THE SELLING TO THANET TRUNK WATER-MAIN, PHASE II, 1987: AN INTERIM REPORT

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SUMMARY

In the summer of 1987 the Southern Water Authority commenced the second and final phase of a project to bring water supplies from Selling to the Isle of Thanet by means of a 24 in. diameter pipeline. This stage of the work began at Calcott, Sturry, and proceeded to the reservoirs at Fleet Court, Manston, the route distance being 19 km. (11.98 miles). During its course the pipeline passed through changing terrain and a variety of geological conditions. A number of archaeological sites was encountered, ranging in period from the Early Iron Age to the Late Medieval period. An archaeological brief over the work was conducted by a team provided by the Isle of Thanet Archaeological Unit, also acting on behalf of the Canterbury Archaeological Trust. Apart from one stretch of 1700 m. east of Upstreet (see below), the whole course of the pipeline was examined.

ACKNOWLEDGEMENTS

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METHODS

Whenever possible the pipeline route was explored at all three of the following levels of examination:

1. Field-walking and the use of metal detectors after the route had been marked out with posts. Standing crops often rendered this impossible;
2. Field-walking, use of metal detectors and trowelling the surface after removal of the topsoil. Any small features detected at this stage were sectioned and partly or wholly excavated. The time factor and the low moisture content of the soil made the use of resistivity meters impracticable, but by way of compensation, a number of sites was found by metal detector from the concentration of metallic signals;
3. Examination and part excavation of features exposed by the cutting of the pipe-trench. Since the operation of trenching, pipelaying and backfilling for about a length of 300 m. was often completed in eight hours or so, there was little time available to work on a feature. On average, however, it was possible to trowel back the vertical surface of a pit or ditch for about 10 cm. and to clean down a section before moving on;
4. Surveying: The position of sites was found either by triangulation from distant marks or by measuring from landscape features shown on Ordnance Survey Maps. It was also found useful to number the pipeline fence posts with indelible marker as the latter were spaced at a nominal distance of 2.50 m. apart. The small plus or minus errors in posting cancel each other out over distances of 50 m. or more, so that the posts form a fairly accurate means of locating small find spots and surface scatters, etc.

ARCHAEOLOGY AND GEOLOGY

The archaeological remains, small finds and geological conditions encountered on the pipeline route are listed below in an order running from west to east from the commencement of the work at Calcott. The sites are lettered and points of interest numbered. Both letters and numbers are used to show locations in Fig. 1.

From the commencement of the pipeline at Calcott to Upstreet, the route passed through an area of varied geology. Along most of the route the subsoil consisted of London Clay, occasionally overlaid by Oldhaven Beds and patches of alluvium and brickearth. There was an extreme paucity of archaeological evidence. In two places, about 500 m. east of Calcott (Fig. 1,1) and about 1200 m. east of Tile Lodge

