

below shows the differences. It does however appear from the comparison of these plans that the southern 10-stage blowing holes were an extension to the original plan for the New House Cone requiring the demolition of the central part of this boundary range. It is apparent that there were further significant changes in the western part of the works between 1840/44 and 1870.

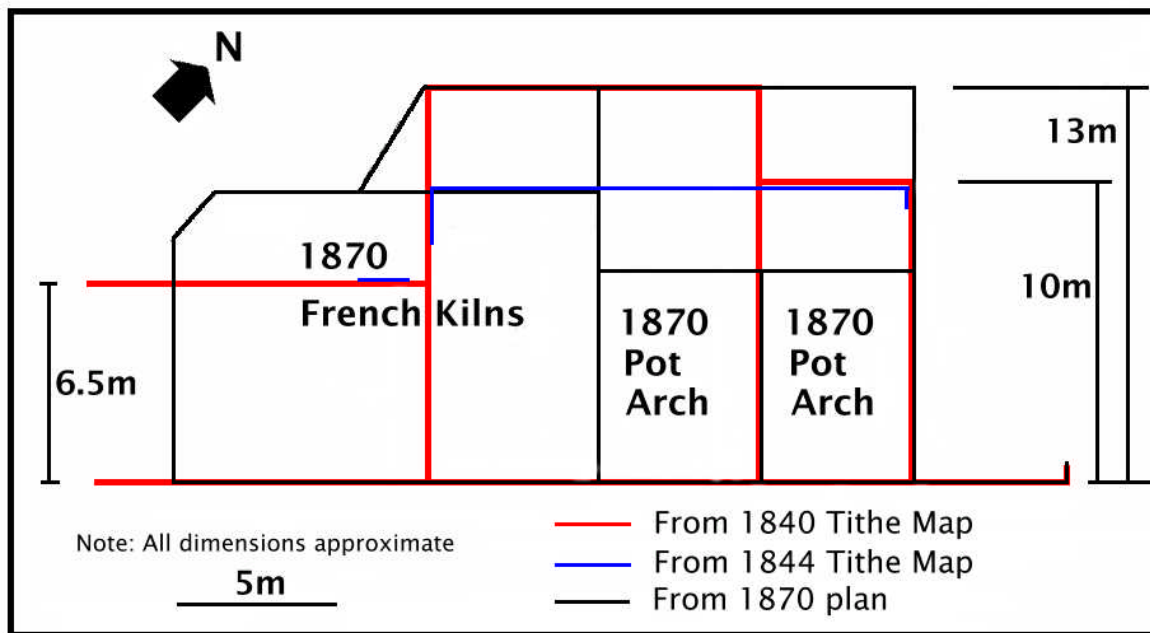


Figure 1.11: Comparison of specific changes between 1840/44 Tithe Maps and 1870 plan in a limited area.

5.44 BRO AC/PL 144 is Bassett’s plan of the underground workings in the northern holding of the glassworks – {80} on the 1870 plan. It is obviously cumulative, as it starts in 1867 and shows the areas worked up to each month-end, with a note that “After 31 December 1876 – Colliery abandoned.” The workings were obviously quite extensive. It has not been reproduced, as it does not have any direct information on the glassworks, other than recording “GLASS WORKS” in the southern area.

5.45 There is a large-scale OS map of 1888, showing “French Row” and the coal mine in the northern holding. The “Glass Works” is identified as “(Disused)”.

5.46 OS 1889 - 6 inch to 1 mile - no change from preceding map.

5.47 OS 1903 -1:2500 - significant portion of Old House Cone shown open (presumed collapsed) and a few ancillary buildings in the same state.

5.48 OS 1904 - 6 inch - as preceding. “French Row” is shown.

5.49 Sale plan 1905 - circle of Old House Cone is shown dotted.

5.50 OS 1932 - 1:2500 - very few buildings remaining, only as walls. Buildings fronting the High Street have gone except for the former office building {1} and the long building {10} adjacent to “The Royal Oak”. Trees are shown in the general area of the Old House Cone and the west end of the former main works buildings. “French Row” is now called “Woodside Terrace”.

5.51 OS 1956 - 1:25000 - Woodside Terrace still shown. The bungalow at 37, High Street is noted below (para 7.2) as having been built “In about 1945....” but it is not discernible on the December 1946 aerial photograph. The actual date of construction is not seen as critical to this

study. If it is necessary, closer determination might be possible through Somerset County Council records of Building Licences, if they still exist. It is understood that most building on a new site in the post-war (WW II) years, certainly as late as 1948, had to be under licence, because of the shortage of building materials, bomb-damage reconstruction taking priority.

5.52 Somerset County Council, revised to 29.7.1961, based on OS 25 inch to 1 mile shows the bungalow on the New House Cone site, and Woodside Terrace has gone. There has been building in the area of the mine in the northern holding.

