

MAP 7 TENTSMUIR SANDS TO TENTSMUIR POINT

Built heritage and archaeology - The majority of the monuments which were visible along the sandy foreshore and coast edge which dominate this section are of fairly recent date and relate to wartime defence measures adopted to protect the sensitive Tentsmuir area including Leuchars base and the entrance to the Tay estuary. Monuments of interest include small two storey observation towers (NO52NW2, NO52NW1), a larger complex of buildings (NO52SW28) encompassing a two storey brick building, corrugated iron shed, and corrugated iron dome roofed bunker all in poor condition. Behind the coast edge, thick forestry all but obscures pillboxes (NO52NW3, NO52NW5, NO52NW6,) and may also have been the reason that the Command Post (NO52NW4) was not seen. A line of square tank traps can be traced intermittently, covered by sand along some stretches, and exposed at others (NO50412617 - 50412650; NO50462657-50472677; NO50442675 - 50432700; NO50392706 - 50352716). Other features of interest on the foreshore include an area of scattered metal wreckage including piping, flanges, stop cocks, and small shell cases (NO507267) exposed by a lowering of the beach sand, and a cork brick structure with adjoining wooden post and shackle fittings (NO50432722). which may be an air bombing target associated with the wartime bombing range shown on Admiralty Charts (Hydrographic Office 149-35, 1941). As the sand beach turns west at the mouth of the Tay, lines of timber piles can be seen embedded into the sand over the wide expanse of the foreshore (NO502282). These features are probably glider traps but further work would be needed to confirm this suggestion.

Hinterland geology and coastal geomorphology; Erosion class-The dune system at Tentsmuir is one of the largest in Scotland. The extensive dune area is the result of considerable Postglacial sealevel fall left a wide beach zone upon which dunes developed and encroached westwards over low raised beach sands. Within the forested area relic dune ridges run parallel to the coastline. At Kinshaldy hummocky, broken dunes occur either side of the stream. The dunes are subject to public pressure, as it is the main access point to the beach and there is trampling damage by horses. The foreshore has an expansive sand beach with a low gradient. The wide upper beach has a surplus of sand which nourishes the dunes at the coast edge. The mobile sands on the dunes are stabilised with marram grasses and advancing vegetation. To the north, zones of dune accretion alternate with zones of erosion. North of the field boundary erosion is severe and the low, poorly developed dunes display a sand cliffed coast edge (Erosion unit 3). The erosion is due to the changing positions of offshore sand bars at Tentsmuir Point. The foreshore is steep with a narrow upper shore which restricts the transfer of sand to the dunes. At Tentsmuir Point the Tay estuary has a strong influence on the coastline. A complex wave and tidal regime dominates and the spit/bar complex of Abertay sands controls the development and migration of the point. Accretion at the Point is associated with erosion of the north Tentsmuir beach and the tidal indentation area to the west.

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EROSION UNITS

1

NO50152450

0.9 km

Both accreting and eroding

Hummocky, broken dunes with bare sand surfaces occur at the stream outlet and at the beach access point where public pressure is greatest. To the north the sloping dune edge indicates there are mobile sands and the dunes are experiencing both erosion and accretion. The wide beach provides an adequate supply of blown sand for dune development.

2

NO50352558

1.2 km

Accreting or stable

Antitank blocks are set back from the beach suggestive of long term accretion. The dunes have mobile blown sands stabilised by marram grasses. Sand accretion is encouraged as the pine trees reduce wind erosion and there is a wide beach with a surplus of sand on the upper beach level.

3

NO50502675

1.3 km

Definitely eroding

North of the field boundary erosion is severe, the low dune edge is undercut with a vertical sand cliff. The protective vegetation mat is broken up down the front of the dunes. Elsewhere, wind deflation hollows are advancing inland. The foreshore is steep, with a narrow upper foreshore which supplies blown sands to the dunes. The changing position of the offshore sand bars also effects the stability of this section. The high water mark is retreating landward at a rapid rate exposing antitank blocks and new fence posts are close to the undercut edge.

