2.7 The Roman canals and mills in trench 5

Catalogue of features

F960  G980620  Slot  Mill 1
Rels: b. 584; cuts natural
Length: 1.5 m   Width: 0.5 m   Depth: 0.05–0.11 m
Description: Shallow linear slot with straight sides and squared ends, sharply cut. Aligned NNE–SSW.
Fill: (1) Brown silty soil with chalk grit contained slightly worn flints up to 90 mm, but most 30–50 mm.

F961  G989632  Slot
Rels: b. 584
Length: 0.9 m   Width: 0.55 m   Depth: 0.1–0.25 m
Description: Sub-oval hollow with deeper oval scoop in base at east end with sloping sides and dished base.
Fill: Light yellowish-brown chalky silt mixed with rounded chalk grit and containing a large number of abraded broken flints 50–120 mm.
Small Finds: (1) 2862 Iron fragment, Pb
Artefacts: Pottery, flint

F962  G994651  Scoop
Rels: b. 584; cuts natural; ?c.b. F997
Length: 0.9 m   Width: 0.7 m   Depth: 0.12 m
Description: Subrectangular hollow with deeper oval scoop in base at south end with sloping sides and dished base.
Fill: (2) Gritty puddled chalk deposit.
(1) Worn broken flint nodules 50–90 mm mixed with flint gravel 20–30 mm set in greyish-brown silty soil mixed with rounded chalk grit.
Small Finds: None
Artefacts: (1) Pottery, bone, stone; (2) pottery

F966  H024680-H002665  Slot  Mill 2
Rels: b. 584; c. natural
Length: 2.8 m   Width: 0.3 m   Depth: 0.18–0.26 m
Description: Linear slot partly eroded away so discontinuous and terminating on the north-east at ph 1203/F998, which may have destroyed this end of it. A series of small stake-holes 80–100 mm diameter occur at 0.2–0.3 m intervals along its west edge. It is very vestigial over much of its length, but at the south-west end, where it is best preserved, it has straight steep/vertical sides and a flat/dished base.
Fill: (1) A high density of worn, broken flints 30–80 mm and a single fragment of limestone slab 100 mm set in brown silty soil.
Small Finds: (1) Iron: 2977, 3095 6 nails; 2861 Pb fragment
Artefacts: (1) Pottery, stone

F967  H050782  Drain-off channel
Rels: b. 624; cut by F968
Length: 2.5 m (excav.) + c.6 m unex. Width: top: 2.5 m; base: 1.8 m   Depth: 1.4 m
Description: Curving sinuous mill leat branching off the main channel F968 to run south-east
into pond F1056 or join with exit channel F1008. Only a wedge-shaped area of the channel was excavated. This revealed irregular steeply sloping/vertical sides with small scoops and hollows eroded along it. The base was irregular with a very deep oval hollow scoured into it at the north end, the rest of the base to the south-east being higher and fairly flat, though small shallow scoops had been eroded over the whole of the base.

Fill: 587, 603, 624
Small Finds: See 587, 603
Samples: See 603
Artefacts: See 587, 603

F968  H07  Mill leat  Mill 2
Rels: b. 622, 623 and 584; cuts F967, F969
Length: 3.4 m (excav.) + c.10 m unex.  Width: top: c.4.4 m; base: 3.4 m
Depth: c.1.25 m
Description: Broad linear channel running NNE–SSW with fairly steeply sloping sides, best preserved on west, eroded on east with fairly flat, undulating base with shallow scoops and hollows eroded in it.
Fill: Contains 581, 583, 588, 600, 622, 623
Small Finds: See fill layers
Samples: See fill layers
Artefacts: See fill layers

F969  H06  Mill leat  Mill 1
Rels: b. 573, 598; c. natural
Length: 8 m  Width: top: 2.6–2.25 m; base: 1.5–1.3 m  Depth: 0.75 m
Description: Straight linear channel with very even steeply sloping sides and flat level base. Aligned NNE–SSW, it turns abruptly at its south end where it narrows abruptly as it joins into F1042. It is divided from F1042, the mill race, by structure F1044. The whole channel gradually narrows from north to south.
Fill: Contains 585, 586, 591, 599
Small Finds: See fill layers
Samples: See fill layers
Artefacts: See fill layers

