

MAP 37: HORSE ISLES TO CASTLEHILL POINT

Hinterland Geology and Coastal Geomorphology: This map depicts the head of Orchardton Bay, Rough Firth (classified as a fjord, SFR, page 52) and the lower tidal reach of the Urr Water. The region is characterised by an irregular coastline and shallow tidal-flats. The lower western shore of Rough Firth is covered with till and glacial drift deposits. Both till and marine sands occur together northwards to Palnackie. The same deposits overlie the hinterland southwards past Kippford. At Castlehill Point there are fluvioglacial drift deposits overlying this promontory headland. The coastal edge within this area consists of exposed rock, salt-marsh vegetated shingle and estuarine mud.

Erosion Class: Owing to the sheltered aspect within Rough Firth and the potential for high sediment loading down the Urr Water, parts of the shoreline on the west side of the Urr Water are both accreting and eroding. The shore line on the harder coastal edge is stable and eroding. Sheltered bays such as the one at Horse Isle Bay (NX 837524) trap sediment that becomes vegetated and increasingly stable.

Built Heritage & Archaeology: The archaeology of this section is predominantly distributed around the edges near the head of the bay, not in the low-lying mouth of the estuary. This section contains a large number of monuments relating to maritime activity, such as shipwrecks, quays, piers and jetties, a boathouse and launch and fishing stakes, providing testimony to the activity in Rough Firth during the last century (Graham & Truckell, 1977, 129). Of these monuments, only the shipwrecks, stranded nearer the current of the river Urr, display evidence of abrasion. The paucity of data available in the NMRS concerning these monuments prompts the recommendation of a survey and monitoring exercise. Also in the coastal edge zone, located on the eastern headland of Rough Firth Bay, and suffering limited abrasion, is the promontory fort of Castlehill Point. Of more significance to the condition of this site is the impact of a visitor path through the ramparts of the fort. Located in the immediate hinterland of the coast around Rough Firth Bay is the Mote of Mark, excavated in 1930 and 1973-74, and illustrating the extensive range of exchange networks of the Atlantic seaboard of the fifth and sixth centuries AD (Laing, 1973). No coastal erosion is evident.

Map 37: Hinterland Geology and Coastal Geomorphology

1. North of NORTH LODGE to OAKBANK WOOD

NX 814 520

6km

Low edge (Cliff < 5m, cliff >10m towards west)

Marine deposits and till

The upper tidal reach of Auchencairn Bay and Orchardton Bay. Both these areas contain marine sands and gravels at the bay heads. Torr Point (NX 823517) forms a rocky peninsula between Auchencairn Bay and the smaller Craigrow Bay. All three bays have well established salt-marsh which border low lying mud flats.

2. OAKBANK WOOD to north of GIBB'S HOLE WOOD

NX 844 540

3km

Cliff (< 10m)

Till over visible rock

This unit contains a peninsula that forms a division between Orchardton Bay and Rough Firth. Till overlies an irregular cliff-edge. The foreshore on both sides of the peninsula consists of greywackee rock platform which is broken only at White Port (NX 841519) and Horse Isles Bay (NX837524). Here the beaches are sand and shingle.

3. North of GIBB'S HOLE WOOD to GLEN BLACK STONE

NX 830 540

2km

Cliff (<5m)

Till and marine sands

This unit comprises the middle estuary of Rough Firth. Boulder clay and marine sands outcrop at the head of a small bay flanking Isle Point (NX 834546). Northwards, low tidal flats with small migrating channels is bounded by salt-marsh.

4. GLEN BLACK STONE to KIPFORD PIER (via PALNACKIE)

NX 834 560

5km

Low edge (< 5m)

Marine sands and till

This unit includes the lower tidal reach of the Urr Water up to Palnackie. The hinterland consists of marine sands and gravels on both sides of the river, with the exception of till that occurs at Orchard Knowes (NX 836562). Both sides of the river are colonised by salt-marsh vegetation.

5. KIPFORD ON SCAUR PIER to PORTOBEAGLE BAY

NX 844 540

3km

Low edge (< 5m)

Till and marine sands and gravels

Till occurs on the hinterland at Kipford on Scaur and at Port Donnel (NX 846537) where it outcrops over visible granite rock. Fluvioglacial drift outcrops to the south. The foreshore consists of a mixture of estuarine sands and mud.