4

NO50592750

0.4 km

Eroding or stable

The dunes are low and fence posts are near the edge, however the bare sand face of the dunes slopes towards the foreshore as opposed to a cliffed edge.

5

NO503528819

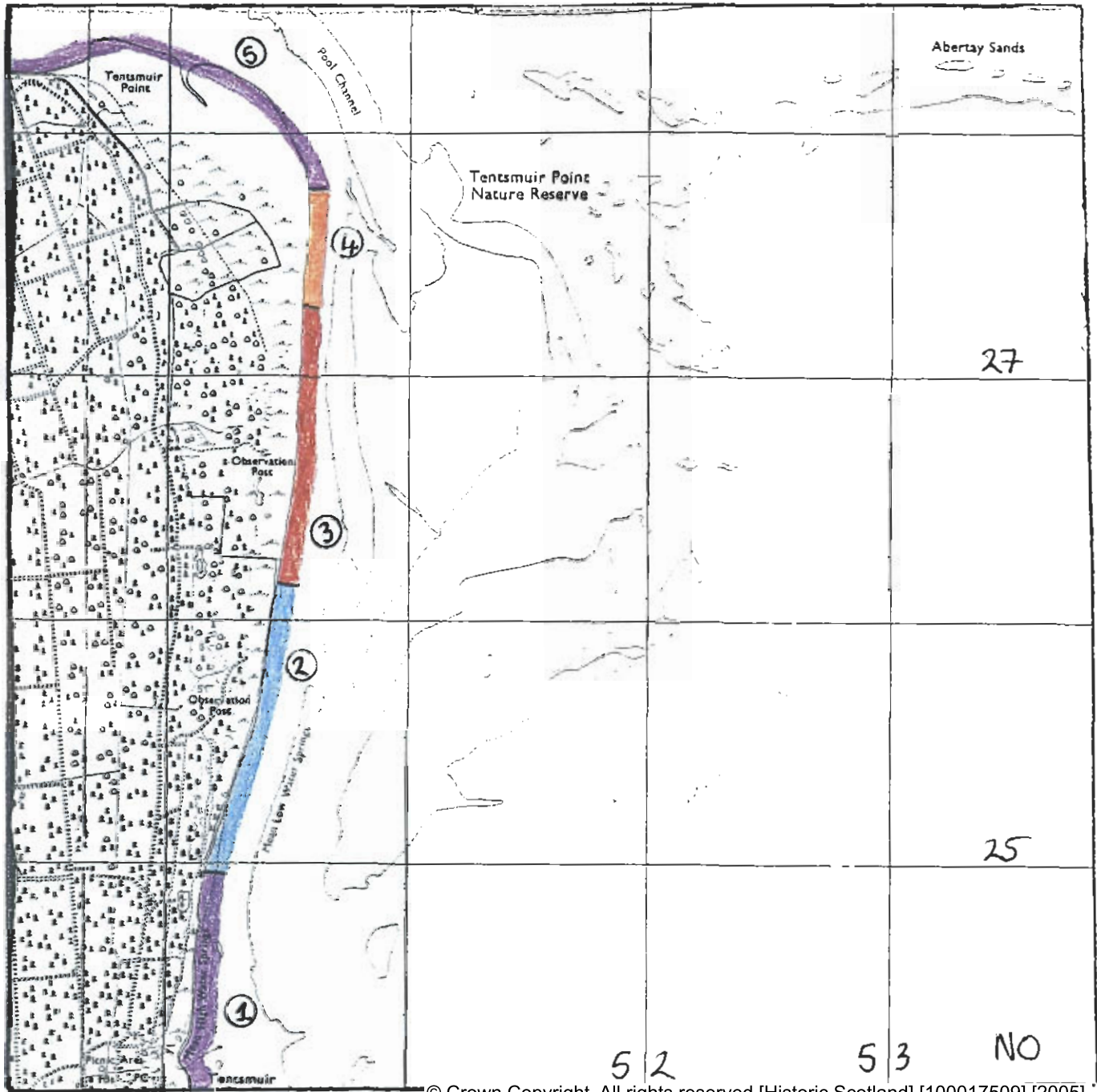
1.2 km

Both accreting and eroding

Tentsmuir Point experiences accretion and erosion associated with the development of the Abertay sands, which is a complex of spits, bars and tidal channels. The Abertay sands shelters the Point encouraging accretion. Accretion at the Point is intimately linked with the erosion of the northern part of Tentsmuir Sands and the tidal indentation of the low lying area to the west.