F970  H055620-H085580  Pond  Mill pond 2
Rels: b. 584, 628, 635; c. natural
Length: >7.0 m  Width: >6.8 m  Depth: 0.7–1.8 m
Description: Large sub-oval feature partially exposed by excavation trench, but continuing to south and east. It had steeply sloping or vertical sides with curving steps and scoops eroded in the edges stepping down to an irregular base made up of conjoining circular–oval scoops and hollows of various sizes (including F1036–8) eroded into the base. Though this must have been a deliberately cut feature originally much of its final shape and form must have resulted from erosion caused by the fast, turbulent flow of water pouring out of the mill race (F971/F974).
Fill: Contains 589, 610, 615, 625, 683, 641, 644, 645, 648, 649, 663, 664, 680, 682
Small Finds: See fill layers
Samples: See fill layers
Artefacts: See fill layers
F971  H022650-H036528  Mill race  Mill 2  
Rels: b. 584; cuts natural; continuous with F974  
Length: 3.5 m  Width: 1.0–1.5 m  Depth: 0.5–1.4 m  
Description: Narrow sinuous channel varying from fairly shallow at the west end to extremely deep to the east. At the east end the channel is formed of a series of interconnecting rounded subcircular scoops and hollows, but to the east there is one large deep rounded hollow with very steep sloping, in places undercut, sides. The base shallows again at the east end to join into F974. The shape of the channel results from the scour and erosion from the flow of turbulent water.  
Fill: Contains 590, 601, 602, 604, 605  
Small Finds: See fill layers  
Samples: See fill layers  
Artefacts: See fill layers

F974  H040626H  Mill race terminal  
Rels: Continuous with F970 and F971; b. 584; cuts natural  
Length: 0.8 m  Width: top: 1.2 m; base: 0.6 m  Depth: 0.55 m  
Description: Circular hollow with sloping or stepped sides, rounded bowl-shaped base, forming east end of mill race channel where it flows into pond F970. Shape a result of erosion and water scour.  
Fill:  590, 606, 607, 608  
Small Finds: None  
Artefacts: Pottery

F975  G987567  Circular hollow  
Rels: b. 574; c. 591, 600, 615, F969  
Diameter: top: 1.2 m; base: 0.9 m  Depth: 0.38 m  
Description: Circular bowl-shaped hollow with gently sloping sides forming continuous slope with dished base.  
Fill:  (2) Thin layer over base of hollow consisting of brown silty soil with worn broken flints 40–70 mm and flint gravel.  
(1) Infilling most of the hollow was a dark brown silty soil mixed with a little small chalk and containing a low density of worn broken flints 50–80 mm, rarely up to 120 mm, scattered throughout but increasing in density to the base.  
Small Finds: (1) Chalk bead

F977  H010652-H038671  Slot  Mill 2  
Rels: b. 584; cuts natural  
Length: 3.75 m  Width: 0.25 m  Depth: 0.4–0.23 m  
Description: Straight linear slot with rounded terminals, aligned NE–SW cutting across F1043. The north-east end has been severely eroded. It had straight steep sides and a flat base with small rounded hollows occasionally along it.  
Fill:  (2) Discontinuous along the north-west side of the slot were worn flint nodules 60–90 mm set in small flint gravel. [Possibly packing alongside timber set in slot.]  
(1) Brownish-grey silty soil relatively stone-free apart from a little small flint gravel and rounded chalk.  
Small Finds: (1) Iron: 2997 4 nails

F978  G955590  Slot  Mill 1  
Rels: b. 631; c. 630
Length: 1.85 m  Width: top: 0.74 m; base: 0.36 m  Depth: 0.45 m
Description: Linear slot with straight edges and flat base. Steeply sloping/vertical side on west, very shallow on east. Terminates at edge of F1042/F1044 at north-east and at ph 1197/F999 at the south-west, which may be a continuation of this slot. The slot appears to pair with F960 on the other side of F1042.
Fill:  (1) Light yellowish-brown clayey soil containing a scatter of worn flints 40–80 mm and rounded chalk grit up to 10 mm.
Artefacts: Pottery, bone, stone