5.53 OS 1981 - 1:10,000 shows the former office {1} still standing, but the majority of the derelict buildings have gone. The garage is now built, facing the High Street.

5.54 OS 1983 - 1:2500: some of the houses (Nos. 31/33) fronting the High Street have gone.

5.55 OS 1988 - 1:1250 and 1:2500: the bungalow and some other buildings gone. As far as the glassworks are concerned the former office building {1} and {10} –“Two French Kilns” are still standing, as are {14}, {15} and {16} and the shell of {69}, the “Rolled Plate room with pot and tile room over”. There are now “Council Offices” to the north-east of the New House Cone site. From photographs in the NS SMR and the ‘Introduction’ cover photograph, these appear to be of a temporary nature, and so probably do not have significant foundations. However there will certainly have been service trenches.

6. RECORDED ARCHAEOLOGY

6.1 Most of the work from 1983 was done in response to development proposals. , Mr David Charlton, the owner/occupier of the bungalow (No. 37, High Street, Nailsea) sited over the New House Cone, had been digging since 1975. This was initially to help a local school with a project, but he carried on. In a letter dated 11 Jan 1984, D J Pollard (to Mr D Ashurst, of Barnsley, the excavator of Gawber glasshouse), referring to the building of the bungalow, states, “...in the process most of the working floor level was destroyed. Finds tend to support the written record i.e. that window glass was made in this cone mainly by the cylinder method.”

6.2 The only known significant recorded archaeology from this initial period is a bogie, believed to have been from an annealing kiln, which Mr Charlton discovered in 1982, and which is now in store in the North Somerset Museum.

6.3 The recorded archaeology from 1983 principally consists of the Sites and Monuments Record information that will be expanded upon in Part 2. In summary there was considerable work done between 1983 and 1988, but the results, apart from a manuscript report for the first year and one or two fine plans from the end of the work, are very sketchy. The remains of a gas-holder were found in the garden at the rear of ‘The Royal Oak’ near the south-west corner of the works. The overall SMR number for the Glassworks is 2397. All the other numbers quoted are regarded as event numbers under that SMR number. Further work was done in 1991, 1992, 1994 (twice), 1995, 1999, 2001 and 2002, under the NS SMR numbers 2397, 44980, (was 2397, but changed by V Russett, January 2003), 10090, 10371, 10509, 40597, 46188 and 46503, respectively. It is understood that in due course the bulk of the archives from the above will be transferred from the SMR to the North Somerset Museum. At the time of writing the principal accession numbers at the Museum were 16.1989 and 1989.66. There was little documentation in the Museum at the time of writing – the archive consists almost entirely of finds – but this should hopefully be rectified in due course. 44980 was an evaluation, as was 10090. 10509 was a fairly extensive excavation of a southwestern sector of the Old House Cone and adjacent buildings, while 46503 covered virtually all of the remainder of the Old House Cone foundations. 40597 and 46188 were both archaeological monitoring of

geotechnical test pits. Under 10371, photogrammetric recording of buildings {14}, {15} and {16} (on the 1870 plan) was carried out in 1994 prior to demolition.

6.4 Other recorded archaeology in the immediate vicinity is recorded on the NS SMR plan and in the abstract below (Appendix 1).

6.5 The NMR at Swindon has an entry for the Nailsea Glassworks under the NMR Number: ST 47 SE 48, with the Unique Identifier: 195414. Under Event 634128, the 1982-3 work, finds and archives are recorded as being with the excavation director, D J Pollard. There is a note that says, "Finds and archive to go to either Bristol City Museum or to Woodspring Museum probably in 1985-6." Neither institution appears to have received anything from this time.

6.6 It may be of interest that about 0.8 km to the northeast was the Wraxall Roman 'villa' site that has been the subject of re-interpretation. K Gardner considers on the evidence that the bath suite may have been, as he put it, "a pit-head baths complex." During an informal field walk a lump of furnace bottom slag was recovered by a Bristol University student in the same general area, so industry may have existed on the coalfield in the area for some long time.

6.7 In the excavation report on *The Wraxall Villa*⁸, it is noted, "As on several other sites in this area, a number of stones covered with a green glaze were found. In appendix G of the Kingsweston report, Dr Stanley Smith says: 'This potash glaze is clearly the result of conflagration and points to the destruction of the villa by fire'. At Wraxall, however, the glaze does not occur on collapsed walling, but on small stones found in no great quantity all over the site. There was no other evidence whatsoever of destruction by fire." Is this the earliest Nailsea Glass?