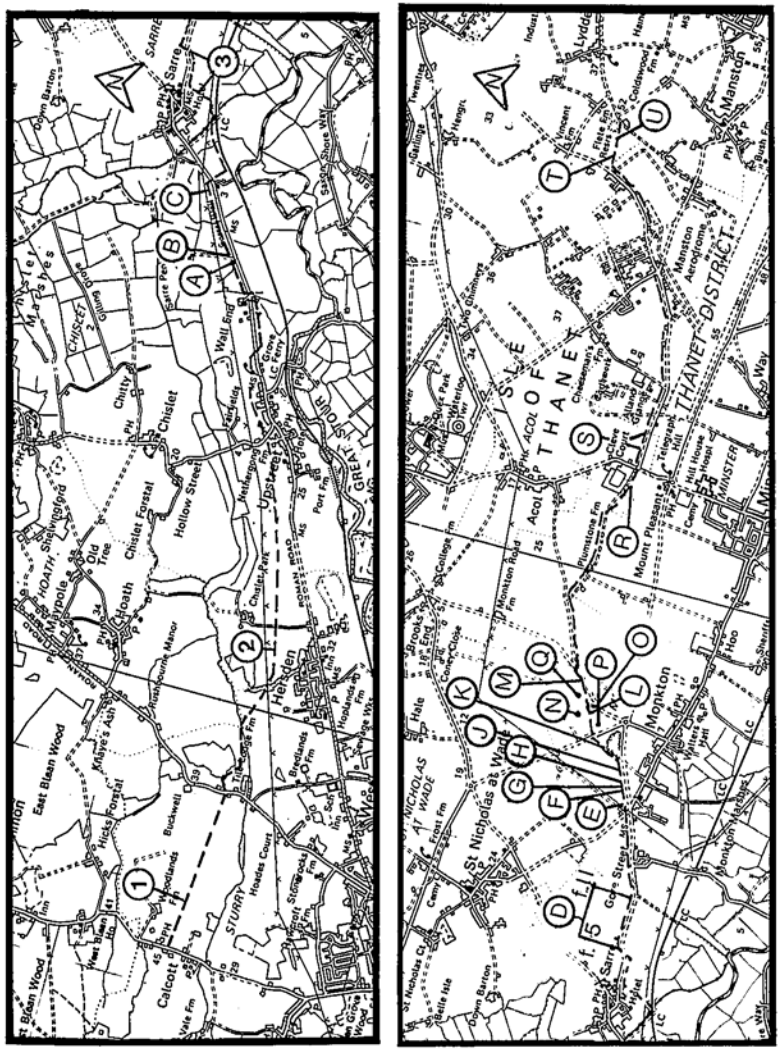

Fig. 1. The Route of the Selling to Thanet Trunk Water-Main.

(Fig. 1,2), sparse scatters of pot-sherds were encountered in both Romano-British and medieval fabrics. No features were observed in the pipe trench at these spots. In the section between Upstreet and the Sarre Wall the watching brief could not be carried out as the landowners refused permission for archaeological investigation. This was the more regrettable since the continuation and divergence of the Roman road from Canterbury was to be expected here. Between Wall End and Sarre the pipe-trench passed through the alluvial plain of the Wantsum Channel. The geological conditions (deep clay-like deposits) made the use of a 'drag-box' necessary for safety reasons, so that apart from Sites A, B and C (discovered before trenching), nothing could be done in this section.

SITES A AND B

At these points the pipeline passed through low mounds rising from the alluvium. They were respectively about 35 m. and 20 m. in diameter and rose about 0.80 m. above the surrounding surface. Both were 'Red Hill' sites, the soil in section fired a bright red with some areas having almost sub-ceramic consistency. Animal bones, marine shells and pot-sherds were abundant, the latter being shell-tempered medieval fabrics that can be dated to 1150–1175 A.D.

SITE C

This was similar to Sites A and B, although no mound was visible. The burnt earth, bone, shells and pot-sherds were contained in a circular patch *c.* 10 m. across.

From the village of Sarre, the pipeline ascended with the Upper Chalk (see Fig. 1,3). The proximity of the Sarre Jutish cemetery had given rise to concern that outlying graves might have been encountered. In the event, however, none were observed. Coins and a buckle found in the topsoil by metal detector will be described in a later report.

SITE D

Points (F.5) to (F.11)

From point F.5 eastward to point F.11, a distance of 460 m., the exposed surface of the subsoil everywhere yielded evidence of occupation. Between the two points there was a series of ten features, either pits or ditches as described below.

Feature 5, (F.5)
A pit of wide U-section exposed in the northern side of the pipe trench. It was 1.50 m. wide by 0.90 m. deep and contained an unstratified fill of dark humic appearance with animal bones, shells and pot-sherds. The latter were of Early Iron Age date, *c.* 400 B.C.

Feature 4
A pit or ditch exposed in both sides of the trench appears angled north-west. It was of wide U-section and 2.10 m. wide by 1.20 m. deep. The fill of dark brown loam contained a few small sherds.

Feature 3
A flat-bottomed pit or ditch with vertical sides was exposed in both sides of the pipe trench angled north-east. It was 3 m. wide by 0.80 m. deep with a fill of dark humic loam. On the north side of the trench it was separate from Feature 2 by 0.60 m., but appeared cut into it on the south side. It contained midden remains and a few worn sherds, these ranged in date from the Early Iron Age to the Late Belgic.

Feature 2
A pit or ditch of very similar dimensions, profile and fill to Feature 3.

Feature 1
This pit or ditch is again very similar in profile, fill and dimensions to F.3 and F.2. It appears to cross the trench at right angles north–south. Nothing was seen in the fill.

Feature 6
A pit of round-bottomed section, exposed in the north side of the trench. It was 1.50 m. wide by 0.60 m. deep. The fill of dark brown loam held shells and animal bones, pot sherds were of Early–Middle Iron Age date.

Feature 7
As Feature 6 but 0.60 m. wide by 0.70 m. deep.