F979  G994608  Subrectangular post pit  Mill 1
Rels: b. 584
Length: 0.88 m, base 0.68 m  Width: 0.68 m, base 0.5 m  Depth: 0.56 m
Post void: 0.5 m wide
Description: Large rectangular post-hole with straight steeply sloping sides with sharp angles and flat base. A shallow oval hollow occurs in the base on the north-east side.
Fill:  (3) [Packing] Small rounded chalk lumps set in hard packed puddled chalk contained a few worn broken flints 50–120 mm.
   (1) [Fill of post void] Greyish-brown silty soil containing a little flint gravel c.20 mm and a moderate density of small rounded chalk grit and fragments up to 15 mm, densest in the upper part of the fill. Scattered charcoal fragments present.
   (2) Across the top of the feature sealing both layers 1 and 2 was a mix of greyish-brown silt and flint gravel 20–60 mm containing occasional charcoal fragments.
Artefacts: (1) Pottery, bone, oyster shell

F980  H000570  Mill pond 1
Rels: b. 629
Length: 4.7 m  Width: >1.1 m  Depth: 0.5 m+
Description: Small area of edge of pond exposed and partly excavated (a more extensive area of the feature presumably lay to the south of the excavation). It consisted of a series of interconnecting irregular oval–subcircular hollows getting progressively deeper from the north-west edge towards the centre of the pond.
Fill:  646, 681
Small Finds: (1) Iron: 2895, 2934 15 +15 nails, 2961 strip, 3160 bar; CuA: 2915, 2925, 2931, 2932 coins, 2916 object, 2917 wire
Samples: 3950, 4002 stone
Artefacts: (1) Pottery, bone, tile, oyster shell; (2) pottery

F981  G998675  Hollow
Rels: b. 622; cut by F975
Length: 0.3 m  Depth: 0.12 m
Description: Two conjoined small subcircular hollows, the north-west one more sharply defined, the south-east a small scoop with dished profile. A small square stake-hole lies immediately adjacent between the two holes on the south side and forms part of the group.
[Small stake- and/or post-holes]
Fill:  (2) Filling the base was a thin layer of yellowish-grey chalky grit mixed with small worn flint gravel.
   (1) Thin dark brown layer composed of charcoal, ash and slag.
Samples: 3934 charcoal, 4042 soil
Building Terrace: group number Mill 1

Rels: b. 631, 634

Length: 5.8 m Width: 3.2 m Depth: ~

Description: A group number used to refer to Mill 1 and its associated components. Its basic structure is defined by two large rectangular post-holes on either side of the mill race and a series of two or three linear slots on either side of the leat at right angles to it. Various post-holes in the vicinity are probably also part of the mill structure, though less symmetrically arranged than the other elements.

Fill: Composed of F960, F961, F978, F979, F986, F988, F952, F993, F999, F1042, F1044, ph 1192, ph 1195, ph 1198

Small Finds: 3120 iron nail
Artefacts: Pottery, tile, bone, oyster shell

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Slot Mill 1

Rels: b. 631

Length: 3.4 m Width: 0.6 m Depth: 0.12 m

Description: Linear slot with only the west edge surviving as a straight scarp aligned NNE–SSW. The slightest hint of the other side occurs at its south-west end. Faint hollows in the base may have been spade marks. It terminates on F1042 and its line is interrupted by the post-hole F993 and ph 1121 lies at its south-west end.

Fill: (1) Brownish-grey silt mixed with rounded chalk grit.

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Slot Mill 1

Rels: b. 631; uncertain to ph 1195, ph 1198

Length: 2.5 m Width: 0.52 m Depth: 0.06 m

Description: Straight linear shallow slot aligned NNE–SSW with sharply defined edges and flat base. Its line is interrupted by post-holes ph 1195 and ph 1198.

Fill: (1) Light brown chalky silt containing well-rounded chalk grit up to 10 mm.