6. PORTOBEAGLE BAY to NEEDLES EYE ARCH

NX 873 530

4.5km

Cliff (> 10m)

Till and fluvioglacial drift over visible rock

This is an exposed stretch of irregular coastline with a highly incised cliff-edge. Till occurs over visible rock platform with fluvioglacial deposits and marine sands and gravels evident towards to the east of the unit. The shoreline consists of precipitous cliffs with steeply folding Wenlock series greywackee with natural arches.

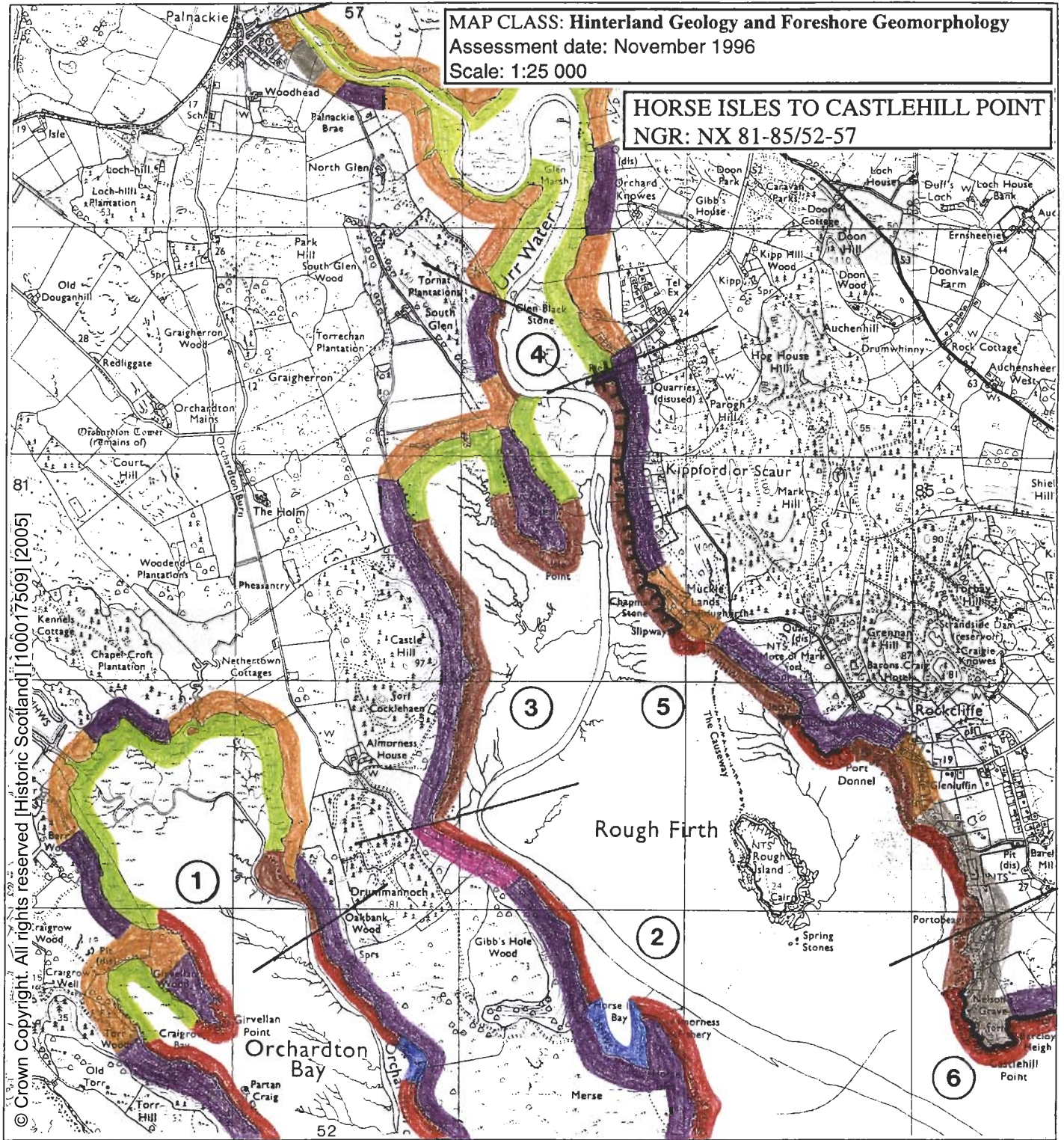
MAP CLASS: Hinterland Geology and Foreshore Geomorphology

