

The Esso Pipeline 1981: Archaeological Observations

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Introduction Rob Poulton

In July and August 1981 an oil pipeline was constructed from west to east through Surrey. Its course (fig 1) ran from Spreakley, south of Farnham, across the Gault Clay and Lower Greensand, via Milford, traversing the Weald Clay by way of Ewhurst, Capel, Charlwood and Outwood; thence, north-eastwards to Tilburstowhill and so on across the Atherfield Clay and Lower Greensand to Limpsfield. The claylands of the Low Weald in particular have seldom been available for systematic examination on such a scale and the opportunity was therefore grasped to undertake close daily observation of work on the whole route. This was carried out by Rob Poulton and Martin O'Connell for the Planning Department, Surrey County Council, with the aid of a grant from Esso Petroleum PLC.

The method of construction involved the removal of topsoil to a depth of $\approx 0.30\text{m}$. over a width of 20m along almost the entire route. The pipe trench itself was then dug along the centre of this strip. Along most of the length the topsoil strip clearly revealed natural deposits, but where this was not the case the pipe trench itself was also closely examined. The spoil heaps of topsoil were also looked at carefully, and in fact most of the finds were recovered from these. The methods used should certainly have enabled the identification of any archaeological features more substantial than post holes, and it would be surprising if any scatters of occupation material other than the thinnest, were not represented in the recovered finds.

In fact, the remarkable feature of the work was the almost complete absence of finds or features other than obviously modern material or the flintwork, probably mostly of Mesolithic date, discussed in detail below. A few sherds of 17th and 18th century pottery were recovered, and one sherd each of Roman and medieval pottery. There is obviously no particular significance to be attached to these finds. The only archaeological feature noted was a section through the Roman road between London and Lewes at TQ 4217 5512. A thickness of $\approx 35\text{cm}$ of road metalling (composed of ferruginous gravel mixed with a little sand, flint and chalk) was noted, but roadside ditches were not seen. The road was not exposed by the topsoil strip, but was observed in the pipe-trench; this was because this section of road lies near the foot of a dry valley, and had in consequence become covered by a $\approx 50\text{cm}$ thick deposit of hillwash. In areas such as this it is possible that some archaeological sites were missed.

No such explanation is possible for the failure to find any evidence for the course of the Roman road said to run from near Alfoldean to Farley Heath Roman temple (Margary 1956, 81-6). The point at which it should have crossed the pipeline at TQ 0799 4084 was very carefully examined, and neither here nor at any point in the near vicinity, was there a trace of road metalling or roadside ditches. Neither was there evidence for material derived from or related to the Roman tile kiln found some 100m to the north-east (Goodchild 1937). If the road existed, evidence for it should have been visible in the Wealden Clay subsoil hereabouts, and there was nothing to suggest its removal by disturbance in the post-Roman period. The existence of the road does seem to have been well established by fieldwork (Margary 1956, 81-6; Winbolt 1924), although no section of the road appears to have been subjected to full scientific excavation at any time. The absence of any sign of the road in the Esso pipeline fieldwork must, therefore, remain unexplained.

The major part of the pipeline route runs through Lower Greensand and especially Wealden Clay geology, and its course was deliberately chosen to avoid modern settlements as far as possible. It will be suggested below that the discovery of Mesolithic flintwork is closely related to the occurrence of locally advantageous conditions of geology, topography and drainage which resulted in more fertile soils. Such factors will have become even more potent in their effects after the introduction of farming, and will have been respected down to the present day. Modern areas of occupation are likely, therefore, to be similarly sited to ancient ones, and the latter were in consequence relatively unlikely to have been encountered in pipeline construction. It would seem unwise to attempt to draw any more sophisticated conclusion than this from the predominantly negative results of the 1981 pipeline work.