6.8 **Late entry:** It is not 'recorded archaeology' because it does not seem to have been recorded anywhere that has been recognised, but it was felt that it should be noted somewhere. While visiting the Scotch Horn Centre (late May 2004) to view their display, the opportunity was taken to look over the area in the extreme south-western corner of the site in case there was any evidence of a gas holder etc in that corner. There is a lot of building debris in the area, so nothing was obvious, but it is of interest to note that there are blocked-up openings in the boundary wall with 'The Royal Oak'. This raises the possibility that the gasholder there that was excavated (see Part 2) might have been in an area owned by the glassworks at one time. This has not been determined, and time precludes it at present. Furthermore, with reference to Plate 26 below, behind the large blocked opening facing the road, between the "No-right-turn" sign and the lamp standard, to the left of centre of the picture, there is a wall standing to two or three courses above the rubble forming a return about 75 cms inside the boundary wall and the internal wall on the west side of the angle. This may well be the remains of the southern corner of building {12}. If so it raises the interesting possibility there was a gap between the buildings and the boundary wall, not apparent from the 1870 plan, or it represents an internal corridor. It may of course be a later development, but this is seen as unlikely on the present evidence.

⁸ Somersetshire Archaeological & Natural History Society, 1961, *Proceedings during 1960-61, Vol. 105*, p.39

7. AERIAL PHOTOGRAPHIC SURVEY

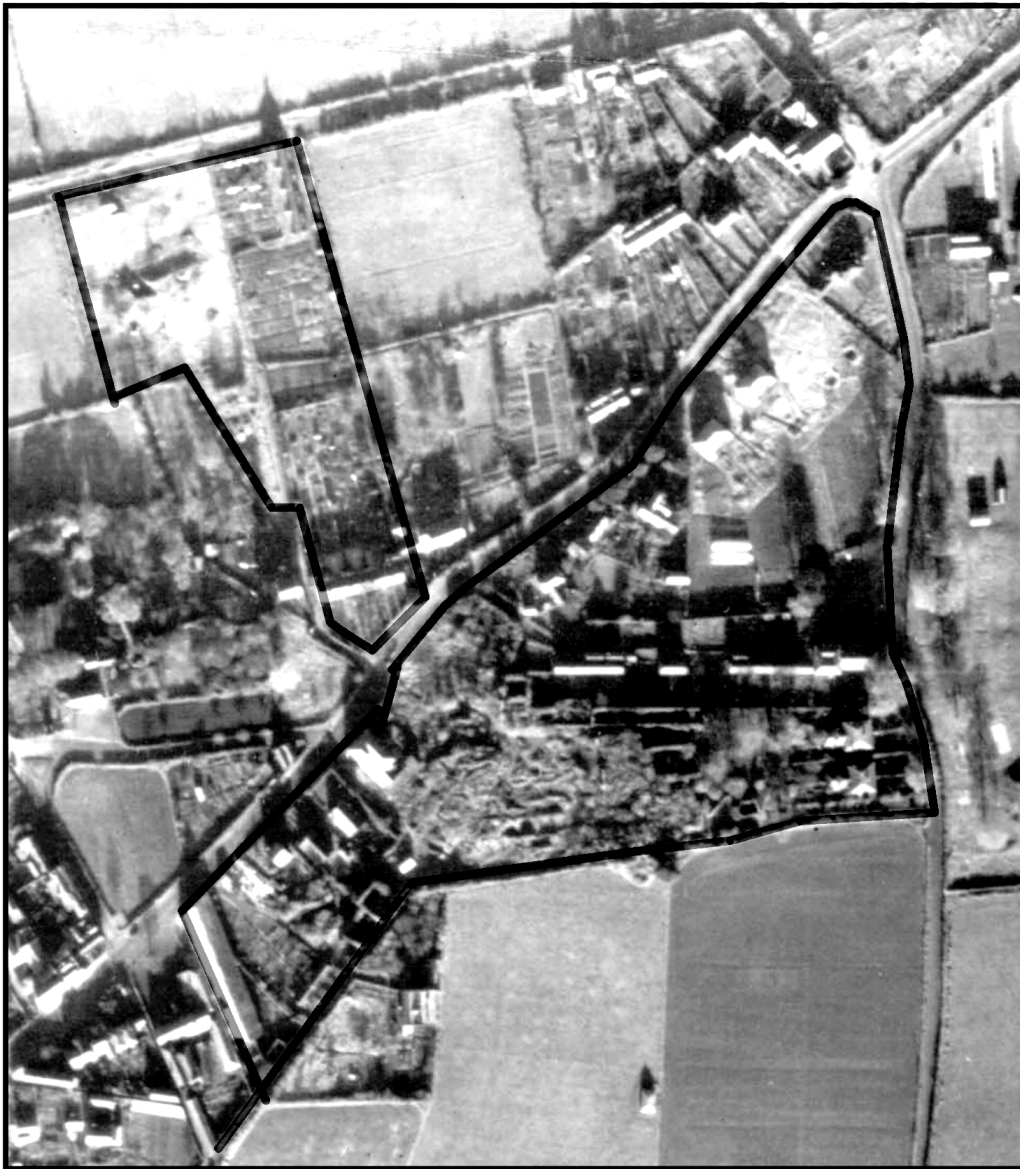


Figure 1.12: From AP 3082 CPE/ / 1869: 4 DEC 46: F20” // REST’D (RAF photograph)

7.1 The NMR at Swindon has a record of 48 vertical photographs, but no oblique, of the site and its surrounding area within 500m. Four were not available.

