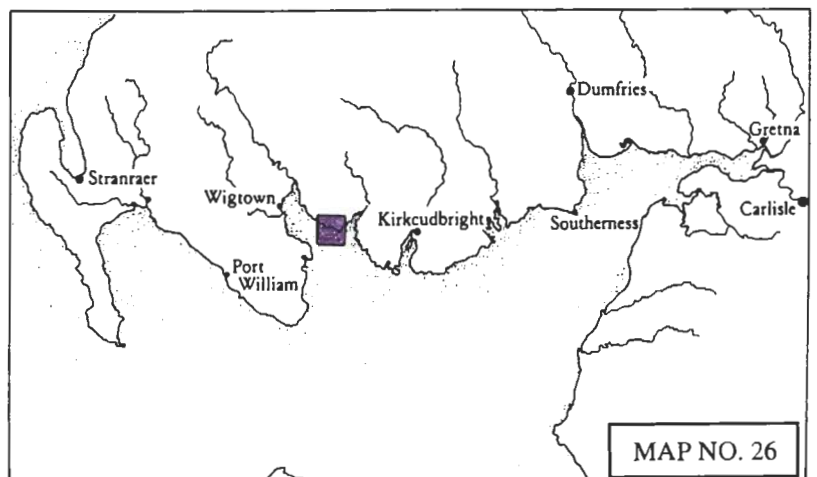
Eroding or stable

With an exposed irregular coastal edge this unit forms the western shore of Fleet Bay. The coastal edge has been modified into a series of small sandy bays with rocky platforms lying offshore. Wave erosion is occurring on the outcropping geology but mass movement is not significant at the present.



KEY

Site location	Symbol	Colour	Significance
NGR ref. - eg.	Roundel - Solid, (or area)	Red	Protected Ancient Monument
	Cross	Red	Listed Historic Building
NX 143 368	Roundel - Open, (or area)	Red	Monument formally proposed by Historic Scotland for designation
	Roundel - Solid, (or area)	Yellow	Other known Ancient Monument
NMRS ref. - eg. NX13 SW17	Dashed outline	Yellow	Gardens/Designed landscape
	Roundel - Solid, (or area)	Yellow	Undesignated wreck
	Area	Green	Insufficient information; more work needed
	Area	Blue	Probably archaeologically sterile



MAP NO. 26

MAP 26: BUILT HERITAGE AND ARCHAEOLOGY

Sites on the Coast Edge & Foreshore

NX55SW 12
NX 5341 5210
KIRKCLAUGH
Motte & Bailey
Scheduled Ancient Monument
12th century
Poor
Survey & Monitor