MAP CLASS: **EROSION**
 (Assessment date: 5 October 1996)
 NO 42/52. Scale 1:25,000

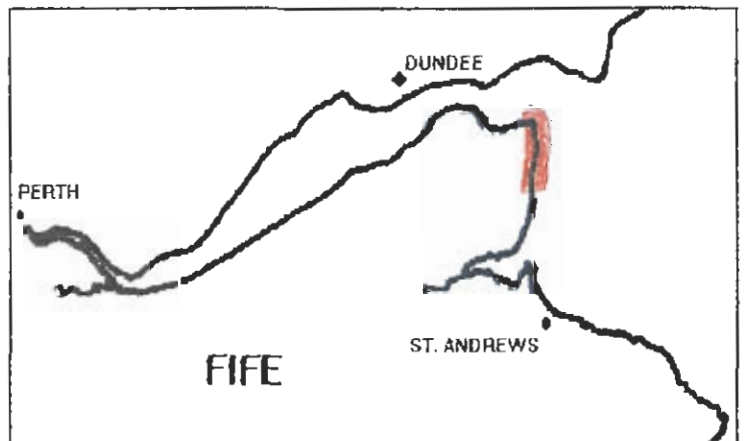
TENTSMUIR SANDS TO TENTSMUIR POINT



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KEY

Erosion class	Staedtler colour	Colour
Definitely Accreting	ultramarine blue	
Accreting or stable	light blue	
Stable	light green	
Eroding or stable	orange	
Definitely Eroding	scarlet	
Both accreting and eroding	purple	
No access	blank	
Land below 10m	canary yellow	



MAP 7 TENTSMUIR SANDS TO TENTSMUIR POINT

GEOLOGY UNITS

1

NO50482613

4.5 km

Sand

Low edge (<5 metres)

