WATERFORD - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Tramore**		
Other names used for site			
IGH THEME	**IGH2 Precambrian to Devonian Palaeontology**		
TOWNLAND(S)	**Westtown, Newtown, Tramore**		
NEAREST TOWN	**Tramore**		
SIX INCH MAP NUMBER	**Waterford 26**		
NATIONAL GRID REFERENCE	**258217 101050**		
1:50,000 O.S. SHEET NUMBER	76	**1/2 inch Sheet No.**	23

Outline Site Description
Rocky sea cliffs and a wooded glen, which is slightly inland from a beach.

Geological System/Age and Primary Rock Type
The rocks in this site are all part of the Tramore Limestone Formation of middle Ordovician age, from around 470 million years ago.

Main Geological or Geomorphological Interest
The rocky coast south of Tramore strand has long been known for highly fossiliferous rocks, classed as part of the Tramore Limestone Formation. It has yielded a rich diversity of marine animals from a mid-Ordovician shelf sea environment. These are mainly trilobites (extinct arthropods) and brachiopod shells, and also a characteristic common dome-shaped bryozoan colony, all of which date from around 470 million years ago. In addition, black slates at Lady Elizabeth's Cove contain numerous graptolites (an extinct planktonic animal).

The mix of useful animal groups makes this an important site for biostratigraphical correlation within the Ordovician Period, both in Ireland and internationally. It is even more important because the animal species present at Tramore were biogeographically differentiated into different faunal provinces in older rocks, and the site will be very important in understanding the breakdown of the faunal provinciality within the Iapetus Ocean that once separated northwest Ireland from southeast Ireland. Tramore appears to have been a key site for the early migration of North American species into the Anglo-Welsh (and Irish) area.

The cliffs at the Tramore beach also have an interesting section of two different Quaternary (Ice Age) tills. A consolidated, lower till was deposited at the base of the ice sheet, while the overlying, less stiff till was "let down" from within and on top of the ice.

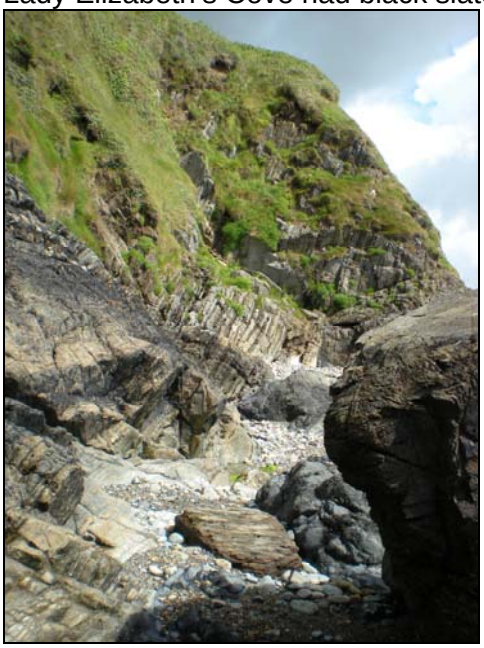
Site Importance
This is a nationally important site which has been proposed for Natural Heritage Area (NHA) designation by the National Parks and Wildlife Service, but which needs immediate protection and recognition as a County Geological Site.

Management/promotion issues
The site is nearly all foreshore and coastal cliffs which are not at great risk, but which can be damaged by developments. For example, construction of a new coastguard station in Lady Elizabeth's Cove has obscured a section which had previously yielded graptolite fossils. Coastal protection works against erosion have the potential to cover key sections, or prevent the sea from removing fallen debris and therefore allow geological sections to degrade for their scientific interest.

Two tills are visible in the cliff at the end of the beach. Rock armour is imported.

The rocks are visible along most of the shoreline south of the beach but low tide is needed.

Lady Elizabeth's Cove had black slates with graptolite fossils, but they are not now seen.



Tramore Limestone Formation.

Calcareous bryozoans fossils dissolve out in bedding planes.


TRAMORE
Trá Mhór
Ballycarnane
Coolnagoppoge
R675
The Cove
An Cuan
Pier
Boat
Slip
Lifeguard
Station
Lady Donerailes Cove
Cuan na Failte
Lady Elizabeth's Cove
Gleann an Chuain
Tramore Bay
Cuan
Thrá Mhór
Tramore
Coastal
Section
Newtown
Newtown Cove
Garrarus
Cross Rds
Crossaire
Gharbhrois
Westtown
Garrarus
Metal Man Tower
An Fear Miotail
Great Newtown Head
Promontory
Fort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Tramore Site Extent
Newtown Glen
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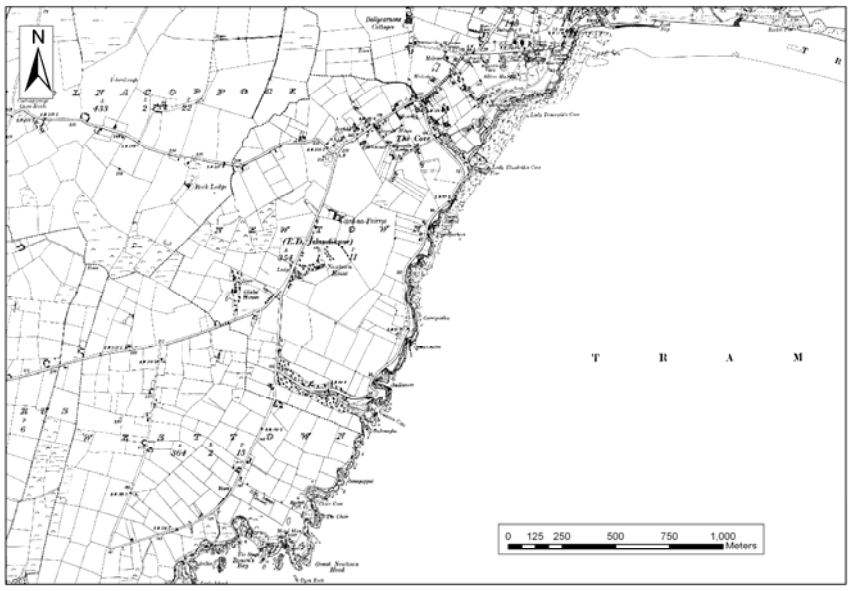
Meters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