Assessment date: November 1996

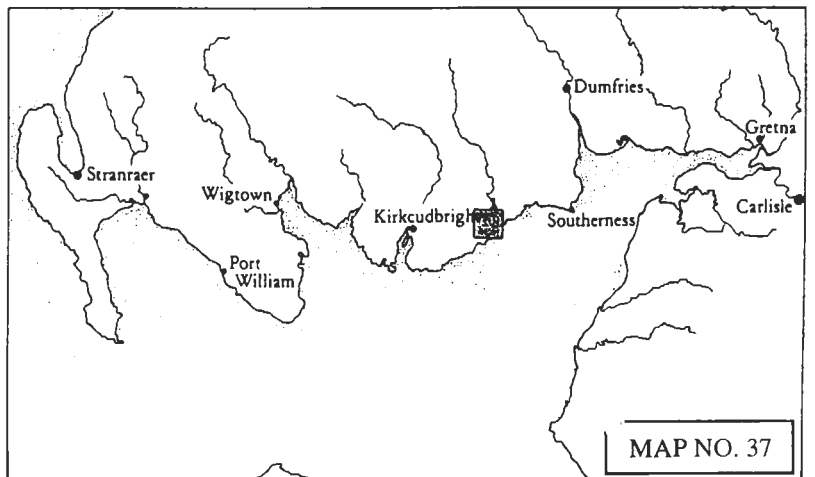
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HORSE ISLES TO CASTLEHILL POINT

NGR: NX 81-85/52-57



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 37: EROSION

1. Head of ROUGH FIRTH to CASTLE HILL POINT

NX 850 534

3km

Eroding or stable

This unit consists of the eastern side of Rough Firth and is fairly sheltered. The cliff-edge is irregular and incised. The MHW is stable owing to the hard granite geology.

2. HEAD of ROUGH FIRTH

NX 830 555

1.8km

Accreting or stable

This region of the firth is saltmarsh and therefore stable.

3. North of ISLE POINT to PALNACKIE

NX 830 560

2.4km

Both accreting and eroding

Lower tidal reach of the Urr Water. The river edge consists of alluvium and salt marsh. Erosion is occurring along the sides of the banks due to channel migration. Mud is also accreting in parts.

4. PALNACKIE (east bank) to north of KIPFORD

NX 836 556

3km

Eroding or stable

East bank of the lower tidal stretch of the Urr Water. Erosion of bank edges is occurring in parts. There is some erosion at the MHW but in general this unit is stable. Mud is accreting and focused in the curves.

4a. KIPPFORD

NX 827 550

0.4 km

Accreting and stable

The shoreline at Kippford is defended by a concrete sea wall and vegetated mud banks.

5. KIPFORD to CASTLE HILL POINT

NX 850 537

3.km

Stable and eroding

This section of the coastline is the lower estuary of Rough Firth. The foreshore consists of sand with an admixture of alluvium, shingle and boulders. Parts of the shore are prone to scouring at the HWM, generally this shoreline appears mainly stable.