7.2 Print No. 3082 taken by the RAF, on 4th December 1946, Figure 1.12 above, with the 1870 boundary highlighted in, shows the development that had taken place over the study area, but the bulk of the glassworks site appears to be hummocky ground, with no discernible features, other than the shells of a few buildings. The bungalow that was on top of the New House Cone does not appear to have been built at the date of this photograph, although in a letter dated 11 Jan 1984, D J Pollard (to Mr D Ashurst of Barnsley, the Gawber glasshouse excavator), states, “ the bungalow (No. 37, High Street, Nailsea) built in “about 1945..... within the space occupied by the [New House] cone.”

7.3 A schedule of aerial photographs listed by the NMR is attached as Appendix 2.

8. GENERAL CONCLUSIONS

8.1 The broad outline of the development of the glassworks is readily discernible, but there is a lot of detail lacking. For example we know from the documentation that the New House Cone was built some time between 1826 and 1829 and that its ground plan could have accommodated the northern swinging pits shown on the 1870 plan. The “1830s” plan annotations referring to flattening kilns indicate that cylinder glass was now in production. At first sight this must mean that the plan must have been prepared later than 1832, when it is claimed that Chance Brothers near Birmingham “introduced the improved cylinder method also known as German sheet glass into England.” (Burgoyne and Scoble 1989, 5.) However, is this a case of “History is written by the victors”?

8.2 Some considerable time after the preceding paragraph was written, a Patent registration signed by J R Lucas on 20th May 1805 was found at the Somerset Record Office. SRO DD/SAS/C/2136 consists of four documents. The first is a copy of the Letters patent awarded by George III, “for the term of fourteen years”, dated “this twenty third day of January in the forty fifth year of our Reign”, bearing a most impressive seal. This applies “within that part of the united Kingdom of Great Britain and Ireland called England our dominion of Wales and town of Berwick upon tweed” [*sic*], as does a copy of the corresponding patent registration taken out by Lucas. There are also two copies, one in English and the other in Latin, of the registration in Edinburgh, the latter bearing a now broken seal, presumably that referred to in Appendix 3, below. In this Lucas describes his invention as, ‘An Improvement in the art or method of making spreading or flattening sheet glass commonly called German Sheet Glass Plate Glass or any other spread glass requiring a polished surface’. This significantly predates that given in the reference above, and also that given by Sir Hugh Chance (1968, p35) of 1844 for the making of sheet glass at Nailsea.⁹ The text of one of the patent registrations is given in Appendix 3. It is of interest that this version contains no reference to the term, was registered in Edinburgh and only applied to Scotland. The British Patent Office website, otherwise of no apparent use in this instance, notes that early patents had to be registered at a number of offices. This presumably increased the revenue.

8.3 Furthermore, thanks are due to Dr David Crossley for drawing attention to the following reference: Berg T and P [eds.] 2001, *R.R.Angerstein's Illustrated Travel Diary 1753-5*. Angerstein saw swing-pits in use at Stourbridge [p.176] and platforms at South Shields [p.246]. This apparently puts the date for the use of swing pits approximately another fifty years earlier than that of Lucas’ patent.

8.4 It appears that the initial production from 1788 was of bottles in the cone identified as “No 2” on the 1830s plan, but it is not known if it was still in use at that time. The same area {48/49} is identified as associated with the “old bottle house” on the 1870 plan. The plan evidence infers that the bulk of the works was created quite early on, with the area around the New House Cone being developed about forty years later.

8.5 Initial window glass production was in the form of crown glass, then later sheet glass using swinging pits, then it appears rolled plate glass and some fancy glass was produced. It would seem that later some coloured and engraved glass was also produced. There is, for example, a copy of a pattern sheet for this, dating from 1855-1861, deposited at the SRO by the generosity of the Nailsea & District Local History Society. [See Part 3 – Technology]

⁹ Chance, Sir H, *The Nailsea glassworks*, Paper read to the 8th International Congress on Glass – Studies in Glass History and Design, London, July 1968. [By courtesy of the Society of Glass Technologists.]