

## OFFALY - COUNTY GEOLOGICAL SITE REPORT

|                                   |  |
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| <b>NAME OF SITE</b>               | <b>Clonbulloge Spring</b>                    |
| Other names used for site         | Clonbulloge Hot Spring                       |
| <b>IGH THEME</b>                  | <b>IGH16 Hydrogeology</b>                    |
| <b>TOWNLAND(S)</b>                | <b>Clonbulloge</b>                           |
| <b>NEAREST TOWN/VILLAGE</b>       | <b>Clonbulloge</b>                           |
| <b>SIX INCH MAP NUMBER</b>        | <b>19</b>                                    |
| <b>ITM CO-ORDINATES</b>           | <b>660696E 723690N</b>                       |
| <b>1:50,000 O.S. SHEET NUMBER</b> | <b>49 GSI BEDROCK 1:100,000 SHEET NO. 16</b> |

### **Outline Site Description**

This site comprises a significant spring rising situated 2m from the eastern bank of the Figile River, just west of Clonbulloge Village.

### **Geological System/Age and Primary Rock Type**

The feature is a hydrogeological and karstic geology spring that is post-glacial in age, but which flows through impure Lower Carboniferous 'Calp' limestone. This limestone is buried deep beneath the site and the general area by Quaternary deposits of till (boulder clay) and alluvium.

### **Main Geological or Geomorphological Interest**

The spring has a large diameter concrete pipe installed around it, with a sump 1.55m deep. A small pumphouse has been built next to the chamber. The temperature of the groundwater issuing from the spring is almost 15° C, which is considered to be warm for a typical Irish spring, as warm springs are considered to have a mean temperature of equal to or greater than 13° C.

A major northeast to southwest fault is mapped 200m north of the spring, but it is possible that the fault is at the spring. The chemistry and quality indicate that the groundwater at the spring is a mixture of shallow and deep groundwater. The fault is assumed to be the mechanism that allows deep groundwater circulation in the area to cause the increased temperatures observed at the spring. Groundwater flow is assumed to be from the north and northeast, along the direction of the fault. A "window" in the subsoils, perhaps due to the presence of a localised sand/gravel unit, in association with the fault network, may allow groundwater to reach the surface at the spring.

### **Site Importance – County Geological Site**

The site, as an unusual element of the hydrogeology of County Offaly, is recommended as a County Geological Site.

### **Management/promotion issues**

Aside from wider issues of protecting groundwater quality, the site is managed by Irish Water, but promoting it would not be advisable without active partnership with Irish Water.



The compound housing the spring and adjacent pumphouse.



The pumphouse compound with the spring completely encased within the subsurface chamber.



View of the spring chamber and river (2004).



View of spring within the chamber (2004).