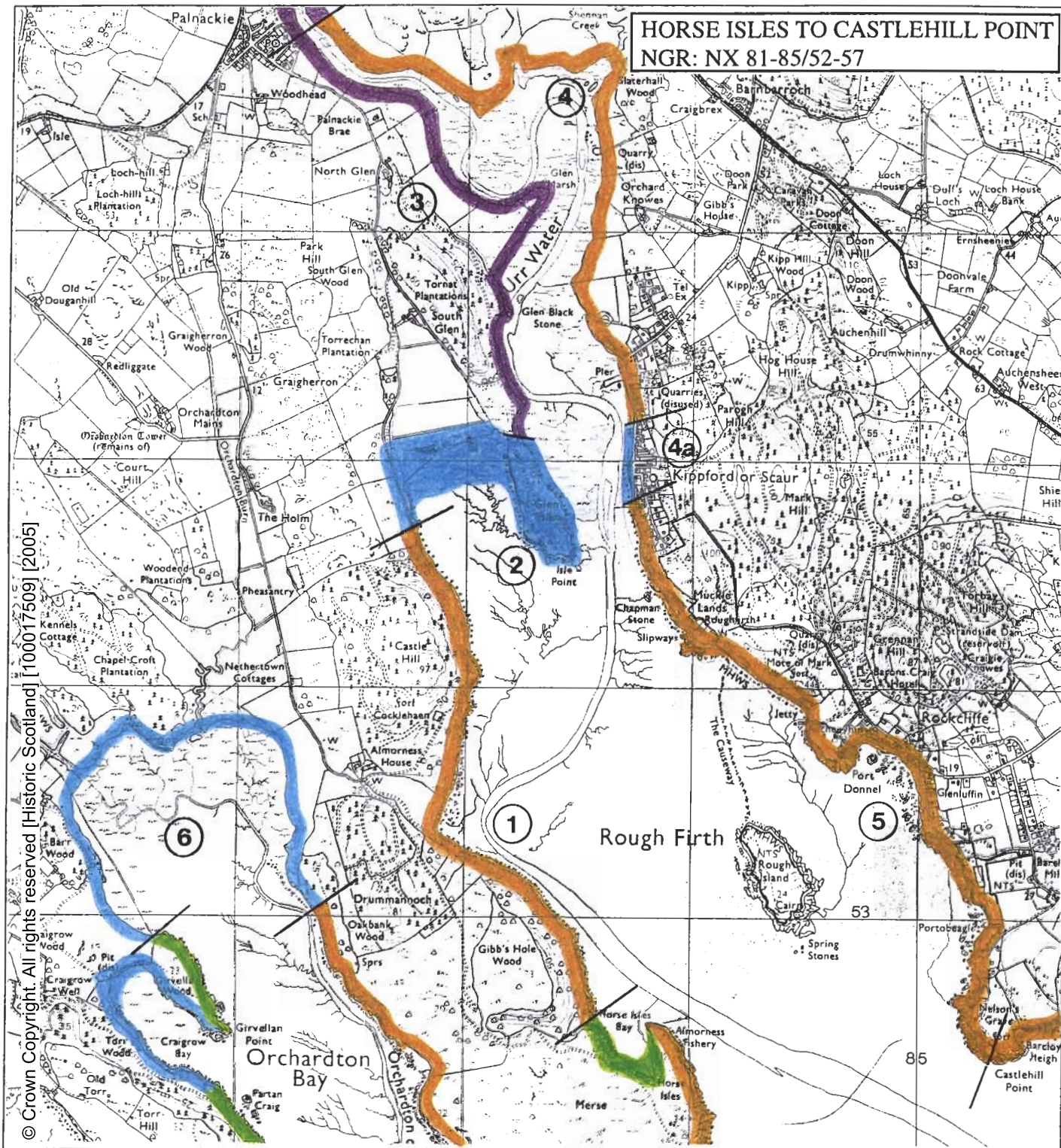
6. North of GIRVELLAN WOOD to north of OAKBANK WOOD

NX 817 537

2.1km

Stable or accreting

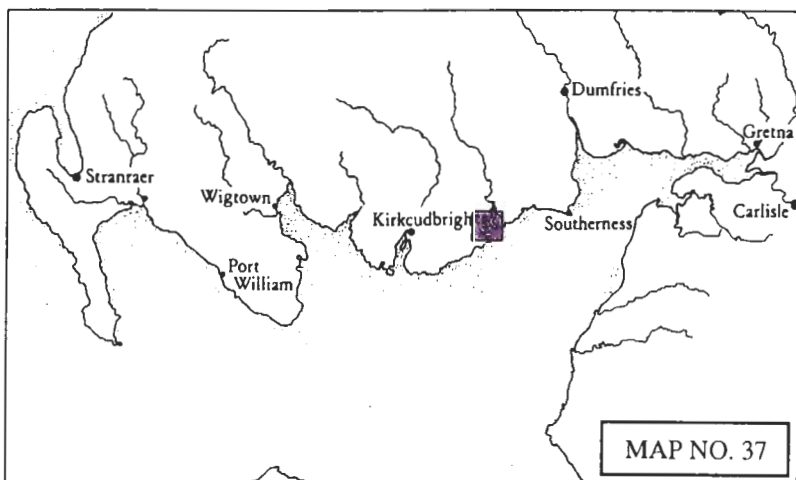
The upper reach of Orchardton Bay which is stabilised by saltmarsh. High sediment loads from the Loch Ling Burn are leading to mud accretion within the bay.



