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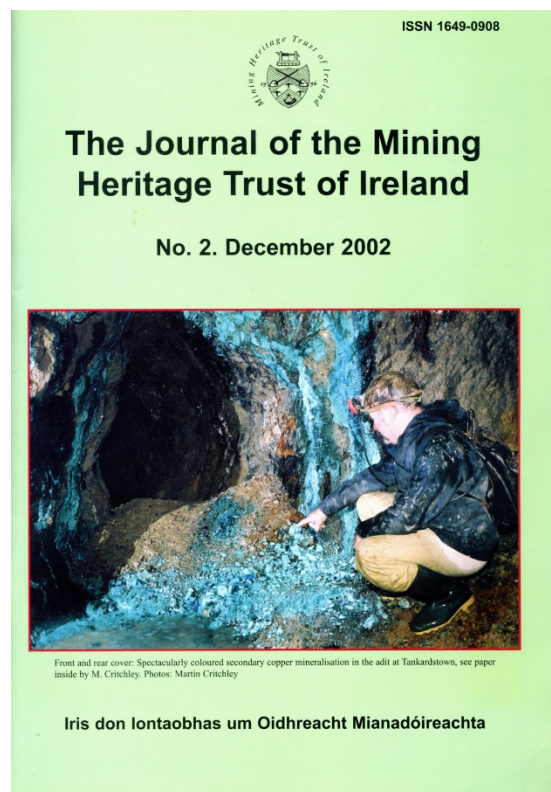
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Carville, G. (2002) Cistercians, Geology and their Medieval Quarries' *Journal of the Mining Heritage Trust of Ireland*, **2**, pp. 61-64

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# CISTERCIANS, GEOLOGY AND THEIR MEDIEVAL QUARRIES

Geraldine Carville

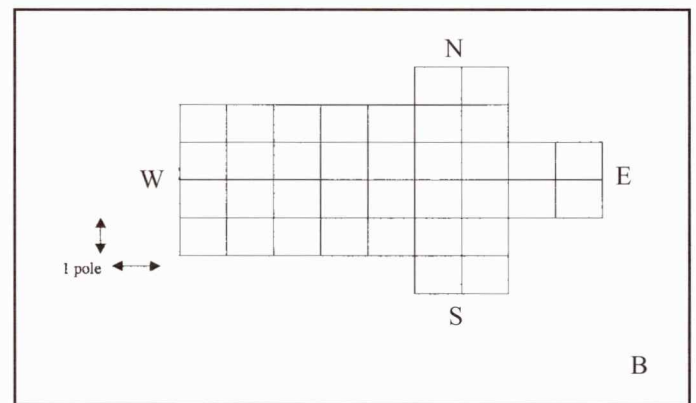
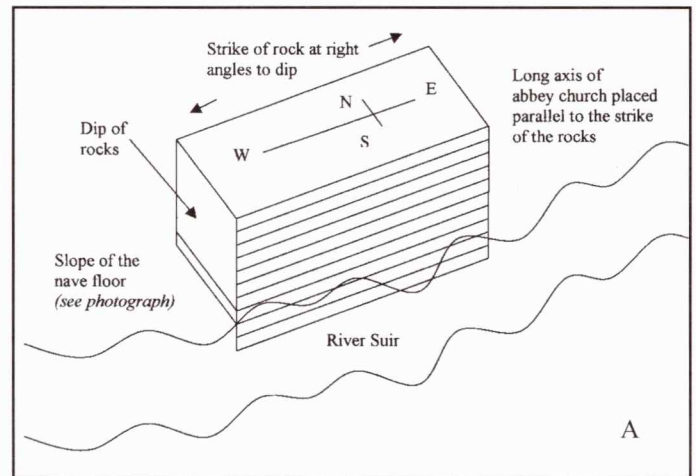
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**Abstract:** The paper explores some evidence of the geological understanding and early quarrying of the Cistercians in Ireland, examining Holy Cross Abbey in Tipperary in particular. *Journal of the Mining Heritage Trust of Ireland, 2, 2002, 61-63.*

## THE BEDROCK OF CISTERCIAN MONASTERIES

Cistercian abbeys were massive stone structures, generally sited beside rivers. Therefore, a foremost consideration was practical geology. Not only had building stone to be available locally, but ideally a solid bedrock foundation had to be obtained.

