

## WICKLOW - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Tober Demesne</b>
Other names used for site	The Fish Pond, Gormanstown Group Water Scheme
<b>IGH THEME</b>	<b>IGH16 Hydrogeology</b>
<b>TOWNLAND(S)</b>	<b>Tober Demesne</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Dunlavin</b>
<b>SIX INCH MAP NUMBER</b>	<b>15</b>
<b>NATIONAL GRID REFERENCE</b>	<b>688527E 703350N (centre of 'fish pond')</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>56 GSI Bedrock 1:100,000 Sheet No.</b>

16

### Outline Site Description

At Tober Demesne a spring emerges from deep glaciofluvial gravels and flows into a man-made 'fish pond' feature, before flowing away from the site as a fast-flowing stream. The water supply for much of the area inside the Kildare county boundary to the northwest of the site (the 'Gormanstown Usk' group scheme groundwater supply), is extracted from a shallow borehole at the site, which is adjacent to the spring.

### Geological System/Age and Primary Rock Type

The spring emerges from sands and gravels that are of Quaternary age. The depth to bedrock at the spring is greater than 10m, and the bedrock (at depth) is of Silurian age greywacke and shale.

### Main Geological or Geomorphological Interest

The Gormanstown Group Water Scheme abstracts 300 m<sup>3</sup> per day (66,000 gallons per day) from a borehole located beside a high yielding spring. The spring (and borehole) is fed by a locally important sand and gravel aquifer. Almost 3,000 m<sup>3</sup> of water per day has been measured to flow out of the spring.

Groundwater levels are close to, or at the ground surface, in the vicinity of the spring and borehole. The topography around the spring forms a horseshoe, which drives groundwater westwards to discharge at the spring which is located at the point where the sand/gravel deposits pinch out.

The groundwater quality at the source is hard to very hard, as the spring extracts from limestone sands and gravels.

### Site Importance – County Geological Site

The spring at Tober Demesne is one of the largest springs in County Wicklow, and work completed by the Geological Survey of Ireland has shown that the spring and borehole have a contributing area of several square kilometres. As the site is also a major water supply source, it is also one of the most important hydrogeological sites within the county.

### Management/promotion issues

The site is securely fenced off within its own compound, and the 'fish pond' is surrounded by a concrete chamber. Being a secure water supply vulnerable to contamination the general promotion of the locality is not recommended. General education about the vulnerability of 'spring' groundwater supplies to pollution from septic tanks and agricultural slurry spills and bad spreading practices is highly advisable.

The site is easily seen from the roadside and the adjacent ruined church affords good views of the feature, as well as the emergent stream flowing away from it.



The 'fish pond', viewed from the road at the northeast.



The water emerging through the fish pond (left), and flowing past the ruined church (right).



Overview of the Gormanstown Usk Group Water Scheme, viewed from the adjacent road.





