

MORE NOTES ON THE SEMINGTON BY-PASS SITE

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Some of you may be aware that I live in Semington - about 300 yards from the new by-pass, and naturally I spent some time there during the excavation period.

In last year's journal we had a report from Sue Cowley on her finds on this site. One of her claims was that biggest gypsum crystal found was 6in. She was not aware that a few days later I found one a massive 9½in long! (*photograph 1*).



Photograph 1: Gypsum crystal

In addition, the last time I was able to get into the site prior to the actual road construction, I found, what I like to think of as, the 'mother-lode'. All the gypsum crystals had been found in a narrow band, perhaps 6-8 ft across, which ran slightly diagonally across where the road is today, about 100 yards south of the canal bridge. It was identified by a slightly yellow colour to the otherwise grey middle Jurassic clay.

The first crystals were discovered by accident. Following a downpour, trucks going over this area squelched the clay into piles, and some of these perfect diamond shaped crystals literally popped out.

Many locals were quick to collect some, and the name 'Semington Diamonds' started being banded about. One elderly farmer, out walking, saw what I was collecting and claimed 'they must man-made, because the edges were so sharp and clear'. I pointed out that I was digging in Middle Jurassic clays, and the answer came back 'Well, it must have been Jurassic Man'. How can you argue with such logic???

The site manager was not averse to us going into the area, once any vehicle movement had ceased at lunch-time on Saturdays until 7 am Monday morning. Over several

months, I collected hundreds of these gypsum crystals from tiny ⅛in to a few of around 5in. They seemed to average at 3½in. They have been very popular with collectors at mineral fairs, being clearer and better formed than those found at the M40 road cutting in Wendlebury in Oxfordshire.

These crystals and the fossils have apparently been seen before. An elderly neighbour told me that during the war a lone German bomber unloaded a single bomb which breached the Kennet and Avon Canal to the west of the road bridge in Semington. He says that the water which flowed out exposed both the crystals and the fossils. A somewhat violent form of hushing, don't you think?

As the summer wore on, these gemmy crystals became harder to find and the clay died out. Initially, fingers through the mud was the best way to find them, followed later by a hand trowel, then a fork, spade, and finally a pick axe was the only thing which would break through the hardened clay crust.

My last visit - which was intended to be 2 hours, but in fact lasted 8 - produced a 'lump', studded with crystals, (*photograph 2*).



Photograph 2: More gypsum crystals

However, by that time (October) there had been quite a substantial amount of rain and the site was ankle deep in goo to say the least. Additionally, this 'lump' was 6in below the surface and then went down another 8in. It was about 2ft 6in long and perhaps 8in wide. Water and liquid clay were oozing in as I was digging, making life more difficult - and I think it rained hard at one point, which I vaguely noticed, but it certainly added to my troubles.

Unfortunately, it broke in my attempts to salvage it, but in honesty I don't think I could have lifted and carried it as a

complete piece anyway. I staggered home with the smallest of the three sections, and came back with a rucksack and bike. The bike was really just wheels to transport the next two parts of the nodule back, - in two journeys, needless to say.

I could have simply turned a hose on these three sections to wash the mud off, as I had with all the other crystals I collected, but at that point I was too busy to do anything more for some time. I stored them on a shelving unit outside, so they were partially covered, where they dried out.

Happily, I never did find the time to wash them off. Over the past year the clay has been gradually falling off bit by bit, no doubt helped by a touch of freeze-thaw over the winter, and some lovely crystals are now being exposed. It is also showing that the centre of this lump is, in fact, a sort of open septarian nodule. Any amount of septarian nodules were found, which on being cracked open (on occasions) displayed calcitic veins running through. This one shows those 'veins' in relief, as it were, now the dried clay is falling off.

Many of the nodules were extremely large, and with every one I cracked open I was hopeful of finding a well-preserved ammonite inside, rather like those found in the cliffs of the Dorset and Yorkshire coasts. I have to say that I never did; nor to my knowledge, did anyone else.

The diggers actually dug up to within about 30ft of the canal, and, since the original ground level sloped up to the canal, this produced a 'cliff' about 20ft high with some distinct bedding visible.