Only three of the thirty-three Cistercian abbeys in Ireland are built on drift. Twenty are on rock outcrops in river valleys (Fig. 1) and in many the strike of the rock runs east-west in line with the long axis of the church. These abbeys were built to a plan with the chancel on the east and the cloisters to the south. Such is the tendency in Tintern, Hore, Abbeyshrule, Knockmoy, Tracton, Abbeymahon and Boyle (Carville 2003).



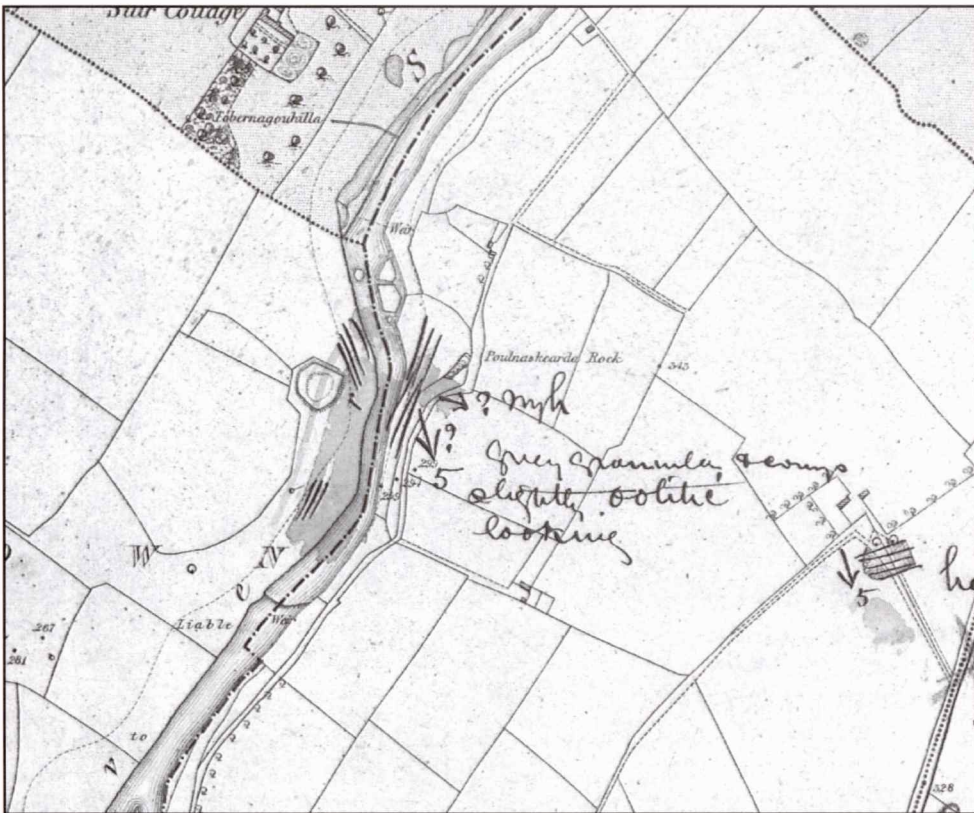
**Figure 1 (left).** The Cistercian abbeys in the vicinity of which there are rock exposures.

**Figure 2. (above).** The typical Cistercian abbey plan at B with the example of Holy Cross illustrated at A.

Many of these outcrops are limestone, reflecting the common occurrence of this Carboniferous rock type throughout Ireland. Such is the case with Holy Cross which was excavated in 1972. At Mellifont the monks had a problem with an east-west dip in the rock which they solved by putting a crypt under the lower end.