Feature 8
As Feature 6 but 2.10 m. wide by 0.60 m. deep.

The fill of any one, two or all three of the above pits was probably the source of a large quantity of pot-sherds on the spoil bank just east of Feature 8. The date-range of the pottery group being Late Bronze Age to Early Iron Age, *c.* 650 to 350 B.C.

Feature 9, (a) and (b)
Here there were two bowl-shaped pits. The first (a) was discovered and sectioned before trenching. It was *c.* 2.50 m. across and 0.40 m. deep at the centre. The fill was a dark loam and appeared homogeneous; it contained Belgic sherds. The second pit (b) was revealed and destroyed by the pipe-trench before it could be excavated. It was also seen in the section of (a) which had been cut through its fill on the northern side.

Feature 12
An area extending the whole width of the pipeline topsoil clearance (10 m.) and running east–west for perhaps 20 m. Here to a depth of *c.* 0.40 m. the subsoil over chalk contained numerous Romano-British sherds, animal bones and shells.

Feature 10
A pit or ditch showing in both sides of the trench. It was 12.50 m. wide in section and of unknown depth. Pot-sherds obtained were in Early Iron Age, Belgic, Romano-British and Late Saxon fabrics, some of them much worn. All were from the upper 0.40 m. of the fill.

Feature 11
A bowl-shaped pit exposed in the south side of the trench. It was 1.80 m. wide and 0.70 m. deep and yielded sherds of Belgic pottery.

SITE E

(1) A pit or ditch sectioned by pipe trench. It is at least 15 m. wide and of unknown depth (at least 2 m.). The fill of dark brown loam yielded a few bone fragments.
(2) A pit or ditch *c.* 4 m. wide by 2 m. deep was sectioned by the pipe-trench. The upper 1 m. of fill consisted of dark brown loam. Below this was a layer of chalk nodules becoming more concentrated and silty near the bottom. Burnt flint, daub and a few small sherds of flint-tempered Early Iron Age pottery were obtained from the junction between the fills. The pipeline workers reported many animal bones being disinterred, which they had set aside for the watching brief team, but these were apparently removed by unauthorised persons. A number of Neolithic and Early Bronze Age artifacts have been found within a 100 m. radius of this site in the past.[1]

[1] Thanet Archaeological Unit archives; D.R.J. Perkins, 'The Thanet Gas Pipeline', *Arch. Cant.*, ci (1984), 85.

SITE F

A pit showing in the northern section of the pipe trench. It was *c.* 1.50 m. wide by 0.60 m. deep and of wide U-section. The fill of brown loam yielded Late Bronze Age sherds, *c.* 750–650 B.C., and a quantity of fragmented animal bone (*bos*).

SITE G

A pit or ditch showing in both sides of the pipe trench. It was *c.* 1.50 m. wide by 0.40 m. deep and of section. The fill of brown loam yielded shells, bone fragments and flint-tempered pot-sherds similar to those from Site F above.

SITE H

The subsoil in this area is a dark brown loam overlying periglacial material at a depth of *c.* 1.50 m. from the surface. At a depth of *c.* 1 m. a layer of occupation material was observed extending for about 9 m. It contained burnt flint, animal bones and teeth, (*bos, ovis, capra*) and pot-sherds of a fabric similar to that from Site F above.

SITE J

(1) A bowl-shaped pit sectioned by the pipe trench. It was *c.* 4 m. in diameter and *c.* 0.30 m. deep cut into the buff-coloured sandy loam. The fill consisted of a layer of blackish soil containing flints and thousands of sea shells, mostly oysters and mussels. Fragments of Niedermendig lava were also found. Below this the loam had been turned red by burning.
(2) A bowl-shaped pit of roughly circular plan was sectioned and part-excavated in advance of trenching. It was *c.* 4 m. across by 1 m. deep at the centre. Three distinct layers were observed in the fill. The uppermost was of brown loam and contained many thousands of mussel shells. Below this was a layer of dark brown loam containing sea shells of mixed species, animal bones and pot-sherds of medieval Tyler Hill fabric (*c.* A.D. 1075–1100). The blade of an iron knife was also found. The whole bottom of the pit was covered in a layer of oyster shells in a blackish soil with what appeared to be wood ash.

SITE K.

A pit or ditch of section was cut by the trench. It was *c.* 2 m. wide by 1.50 m. deep with a fill of brown loam and chalk nodules. The fill contained animal bone (*sus*), and sherds of late medieval pottery, *c.* A.D. 1450–1500.