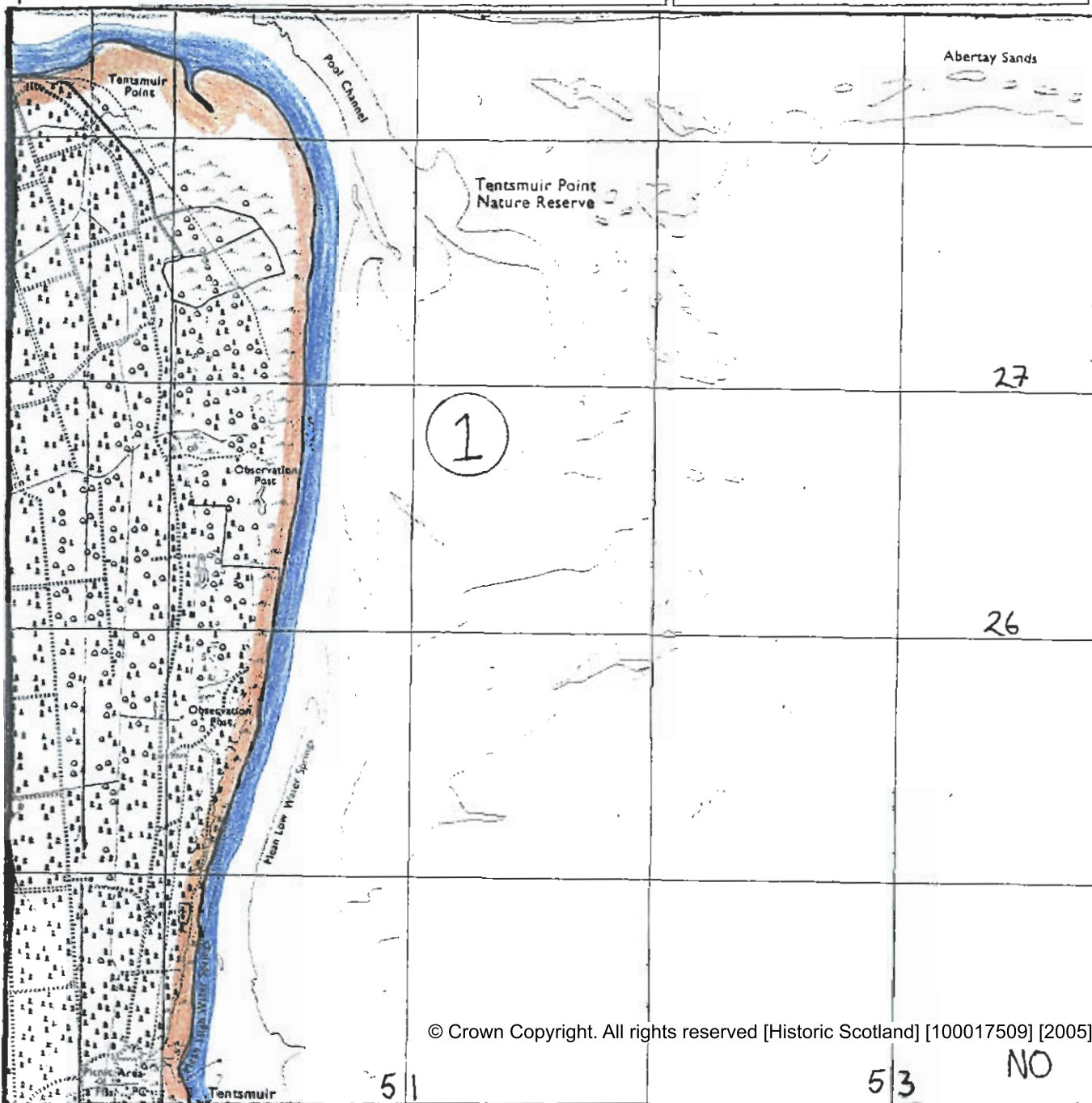
Blown sand

Tentsmuir Sands is an extensive shelly sand beach with a low gradient. At the coast edge there is a wide well developed dune system. The accreting sands are sheltered by the forest in the hinterland and the mobile sands are stabilised with marram grasses and other dune species to create high dunes.

To the north, the hummocky dune zone is less well developed, alternating between zones of accretion and erosion. North of the field boundary the upper foreshore is narrow and slopes steeply to the lower foreshore. Offshore there are a series of sand bars. At the coast edge the dunes are low with vertical cliffed faces.

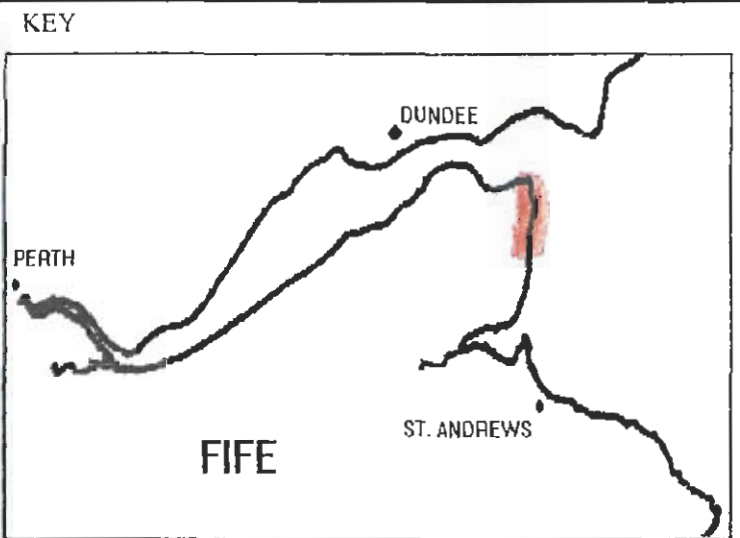
Tentsmuir Point is a sand formation intimately linked with the formation and the changing positions of the Abertay sands. The Abertay sands are a complex system of intertidal spits and bars which are dynamic as a result of the interplay of estuarine, tidal and wave forces. West of the point there is a low lying tidal indentation area.