Small Finds: (1) Iron: 2939 hook, 3087 nail, 3161 bar; 3020 glass bead
Samples: 4024 charcoal
Artefacts: Pottery, tile, bone, stone

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Beam slot Mill 1

Rels: b. 584; c. natural

Length: 1.3 m Width: 0.8 m Depth: 0.13 m

Description: Shallow linear slot aligned NNE–SSW parallel and to the east of F960. It is interrupted by post-hole F979. Most of this feature has been eroded away.

Fill: (1) Very little fill survived: it consisted of brown silty soil with chalk grit and containing a moderate density of worked broken flints 60–130 mm.

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Post pit Mill 1

Rels: b. 631; c. ph 1204

Length: 1.2 m Width: 0.8 m [post void 0.55 m] Depth: 0.7 m

Description: Large rectangular post pit with steeply sloping straight sides, with sharp angles and a flat base.

Fill: (2) [Packing] This layer extended around the sides of the post pit but was thickest on the south-west. It consisted of chalky brown silt mixed with gritty chalk marl [redeposited natural] mixed with a few worn broken flints 35–50 mm with a few flecks of charcoal and the occasional potsherd. On the base of the post-hole were two large sandstone blocks, fragments of broken millstone placed on top of each other and beside these a large flint nodule, all with
a maximum dimension of c.250 mm. [These appeared to form a pad for the timber post.]

1. [Fill of post void] Greyish-brown silty soil containing scattered chalk grit, flecks of red fired clay and occasional small flint gravel. The post void is set off-centre towards the north-east end of the post pit.

3. This layer filled the hollow in the top of the feature sealing both void and packing. The greyish-brown silty soil contained occasional worn flints, with the upper part generally more gravelly.

Small Finds: Iron: (1) 2926 12 nails, 3074 9 staples, (2) 2973 7 hobnails, (3) 3104 nail; Stone: (2) 3062–3 millstone fragments, (3) 3131 millstone fragment
Artefacts: (1) Pottery, bone, stone; (2) Pottery, bone; (3) Bone

F997  G994645  Pit  Mill 2?
b. 584; c. natural; ?c. F962
Length: 0.8 m  Width: 0.8 m  Depth: 0.25 m
Description: Circular hollow with gently sloping sides joining with bowl-shaped base.
Fill: (2) Infilling the base of the hollow was a light greyish-brown chalky silt with a little rounded chalk grit concentrated over the base of the feature.
(1) Small flint gravel and pebbles c.25 mm mixed with worn broken flints 35–120 mm set in light brownish-grey silty soil with chalk grit and containing rare burnt flints.
Artefacts: (1) Pottery, flint, stone

F998  H035690  Channel
Rels: b. 637; equivalent to F1056, F1008, ph 1203
Length: 2.0 m  Width: 1.8 m  Depth: 0.7 m
Description: Curving channel apparently joining with or running through more extensive pond F1056 and ultimately running into F1008. The west end only was excavated. Here the feature was irregular with the sides stepped down in a series of rounded scoops and scallops of increasing depth (including ph 1203) with a series of interconnecting sub-oval rounded scoops and hollows formed in the base. The whole effect is distinctly of turbulent water eroding the natural.
Fill:  642, 643
Artefacts: (1) Pottery, tile, bone

F999  G940578  Slot  Mill 1
Rels: b. 631; rel. to F978 and F1000 unclear
Length: 2.3 m  Width: top: 0.6 m; base: 0.18 m  Depth: 0.4 m
Description: Linear slot with straight steeply sloping sides and a flat base. It was overcut at its north-east end as ph 1197. Irregularities at the south-west end may be associated with F1000.
Fill: (1) Brownish-yellow silty soil with rare charcoal fragments and fairly stone-free apart from scattered worn flints up to 40 mm and a scatter of rounded chalk grit.
Small Finds: (1) Iron: 2992 2 nails
Artefacts: (1) Pottery, bone

F1000  G933575  Pit/ditch terminal
Rels: b. 630, 631; uncertain to F999
Length: ~  Top: width: 1.15 m; base: 0.4 m  Depth: 0.88 m
Description: Circular or oval feature with dished base and steeply sloping sides. This has only been partly exposed and just the east side excavated. This could be either one half of a large circular post-hole or pit or the rounded terminal of a linear ditch extending westwards below
the unexcavated layer 631. Irregular hollows in the end of F999 may relate to this feature indicating it actually extended further south-east.