## CISTERCIAN QUARRIES

Only some of the sites of Cistercian quarries are known. At Boyle the monks obtained good sandstone from a location up



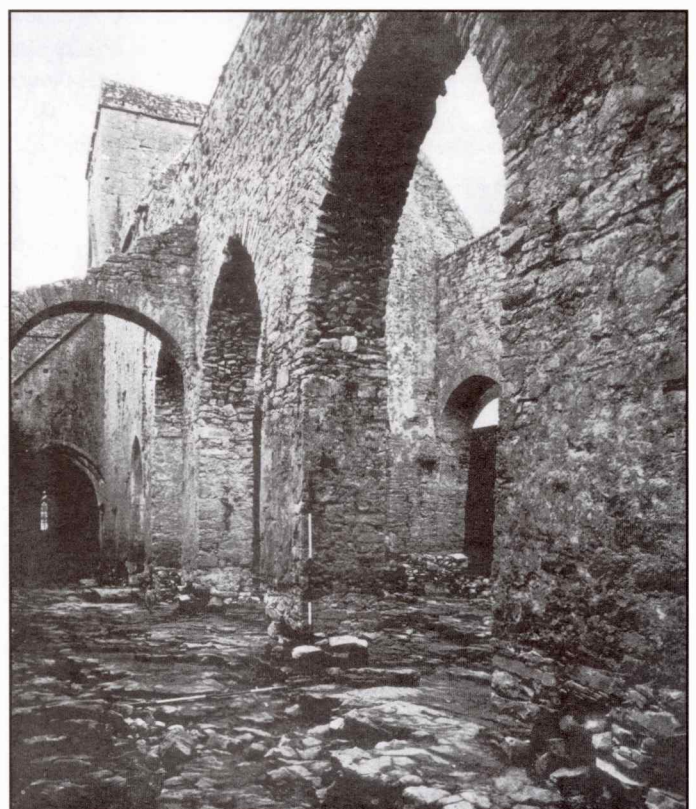
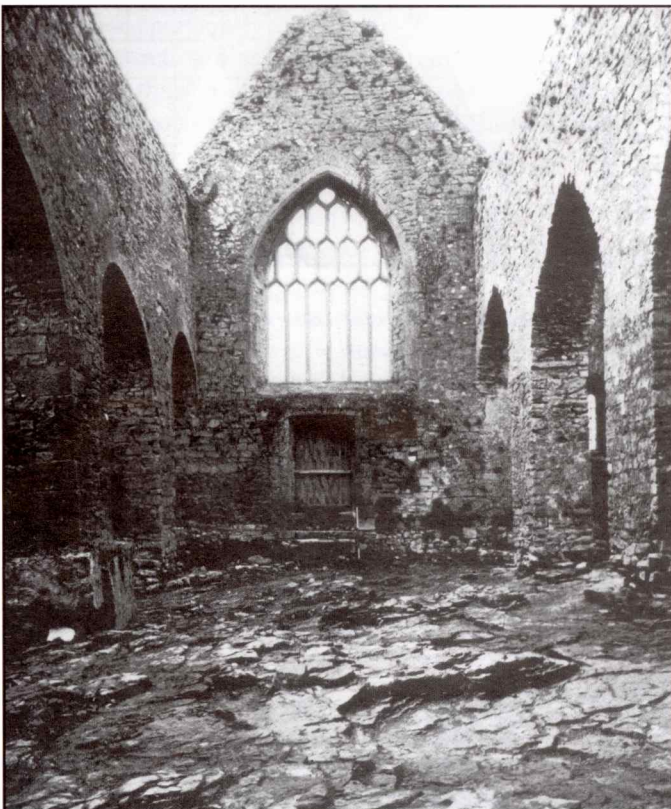
obtained from a quarry at Cogan's field a mile away, and pit sand came from two and a half miles away. (Carville 2003).

At Mellifont the quarry which supplied the main building material lay 528 feet to the north. Baltinglass abbey posed particular difficulties for its builders as the only rock available was granite and this had to be drawn from Williamstown, six and a half miles away. It comprised a rather coarse-grained rock, difficult to work because of a tendency to split in crooked lines.

river to the north known as John's Hole. It was thought by Wilkinson (1845) and Kinahan (1887) that the stone was quarried actually from the river bed, through careful diversion of the water, in order to access saturated and more easily worked stone. This stone has well resisted exposure to weather, some of the tool marks being still visible. Excellent flags were obtained from there at will, five to six inches thick, three feet wide and from five to seven feet long. Limestone for the mortar was

*Figure 3. An extract from the Geological Survey of Ireland 19th century fieldsheet Tipperary 47, 3rd quarter, showing the river cut and rock exposure at Poulnaskearda, south west of Holy Cross Abbey.*