The hinterland of Kinshaldy forest consists of extensive blown sand deposits which have encroached westwards over the low raised beach deposits. Old dune ridges run parallel to the coast. The dunes and links are the result of massive Postglacial coastal advance and falling sea level which left a wide beach zone upon which dune systems developed.



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Hinterland Geology	Standard colour	
Drift, boulder clay	light grey	
Drift, boulder clay over visible rock	Caran D'ache violet	
Raised beach and marine deposits	golden brown	
Brown sand	peach	
Glacial sand and gravel	magenta	
Alluvium	grass 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 curbs	
Coastal Geomorphology		
Mainly rock platform	vermillion	
Mainly sand	indigo	
Mainly alluvial/marine mud	sienna brown	
Marsh	lime green	



**MAP 7 - TENTSMUIR SANDS TO
TENTSMUIR POINT**

**BUILT HERITAGE AND
ARCHAEOLOGY UNITS**

Sites behind the coast edge

NO50272561

Collapsed concrete wall
20th Century
Poor
Nil

NO50352578 - 50362585

Line of square concrete tank traps
20th Century
Fair
Nil

NO52NW3

TENTSMUIR FOREST PILLBOX
PILLBOX
20th Century
Poor
Survey

NO52NW6

TENTSMUIR FOREST PILLBOX
PILLBOX
20th Century
Fair
Nil

Sites on the coast edge and foreshore

NO52SW58

TENTSMUIR FOREST
OBSERVATION POST
20th Century
Poor
Survey

NO50302523

2 wooden posts
20th Century uncertain
Fair
Nil

NO52NW2

TENTSMUIR FOREST
OBSERVATION POST
20th Century
Fair
Nil

NO52NW4

TENTSMUIR FOREST
COMMAND POST
COMMAND POST
20th Century
Not seen
Nil

NO52NW5

TENTSMUIR FOREST PILLBOX
PILLBOX
20th Century
Fair
Nil

NO50412617 - 50412650;

NO50462657-50472677;

NO50442675 - 50432700;

NO50392706 - 50352716

Intermittent line of tank traps
exposed amidst dune system
20th Century
Fair
Nil

NO52NW1

TENTSMUIR FOREST
OBSERVATION POST
OBSERVATION POST
20th Century
Good
Nil

NO50492683

4 wooden posts on foreshore
20th Century
Fair
Nil

NO507267

Area of scattered metal wreckage on
foreshore: piping, flanges, stop
cocks, small shell cases.
20th Century
Poor
Survey

NO50432722

Cork brick structure, iron shackle
and wooden posts at high water
mark.
Towing target for air bombing (?)
20th Century
Poor
Nil