Fill: (2) Filling the lower half of the feature was a dark brown soil virtually stone-free apart from an isolated flint and lens of eroded rounded chalk grit at the top on the north side.

   (1) Above was a thick deposit of dark brown silty soil with a little chalk grit and containing a low density of worn broken flint nodules 30–120 mm and small flint gravel. The larger flints tend to concentrate towards the top of the layer. [Natural silting with ploughsoil eroded into the feature.]

Samples: 4022 flotation
Artefacts: (1) Pottery, tile, bone; (2) pottery

F1001 H095605    Scoop    Mill pond 2
Re: b. 645; within F970
Length: 0.65 m    Depth: 0.18 m
Description: Small irregular rounded scoop in upper edge on north side of pond F970.
Fill: (1) Dark grey silt containing a low density of flint gravel and pebbles 25–40 mm, flint and chalk grit and mortar grit.

F1007 H020670    Group No.    Mill 2
Re: b. 628, 647
Length: 5.0 m    Width: 4.0 m
Description: This is a general number used for Mill 2. The area has suffered a certain amount of erosion so that evidence of the structure essentially survives only over the southern half of the area. The main evidence is the mill race F1043 branching off the main channel F968. This has a number of stake-holes associated with it and is cut across by two parallel slots (F966, F977) 1.5 m apart and 3.8 m long. The mill leat F971 begins just to the east of these features. Possible post-holes to the south of the mill race (F981, F997, F962, ?F961) may have been associated with the mill structure.

F1008 H090615    Channel    Mill 2/3
Re: b. 637, 614
Length: >1.5 m    Width: 2.8 m    Depth: 1.15 m
Description: Only a 1.5 m wide section was excavated across this feature. The channel had steep, vertical sides with curving scours and scoops along them and deep rounded, interconnecting oval/circular hollows scoured into the base. At the east edge the floor of the channel is shallower than to the west (reflecting a similar pattern to F971 to the south). This channel appears to take the outflow from both F967 and F998, which possibly merged into some sort of pond (F1056) first.
Fill: 650, 660, 665, 678, 679, 688, 689
Small Finds: See fill layers 650, 660, 665, 678
Samples: See fill layer 650
Artefacts: See fill layers 650, 660, 678

F1036 H035585    Oval hollow in base of pond    Mill pond 2
Re: b. 625; part of F970
Length: 0.9 m    Width: 0.54 m    Depth: 0.2 m
Description: Rounded oval hollow with sloping sides and dished base, with shallower step on south side. [Result of erosion on base of pond F970.]
Fill: (1) Light greyish-yellow puddled chalk containing a few worn flint nodules 80–120
F1037 H038578 Oval hollow in base of pond  Mill pond 2  
Rels: b. 625; part of F970  
Length: 0.98 m  Width: 0.5 m  Depth: 0.18 m  
Description: Oval hollow with smaller circular/rounded scoops within it. Formed in base of pond F970 as a result of erosion.
Fill: (1) Dark grey silt with chalk grit and containing a high density of flint nodules 50–150 mm, frequently with black Mn deposit on their surface.
Small Finds: (1) 3110 Fe 5 nails  
Artefacts: Pottery, tile, stone, oyster shell

F1038 H037570 Oval hollow in base of pond  Mill pond 2  
Rels: b. 625; part of F970  
Length: 0.5 m  Width: 0.32 m  Depth: 0.04 m  
Description: Subcircular hollow eroded into base of pond F970.
Fill: Light greyish-yellow puddled chalk with rare small flint gravel.