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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: 14.10.96
 Scale 1:25 000



MAP NO. 37

MAP 37: BUILT HERITAGE AND ARCHAEOLOGY

Sites on the Coast Edge & Foreshore

NX 8284 5338
ALMORNESS
 Ruins
 Uncertain
 Good
 Nil

NX 8359 5633
ORCHARD KNOWES
 Quay
 Uncertain
 Poor
 Monitor

NX 8358 5617
ORCHARD KNOWES
 Boat House & Launch
 19/20th century
 Good
 Nil

NX 84 53
ROUGH ISLAND
 Causeway
 Uncertain
 Good
 Nil

NX 8455 5293
ROUGH ISLAND
 Fishing Stakes
 19/20th century
 Good
 Nil

NX85SE 1
 NX 8541 5242
CASTLEHILL POINT
 Promontory Fort
 Scheduled Ancient
 Monument
 1st Mill BC/AD
 Fair
 Monitor

NX 8319 5562
SOUTH GLEN
 Shipwreck
 Uncertain
 Poor
 Survey & Monitor

NX85NW 8044
 NX 8342 5547
KIPPFORD
 Shipwreck - Barge
 Poor
 Survey & Monitor

NX85NW 8043
 NX 8361 5540
KIPPFORD
 Shipwrecks
 Uncertain
 Poor
 Survey & Monitor

NX85NW 20
 NX 8360 5535
KIPPFORD PIER
 Pier
 Uncertain
 Good
 Nil

NX 8444 5384
ROCKCLIFFE
 Jetty
 Uncertain
 Good
 Nil

Sites in the Hinterland

NX 8294 5546
SOUTH GLEN
DISUSED QUARRY
 Uncertain
 Good
 Nil

NX85NW 21
 NX 8368 5530
KIPP QUARRIES,
KIPPFORD
 Quarries
 Uncertain
 Good
 Nil

NX85SW 2
 NX 8450 5403
MOTE OF MARK
 Fort
 Scheduled Ancient
 Monument
 5/6th centuries AD
 Good
 Nil