*Figure 4 (left) and Figure 5 (right) below. Both images show the bedrock striking parallel to the nave of Holy Cross Abbey re-exposed during restoration work in the 1970s.*



## EVIDENCE FOR THE QUARRY FOR HOLY CROSS ABBEY, COUNTY TIPPERARY

The original charter for Holy Cross has survived and amongst the townlands listed is one named Scirdach. This is probably a version of "Skeard", meaning barren rock of bleak appearance. At a later period this became Poulnaskeardagh implying that at some time this had acquired a hole (Poul=hole). This is in fact a steep face, of a 345 feet high hill, in the townland of Lower Glenbane, one and a third miles southwards along the river Suir from the Abbey (Fig. 3) and is the likely source for its building material.

It is not clear whether the extraction took the form of quarrying in the steep slope or if stone mines were used. There are precedents for such Cistercian stone mining (Carville 1984, Parkes *et al* 2001), but it would seem most likely that driving adits was unnecessary in this situation, with quarrying taking place from river level. It is likely that once the abbey was finished, whatever excavations they made flooded anyhow. Complicating the picture for the field worker is the fact that there are some natural holes and caves in this area but these are probably mostly just karstic limestone features. Some 200 yards north of the river is a gigantic pot hole claimed to be 50 feet deep by some and 20 feet deep by others. This is probably not a relict quarry; it is linked to an inflow of a subterranean stream coming from Glengragh and called Poll na Peiste.

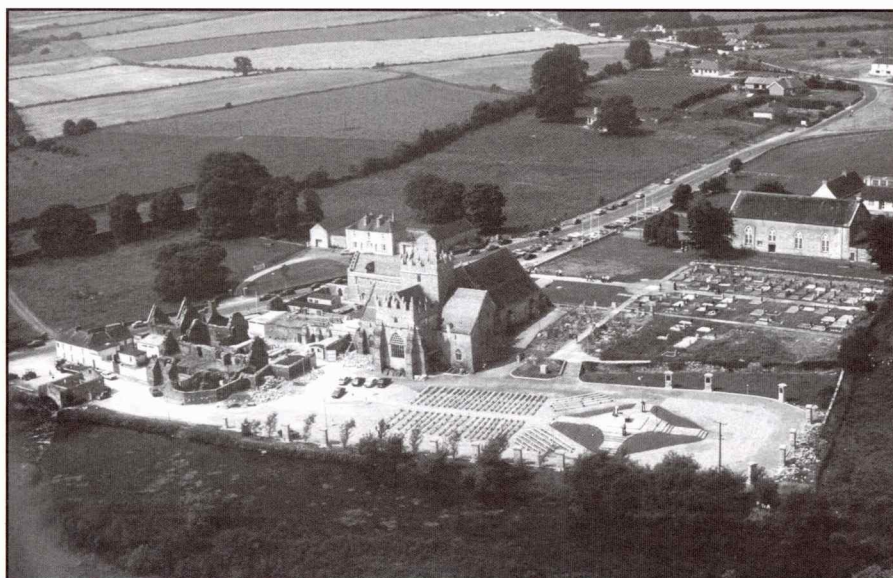
However, excavation of the river bed was not unknown. Kinahan (1887: p597) reiterates Wilkinson's (1845) assertion that the monks at Boyle Abbey quarried the river bed at St. John's Hole, but more importantly quotes another situation:

*This raising of stones out of the bed of a river seems to have been not uncommon with the early builders, as in different places holes are pointed out so situated, which tradition states were quarries where the stones were procured for adjoining structures. Besides other places, such is the case at Drombogue, in the parish of Kilmacrenan, Co. Donegal, as from an excavation in the bed of the stream it is said the stones to build the adjacent Abbey of Douglas have been procured. A few years ago, during a dry summer, this hole was pumped out, and a rude set of steps were found from the surface to the bottom.*

Certainly the monks did not regard the Poulnaskearda stone as being available to them in 1470 when restoration work was carried out. Instead, they brought limestone from a quarry west of the Fair Green on Bothar na Croise Road, which simply worked downwards into the ground from ground level. (Carville 1973).

## REFERENCES

- Much of the research was based on field work but further detail may be found in -
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**Figure 6. Holy Cross Abbey as it is now.**  
**Photo Dúchas.**