SITE L

A bowl-shaped pit of irregular plan was sectioned and part-excavated prior to trenching. Its extent could not be determined since it ran through the boundary of the pipeline route. The part excavated was *c.* 4 m. wide with a maximum depth of 0.40 m. The fill of the pit exhibited no stratigraphy, consisting of a brown loam rich in chalk nodules and many oyster shells. Finds included pot-sherds in Romano-British fabrics (*c.* A.D. 75–200), and a fragment of *tegula* with mortar attached. The feature described above lies *c.* 50 m. east of a complex crop-mark perhaps representing the remains of a building within a ditched enclosure.

SITE M

(1) An irregular bowl-shaped pit cut into the chalk. It was *c.* 0.30 m. in diameter and 0.40 m. deep. The fill was of a light brown loam interrupted at a depth of 0.15 m. by a thin layer of chalk silt. Finds included an iron knife and medieval pot-sherds.
(2) A ditch running south-west to north-east was sectioned by the pipe-trench. It was flat-bottomed and *c.* 2 m. wide by 0.60 m. deep. The fill of light brown loam was rich in chalk nodules and contained shells, daub fragments and slabs of local sandstone.
(3) A flat-bottomed pit showing in the north side of the pipe trench. It was *c.* 1.50 m. wide by 0.60 m. deep with a fill of light brown loam.
(4) A ditch of V-section cut by the pipe trench. It was *c.* 2.40 m. across by 2 m. deep with a fill of light brown loam terminating in a layer of chalk silt containing flints and slabs of local sandstone. The upper fill yielded sherds of medieval pottery.

The four features of Site M can be associated with a system of linear crop-marks extending over an area of *c.* 50 × 150 m. Pottery is in the date range: A.D. 1275–1350.

Apart from the crop-marks associated with Sites E and F, four others appear on the western aspect of Seamark Hill. These appeared

clearly on low level vertical photographs taken during an aerial survey of the pipeline route. All have been plotted by photogrammetry, and are included in the Thanet Sites and Monuments Register (TSMR).

SITE N(a), TSMR 217

A penannular ditched enclosure with complex internal features, apparent diameter *c.* 30 m. On either side of the entrance causeway short 'arms' of ditch extend outwards widening. Internal features consist of three circular ditched enclosures, two with internal pits and one framed by an angle of a ditch. Opposite the causeway entrance, the outer ditch is cut by or cuts a large pit.

SITE N(b)

A circular ditched enclosure, apparent diameter *c.* 15 m. It has an internal feature, presumably a pit or grave.

Between sites N(a) and N(b) a length of ditch can be seen.

SITE O, TSMR 220

A circular enclosure composed of concentric ditches of apparent diameter *c.* 25 m. The outer one is penannular. A pit or grave can be seen at the centre of the enclosure and a pit cuts or is cut by the outer ditch opposite the causeway entrance.

SITE P, TSMR 219

A circular ditched enclosure with a central pit or grave apparent diameter *c.* 22 m.

SITE Q

A circular ditched enclosure. The ditch is cut by or cuts a straight ditch *c.* 15 m. in length. The apparent diameter of the enclosure is *c.* 18 m.

SITE R

At this point the exposed surface of the subsoil containing a scatter of worn Romano-British pot-sherds and tile fragments, also some pieces of Niedermendig lava. Nothing was observed during trenching.

SITE S

During an initial search after topsoil clearance a scatter of late Iron Age and Belgic sherds was observed throughout the *c.* 200 m. of the pipeline route. No features were seen during trenching, however, and a metal detector survey revealed only post eighteenth-century material.

SITE T

Examination of the surface after topsoil removal revealed a scatter of pot-sherds in Belgic fabrics, *c.* A.D. 0–25. Weather conditions and safety considerations made watching brief over the trench-cutting operation in this area impossible.

SITE U

At this point the pipeline route ran through a depression in the surface of the field *c.* 20 m. across. After topsoil clearance some worn samian fragments and a piece of *tegula* were found. Trenching revealed that the depression extended down through the brickearth only, the chalk below being unaffected. A pit *c.* 3 m. across by 1.50 m. deep was seen to be cut into the chalk on the northern side of the depression, its fill of dark humic soil containing animal bone.

