The result can be broken down into several pieces of data, though not all which is directly relevant for archaeological purposes, i.e. 'How old is the skeleton'.

The relevant data for archaeological purposes are as follows:

UBA-21207 is the unique identified which links the result to Queens University Belfast. This number would allow the original results to be re-checked at a later date should someone wish to look at the raw data.

The Sample ID 'WAA12 RBH-B (125) Burial' is the identification for the project. WAA12 stands for Wardell-Armstrong Archaeology 2012, as the sample was submitted via Wardell-Armstrong Archaeology in 2012. RBH-B is the project code, Roman Bath House, Year B (i.e. year/phase 2). (125) is the context number and this sample is from a burial. The material type is 'Bone from a human femur midshaft. This is important to know as different material needs to be treated differently for the radiocarbon process. In this case the collogen content preserved in the bone determines whether the laboratory will proceed with the dating process. In this case the preservation was sufficient for dating to take place. Other bone from the site (a goat bone from the stoke hole) failed at this stage due to poor preservation.

The Carbon-14 Age is the age of the sample in radiocarbon years, in this case 1799 +/- 41 BP. Rather confusingly this does not at this stage bear any relation to the human timescale, i.e. dated years BC or AD. BP means 'Before Present', which from a radiocarbon perspective is AD 1950. This does not mean subtracting 1799 from 1950 however. The decay of Carbon-14 is consistent, but what is not constant is the radiocarbon level in the atmosphere. This will change over time due to the different interactions between the Earth's magnetic field and solar radiation. In more recent times nuclear weapons testing during the 1960s lead to increased Carbon-14 production (though we can safely assume this would not have been an issue during the Roman period). If the levels of C14 were constant then as it decayed at a known regular rate the decay graph would be a straight linear progression. However, because the levels of C14 are not constant a decay graph for archaeological dating is uneven producing 'wiggles' rather than a straight line. This means radiocarbon data needs to be calibrated against a standard, internationally accepted calibration curve. Wiggles in the graph means some dates can be very accurate and narrow (where the graph is relatively straight) and in other cases rather broad (where the graph reaches a slight plateau). The calibration for the Papcastle sample has been calibrated at two levels, 68.3% probability and 95.4% probability. At 68.3% it can be said that the individual died approximately AD 137-255. At 95.4% we can say the individual died either AD 91-99 or AD 125-341. These two dates for the 95.4% probability are due to the presence of a slight plateau in the curve which incorporates this age range. In this case the AD 125-341 date can be quoted with the greatest probability, when rounded to the nearest 10 years (as advised when used for archaeological purposes) then it can be stated with accuracy that the individual found during the 2012 excavations died between AD 120-340, i.e. during the Roman period.

This might seem unsatisfactorily general at first glance. The broad date range must be considered in the context of our knowledge of Roman history. When we know such specific facts as: Julius Caesar invaded Britain in 55 BC, the Emperor Hadrian ordered the construction of Hadrian's Wall in AD 122 and Constantine was proclaimed Roman Emperor in AD 306 then a radiocarbon date which covers a span of 220 years might seem overly broad. This is due to accurate historical information which makes dating by radiocarbon seem overly general or inaccurate. If we were excavating a Mesolithic site, however, and we got a date of 6220-6440 BC we would think it very accurate because we have no historic dates for this period which draw our attention to specific years or event. Therefore, in the historic period we need to accept that general dates will overlap with detailed historical information.

Though the date might seem very broad it does tell us that the body is not from the Saxon period, or of a later period. It is also likely that this means the bath-house fell out of use during, and not after, the Roman period. This raises issues for how the site is interpreted and will be carefully considered during the post-excavation process.

As a final piece of data the results of the radiocarbon dating also produce information on the carbon and nitrogen values present within the collagen. This is important as it gives some indication of diet, in this case it is concluded that the individual did not consume a diet with a high component of marine foods (fish or shellfish). This is interesting in itself, but it also tells us that the radiocarbon results will not have been heavily affected by marine carbon levels, which are not the same as atmospheric carbon levels, and are much less well understood.

Now as other forms of information are brought to bear, such as evidence from the pottery and other artefacts, we may be able to further narrow down the age range when this individual died and reveal more about Papcastle's Roman past.