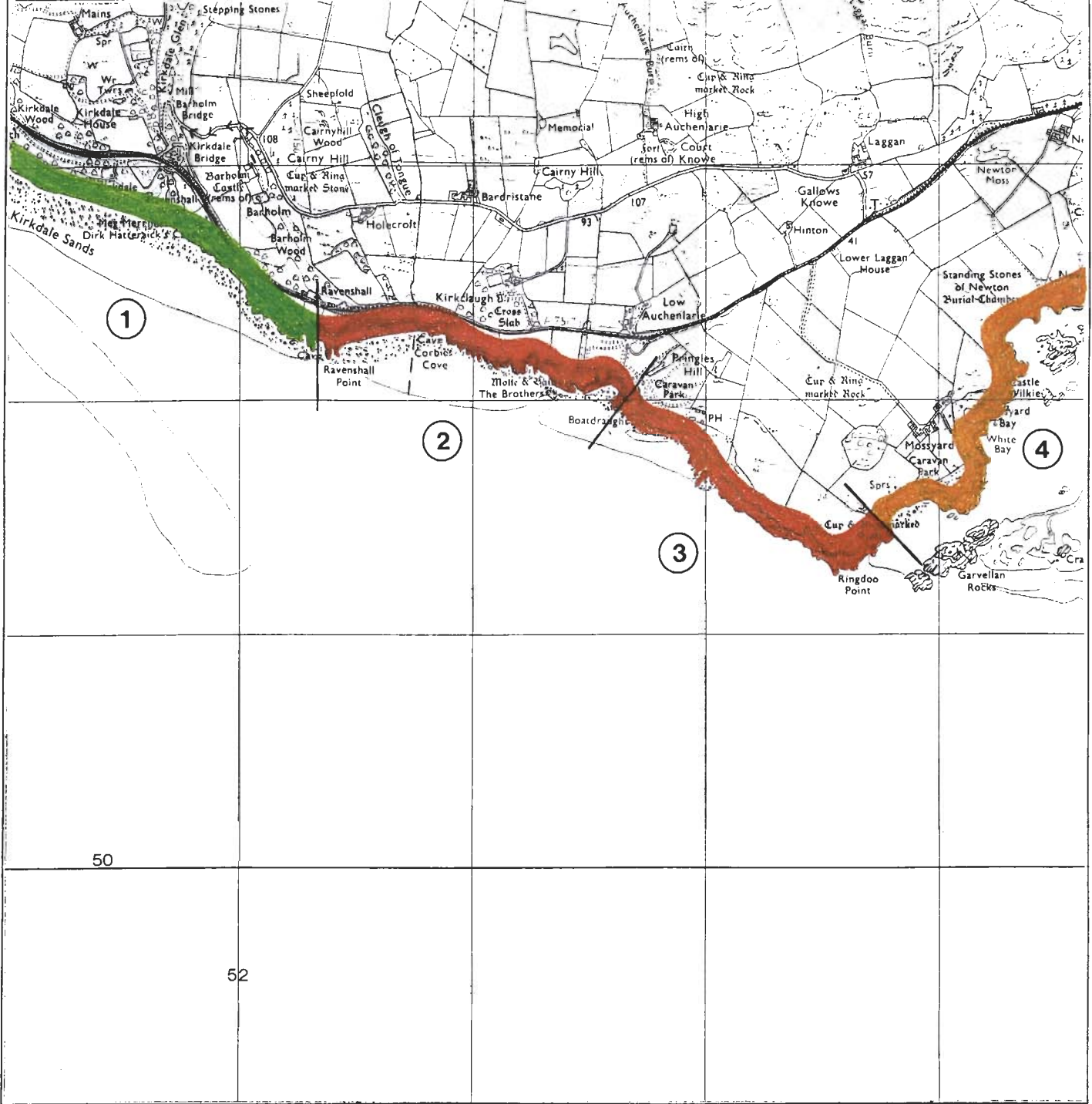
NX 5384 5182
KIRKCLAUGH
Boatdraught
Uncertain
Good
Nil

Sites in the Hinterland

NX55SW 11
NX 5344 5212
KIRKCLAUGH
Site of Cross Slab
12th century
Good
Nil

NX55SW 14
NX 5444 5143
MOSSYARD
Cup & Ring Mark
3rd & 2nd Mill BC
Good
Nil

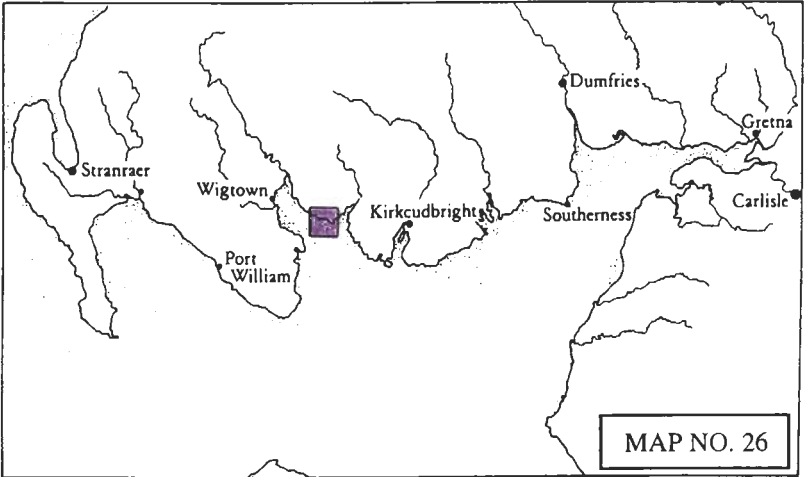
KIRKDALE BANK TO NEWTON HILL
NGR: NX 51-55/49-54



KEY

Erosion class	Derwent Code	Colour
Definitely accreting	Prussian Blue	
Accreting/stable	Light Blue	
Stable	Grass Green	
Stable/eroding	Deep Chrome	
Definitely eroding	Deep Vermilion	
Both accreting and eroding	Imperial Purple	
No access	Blank	
Land below 10m	Straw Yellow	

MAP CLASS: EROSION
 Assessment date: 02.10.96
 Scale 1:25 000



MAP NO. 26