F1039 G900700 Track way  
Rels: b. 574  
Length: 10.0 m  Width: 7.0 m  Depth: 0.14–0.2 m  
Description: Metalled area composed of layers of flint gravel, nodules or burnt flint scalpings running along the shoulder of high ground immediately to the west of channels and mills. This may have been part of a metalled track running up to the villa enclosure and buildings or part of a metalled yard associated with the mills.
Fill: Composed of 576, 577, 579, 661, 662, 690

F1042 G975592 Mill race  Mill 1  
Rels: b. 687  
Length: 4.0 m  Width: top: 1.1 m; base: 0.82 m  Depth: 0.3 m  
Description: Narrow channel aligned NW–SE extending from the end of the main channel F969, where it is cut across by the structure F1044 (possible sluice gate), to the mill pond F980. The channel was regularly cut with steeply sloping sides and a flat base. It had possibly been timber-lined in the area of the mill structure and wheel as the first section appears to have suffered very little erosion. Only in its lower half closer at the pond does it become irregular surviving as an area of irregular interconnecting sub-oval scoops.
Fill: 613, 626, 627, 716

F1043 H010655 Mill race  Mill 2  
Rels: b. 628, 647; cuts natural  
Length: 5.3 m  Width: ~  Depth: 0.06–0.2 m  
Description: This feature survives only as a positive scarp cut into the south side, where a straight sloping edge runs SE–NW from the edge of F971. The two slots F966 and F977 cut across it at right angles and on the north side running from the north end of F977 eastwards is the merest hint of a shallow scarp possibly defining the other side of the channel. However this would create a very wide channel at this point and it may be this related to later erosion activity of the river bed. Four circular/oval stake-holes c.100 mm wide, a trapezoidal [?plank-shaped] hole 240 x 80 mm were cut along the south edge and two square stake-holes 80 and 120 mm wide at the western length. There were also a number of other circular stake-holes around the outer edges at the west end and over the base of the feature. These features
probably relate to structures associated with the mill race or the mill structure itself.
Fill: None (overlying layers 628, 647 extended across whole feature and adjacent areas).

F1044 G965606 Sluice gate Mill 1
Rels: c. base of F969/F1042
Width: 0.9 m  Depth: 0.4 m
Description: Structure composed of four or five post/stake-holes, four set in a line across F1042 and a fifth slightly to the west of the group. The post structure possibly formed a sluice gate across the upper end of the mill race.
Fill: Comprises ph 1205, 1208–10, 1214

F1047 G97 Natural gully
Rels: b. 687, 578
Length: 1.3 m  Width: 0.16–0.4 m  Depth: 0.04–0.21 m
Description: Irregular dog-legged length of gully with deep V-shaped profile: essentially a naturally formed feature, probably periglacial, though could possibly be an erosion gully.
Fill: Not recorded, but essentially the same as F1048–F1050

F1048 G973701 Natural gully
Rels: b. 687, 578
Length: 1.1 m  Width: 0.3 m  Depth: 0.14 m
Description: Short sinuous linear slot with rounded U-shaped profile [of natural, probably periglacial formation].
Fill: Brown clayey soil with a little chalk grit and occasional angular flints 10–50 mm.

F1049 G962679 Natural gully
Rels: b. 687, 578
Length: 5.8 m  Width: 0.3–0.8 m  Depth: 0.05 m
Description: Discontinuous slot/gully excavated partly at its east end where it subdivides into intercutting runnels. A natural feature, probably periglacial in origin, though at the east end it looks as though it may have formed through heavy erosion of run-off near the edge of the channel F969.
Fill: Brown clayey soil containing scattered angular flints 15–40 mm and chalk grit.
Small Finds: (1) 3112 Fe nail
Artefacts: (1) Pottery, flint

F1050 G960693 Natural gully
Rels: b. 687, 578
Length: 1.4 m  Width: 0.18–0.24 m  Depth: 0.08 m
Description: Irregular linear slot/runnel with rounded U-shaped profile – essentially a natural periglacial feature.
Fill: Brown clayey soil containing scattered angular flints 20–60 mm with small patches of puddled chalk and rounded chalk grit.

F1056 H030760 Pond Mill 3
Rels: b. 637, 614; associated with F967, F968, F998, F1008
Length: 5.0 m  Width: 4.0 m
Description: An amorphous area between channels F968, F967, F998 and F1008. It may be a feature in its own right, possibly a pond or it may merely result from the number of large features converging in this area. Without full excavation it is not possible to clarify this
further.
Fill: Contains 637, 614