DISCUSSION

A striking aspect of the evidence obtained from the route of the Calcott–Manston pipeline was the way in which ancient settlement favoured certain geological conditions. This was nowhere more evident than in the section between Calcott and Wantsum, where there was an extreme paucity of finds. This admits of two possible explanations: either that the horizons containing traces of occupation and industry have eroded away or that the area was always sparsely

populated, perhaps given over to dense woodland until comparatively recent times. The latter explanation seems the more reasonable since denudation would tend to leave heavy material, such as flints, pot-sherds and metal objects near horizontally to their original point of deposition. Again in areas of similar geology peripheral to that under discussion, such as Highstead,[2] much evidence of occupation has survived.

As can be seen from the text, settlement in Thanet seems to be directly related to the depth of chalk below ground surface. Whenever the Upper Chalk comes within *c.* 50 cm. of the modern land surface, remains are abundant. When the depth of overburden increases to 1 m. or more of brickearth, all signs of human activity disappear. It is difficult to attribute this to a single reason, such as the ease of ploughing the better drained area of thin topsoil. It may be that it was only the deep brickearth zones that could sustain the root systems of great trees, so that they were covered by an ancient woodland. Such tracts may have been long preserved as a valuable source of constructional timber and firewood able to sustain cattle and swine through the winter. These regions of Thanet bear names suggesting afforestation and there are confirmatory historical references.[3]

The 'Red Hill' sites (see Site A, B and C) discovered on the alluvium throw light on the rate of natural silting and 'inning' of the Wantsum Channel. These sites can be presumed to have been devoted to salt extraction and refining, a business carried out close to or on the shoreline. Since the pottery from all three sites can be attributed to a common date, it would seem that by the mid to late thirteenth century, the Wantsum at Sarre, traditionally its narrowest point, may still have been something like 900 m. across.

Of the sites discovered on the pipeline route within the Isle of Thanet little can be said other than to briefly register what was observed. However, the following are worthy of some discussion.

Site D

Several periods are represented by the pottery from this site. On the whole, however, the pot fabrics from pits and ditches and the subsoil scatter indicate an Iron Age settlement as the initial phase. That the

[2] N.J. Erskine Riall, 'Highstead, An Interim Report', Canterbury Archaeological Trust, 1977.

[3] E.g. Acol, Haine, Northwood, Southwood, Westwood. There are also passages in Lewis' *History of Thanet*, and the 'Culmer Charity' will (Broadstairs), pointing to large areas of woodland surviving until the early eighteenth century.

features discovered were distributed along a line of 460 m. suggests a hill-top camp of respectable dimensions of which Feature 11 may represent a section of fosse.

Crop marks at Seamark Hill

Sites N(a) and O

Of the 140 circular enclosures so far recorded in Thanet, it is reasonable to assume that the vast majority are ploughed-off Bronze Age round barrows. Crop-mark photography and excavation have, however, revealed the presence of a distinctive type of monument typified by their comparatively large diameter, complex plan and entrance causeways. When such sites have been excavated, the evidence has suggested that although they were re-used for funerary purposes during the Early and Middle Bronze Ages, they had been originally constructed in the late Neolithic period, perhaps with a social-religious function.[4]

As represented by their crop marks, Sites N(a) and O seem to belong to the class of enclosures described above. Their respective diameters are in keeping with the henges at the Lord of the Manor, Ramsgate, and are somewhat larger than any 'conventional' barrows yet investigated in the area. Moreover, they exhibit causeways and internal features, these being specially complex in the case of Site N(a).

Site L

That part of the site investigated on the route of the pipeline consisted of a pit containing midden material, including a fragment of *tegula* or brick with mortar adhering to it. Aerial photographs reveal the pit to be positioned within what appears to be a rectangular enclosure measuring at least 150 m. on its long axis. About 40 m. west of the pit is a set of markings similar to those exhibited by Romano-British buildings. At the time of writing 85 per cent of all known Romano-British sites in Thanet can be dated from the mid-first to the late second century A.D., with almost no fourth-century material. This, the latest site to be discovered, does not seem to depart from the rule.

Site M

When the pit with its medieval material and the sectioned ditches are seen in association with a plot of crop-marks, a picture emerges of an

[4] N. Macpherson Grant, and D.R.J. Perkins, Thanet Archaeological Unit Interim Reports, 1976 and 1980.

occupation site contained within a rectangular ditched enclosure. The size of the enclosure suggesting a farmstead or the like. Since ditches could have had no drainage function on the chalk downland, their purpose must have been defensive, illustrating the uncertainty of life in Thanet in the early medieval period.