NX 8526 5260
NELSON'S GRAVE,
ROCKCLIFFE
 Gravestone
 19th century
 Good
 Nil

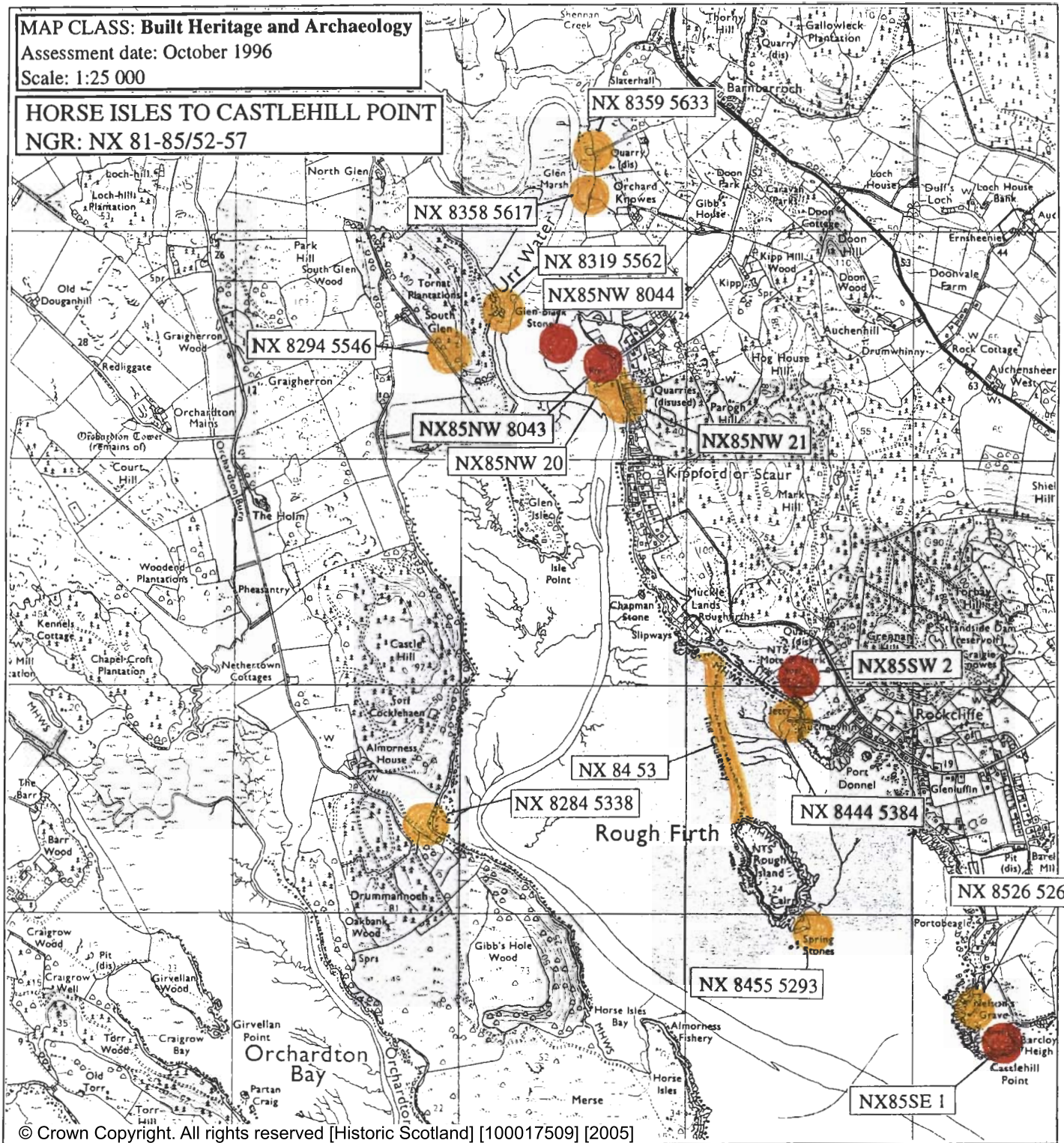
MAP CLASS: Built Heritage and Archaeology

Assessment date: October 1996

Scale: 1:25 000

HORSE ISLES TO CASTLEHILL POINT

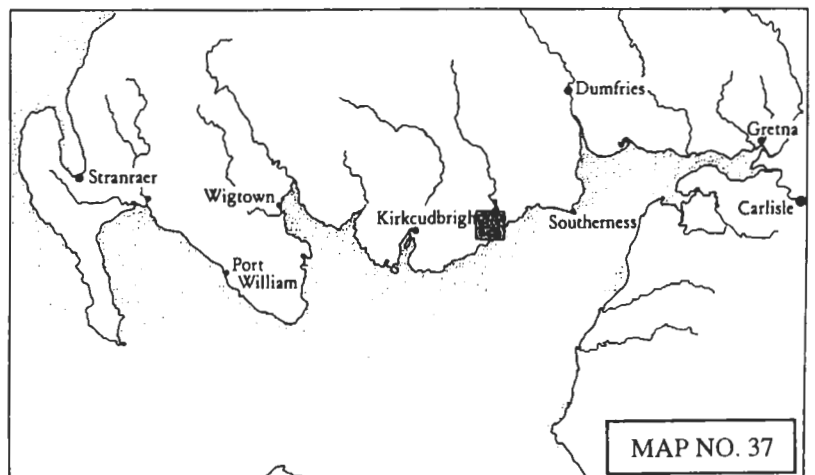
NGR: NX 81-85/52-57



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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.	Dashed outline	Yellow	Gardens/Designed landscape
	Roundel - Solid, (or area)	Yellow	Undesignated wreck
NX13 SW17	Area	Green	Insufficient information; more work needed
	Area	Blue	Probably archaeologically sterile



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