In the course of this digging many fossils were uncovered, but regrettably because of the digging, it is all but impossible to say which horizon many of them actually came from. Additionally the diggers destroyed a large number of the larger fossils. However, amongst the smaller fossils were a large number of gryphaea ('devils toenails') in situ, and surprisingly they tended to be buff to creamy in colour. I have only seen them grey prior to this, so perhaps these were the more natural colours. Belemnites were present - but not prolific - up to 5in.

I thought that only two distinct species of ammonite had been found, which were the tightly balled, solid looking fellows - these seemed fairly rare, and the larger flatter 'normal' ammonites (*photograph 3*). I found two of these at 8in diameter and one at 11in diameter. I also collected many pieces of ammonites. One small section of (presumably) the outer rim, I extrapolated with a piece of string, and this creature could possibly have been 36in across!

Some of these ammonites were partially pyritised, and others infilled with calcite. One small section of one shows



Photograph 3: An example of one of the Ammonites

an iridescence much like the Planorbis from the Watchet/Donniford area..

Some, when lifted, were the outer spiral or possible outer two spirals, with the inner parts of the spiral soft. I cannot believe that this was soft tissue, but in fact composed of mud/clay, but it was too delicate to take away.

Now, if I were to simply write down the names of these species you would think I was incredibly clever; at least those of you who are not aware that my knowledge of fossils could be written on a postage stamp in capital letters. So I photographed four of them, plan and end view of each, and Isobel Geddes put me on to Alan Bentley who had answers back within the hour. My thanks to Alan.

So I thought the best way to approach this was to put in the *photographs (4 - 6)* together with Alan's comments.



Notes from Alan Bentley

Photograph 4: Proplanulites koenigi (J Sowerby 1820) from the lower to middle part of the Kellaways formation. This is a macroconch (female) which was entombed with its body chamber missing - this would have added a further half whorl to the complete beast, so a big one!



Notes from Alan Bentley

Photograph 5: *Harpoceras falciferum* (again J Sowerby 1820) from the Upper Lias - a complete specimen with only the mouth border damaged.

It is from the Barrington facies - pale cream mudstone - of the Junction Bed (now called the Beacon Limestone) and is therefore likely to have originated in the Ilminster or Glastonbury area.



Notes from Alan Bentley

Photograph 6: *Proplanulites koenigi* (J Sowerby 1820) from the lower to middle part of the Kellaways formation.

This is probably a large microconch (male);

most of what you see is body chamber, well preserved back as far as the penultimate suture.

Like the specimen shown in photograph 4, it is preserved in concretionary mudstone with some subsequent pyritisation.

Some Extra Notes from Alan Bentley:

The bulk of the fauna found by John at Semington was *Proplanulites koenigi*, the index ammonite of the lower Kellaways Clay, a mixture of macroconchs up to about 350mm diameter and microconchs about 150mm, often partially in concretions. There was an expected range of variation from coarse rugose versions (cf '*crassiruga*' Buckman) through paratypes to slim smoother ones (cf '*laevigata*' Buckman). There were also a few far worse preserved *Cadoceras* and *Sigaloceras*, probably from slightly higher up. Together with the Gryphaeas and belemnites these constituted the classic contemporary Lower Callovian fauna.

Then there were the misfits, of Lower and Upper Liassic age. One was a *Liparoceras* from the uppermost Lower Lias, and another a *Harpoceras* (photograph 5) from Upper Lias mudstones. The nearest Lias outcrop to Semington is about 20km west near Bath.

I am familiar with the derived content of the Avon Third Terrace gravels around Bath, having collected some of it with the late Tom Fry. It does indeed contain these ammonites, and bearing in mind that in Pleistocene times the Avon Basin fed the east-flowing Severn-Thames system, it would be comfortable to assume that periglacial outwash fans provided the ammonites. Liparoceratids around Bath are very scarce and in a different preservation, but this one accords well with a Gloucestershire (Cotswolds) preservation, so could fit. However the *Harpoceras* is in a typical Ilminster matrix - certainly not that of the expected Cotswolds or other north-westerly origin, so we are still left looking for a source for it. I think this conundrum will remain unresolved.

Gypsum crystals,
part of John's collection
from Semington

