

ROSCOMMON - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Rockingham Spring
Other names used for site	
IGH THEME	IGH1 Karst, IGH16 Hydrogeology
TOWNLAND(S)	Rockingham Demesne
NEAREST TOWN	Boyle
SIX INCH MAP NUMBER	6
NATIONAL GRID REFERENCE	184970 302880 (spring)
1:50,000 O.S. SHEET NUMBER	33 1/2 inch Sheet No. 7

Outline Site Description

The Rockingham Spring site comprises a disused spring sump and three production boreholes (PW-1, PW-2, PW-3). The spring overflows via two channels to meet the Ballykeevican stream, which then flows to Lough Key. A fourth, augmentation borehole is approximately 300 m north east of the spring, located in the adjacent field.

Geological System/Age and Primary Rock Type

The spring is of karstic origin, formed in pure bedded limestones of the Oakport Formation, which is of Lower Carboniferous age (359-320 million years ago).

Main Geological or Geomorphological Interest

The Oakport Limestone around Rockingham Demesne comprises well bedded, well-jointed, pale, clean, coarse grained rock, with thin shales. The boreholes drilled around the springs indicate fracture zones in the first 20 m. These fractures are likely to act as the major conduits for groundwater flow. The Oakport Limestone has evidence of significant karstification. Epikarst (clints and grikes) has been observed in the uppermost metres of quarry sections around the spring. Furthermore, there is a high density of karst features (dolines, swallow holes, springs and turloughs) located in the Oakport and Lower Ballymore Limestone.

Monitoring of daily abstraction and overflow was undertaken from July 1993 to April 1994. The spring overflows via two channels that meet the Ballykeevican stream. The first channel flows over the weir, via the front of the pond area. The second is a smaller stream flowing from the rear of the pond area. It is likely that the second channel also takes discharge from a fracture zone, which is adjacent to, or part of, that feeding the Rockingham Spring. These data indicate an annual discharge of approximately 5.9M m³/yr, which suggests a daily discharge of approximately 16,000 m³/d.

Site Importance – County Geological Site

Rockingham Spring is one of the largest springs in County Roscommon, with a contributing area of approximately 16 km². 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 boreholes are surrounded by concrete chambers. The spring is now completely covered over. Being a secure water supply vulnerable to contamination the general promotion of the locality is not recommended. General education about the vulnerability of karst groundwater supplies to pollution from septic tanks and agricultural slurry spills and bad spreading practices is highly advisable.



A view of Rockingham Spring with boreholes housed in adjacent buildings.



General view downstream over the spring pool at Rockingham Spring.