NO50552758

12 Wooden posts on foreshore

Uncertain

Fair

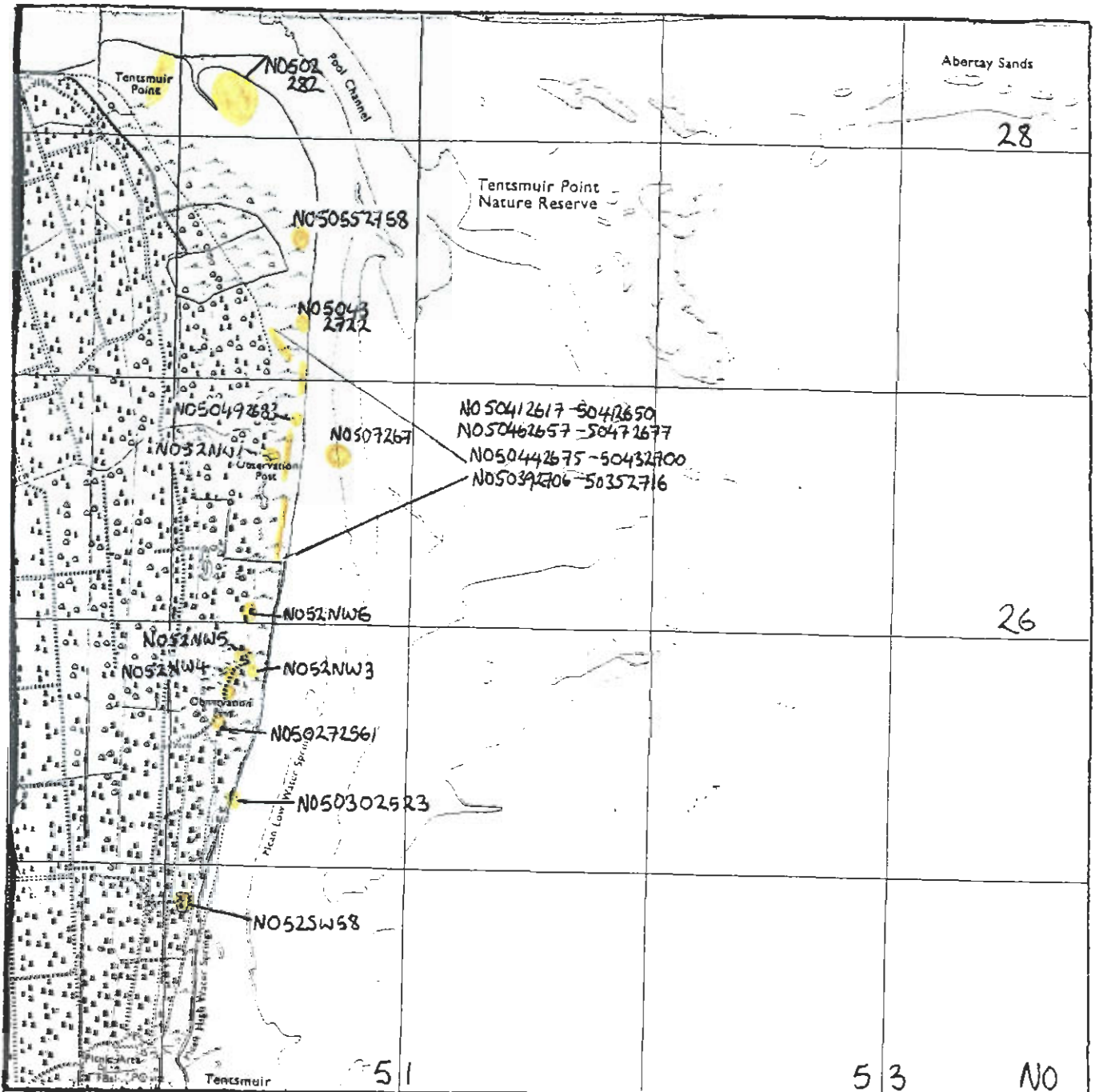
Nil

NO502282

Area of wooden posts on foreshore
in grid pattern (glider traps)
20th Century
Poor
Survey

MAP CLASS: Built Heritage and Archaeology
 (Assessment date: 5 October 1996)
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KEY

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Site location	Symbol	Stairtiller colour	Significance
	solid roundel	cannine	Protected Ancient Monument
NGR e.g.	cross	cannine	Listed Historic Building
NO12345678	open roundel	cannine	Monument formally proposed by Historic Scotland for designation
	solid roundel	yellow ochre	Other known monument
NMRS e.g.	dashed outline	yellow ochre	Designated landscape
NO28NW35	open roundel	yellow ochre	Undesignated wreck
	area	green	Insufficient information, more work needed (no access, or not walked)
	area	blue	Probably archaeologically sterile