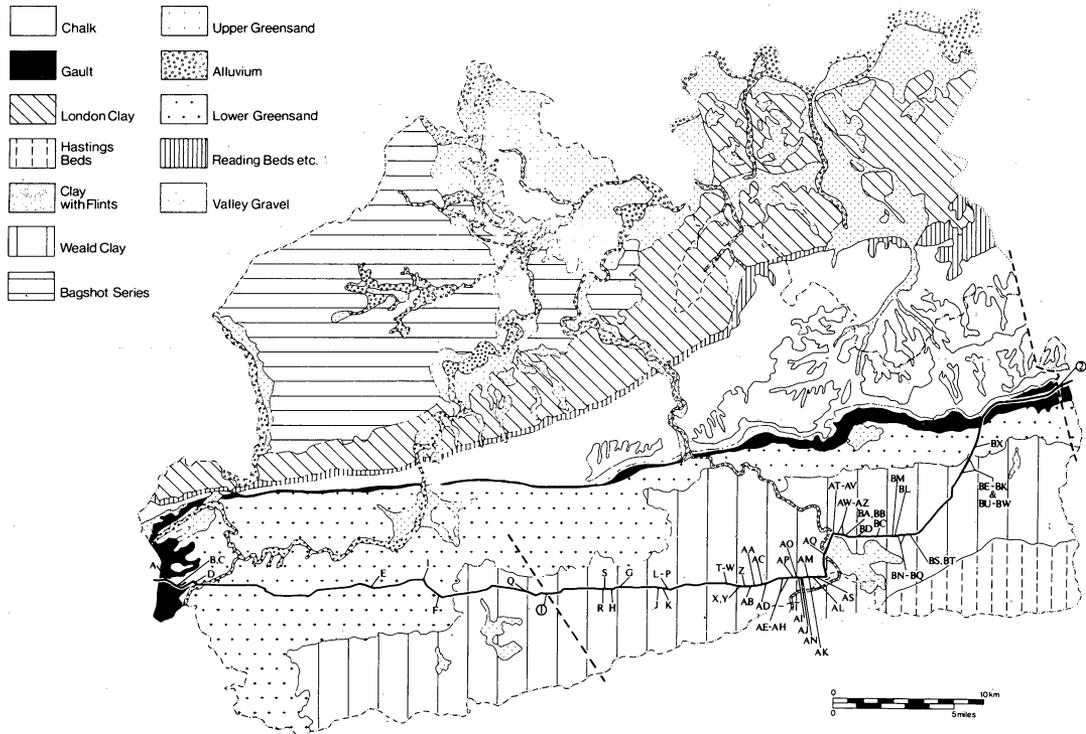


Fig 1. Esso pipeline 1981: findspots along the route. 1 and 2 are observations made along the line of known Roman roads (see text). A represents a ?Roman sherd, a medieval sherd and post-medieval sherds; B-E represent post-medieval sherds; G represents a ?Roman tile fragment; BW represents a quern fragment; and the remainder are finds of flintwork.

The flintwork Jonathan Cotton (Fig 2)

This report deals with 235 pieces of prehistoric struck flint recovered from 66 findspots between Godalming in the west and Godstone, nearly 23 miles to the east-north-east. Another seven findspots produced a handful of sherds of mainly post-Roman pottery, building material, glass and clay pipe stems. Though diagnostic finds are few (see below), it is likely that much of the flintwork is of Mesolithic date.

Somewhat unexpectedly, the majority of the finds were retrieved from areas of Weald Clay subsoil; others were located on the gravels and alluvium bordering the river Mole, and on the Hythe Beds and Sandgate Beds of the Lower Greensand.

The struck flint recovered is summarised in the table below: fuller details of the finds from each findspot are recorded in the Appendix (Microfiche 2-4). Further information is entered on a series of 1:2500 maps, supported by Diary and Site Record Sheets, held by the Conservation and Archaeology Section, Planning Department, Surrey County Council. The finds have been deposited at Guildford Museum.

	Lower Greensand	Weald Clay	Mole Alluvium	Mole Low Terrace	Totals
Findspots	3	58	1	4	66
Cores	—	6	—	—	6
Core frags	—	3	—	—	3
Core tablets	—	2	—	—	2
Rejuvenation flakes	1	10	—	1	12
Flakes/spalls	4	62	2	4	72
Blades complete	2	18	—	—	20
butts	2	8	—	—	10
segments	2	9	—	1	12
tips	—	9	—	1	10
Miscellaneous waste	5	43	—	—	48
Microliths	—	2	—	—	2
B&T arrowhead	—	1	—	—	1
Adze	—	1	—	—	1
Scrapers	1	2	—	1	4
Scraper frag	—	1	—	—	1
Hollow scraper	—	1	—	—	1
Awl	—	1	—	—	1
Miscellaneously retouched	2	24	1	2	29
Totals	19	203	3	10	235

TABLE 1

A majority of the raw material for knapping appears to be of 'non-chalk' flint - in the areas of Weald Clay at least - and was presumably won from various superficial alluvial deposits and terrace gravels. It varies in quality and colour from a cherty pearl-pink through smoky grey-brown to a fine umber-olive material. 'Chalk' flint meanwhile predominates on the few Lower Greensand findspots, and is proportionately more common on the Weald Clay from findspots closest to the chalk scarp, as for instance at Tilburstowhill.

In terms of condition, a number of pieces are lightly patinated, while six - including a microlith and the awl - have been burnt. Cortical fragments comprise just under half of the collection.

Discussion

Much of the interest surrounding this material stems from the large number of findspots located on the Weald Clay. By contrast, remarkably few were identified on the usually prolific Lower Greensand outcrop.

In order to set the figures presented in the table in some sort of perspective, however, it is necessary to point out that, of the 58 findspots located on the clay, as many as 20 comprise single finds, while a further 29 are represented by five flints or less (see Appendix). At only five findspots (L, P, AF, AG and BJ) were double figures achieved.

Closer examination of the material reveals the presence of 25 findspots which divide neatly into four discrete groups accounting for over three-quarters of the 203 flints recovered from the Weald Clay. These four groups appear to take advantage of local variations in geology, topography and drainage which ameliorate the otherwise difficult stagnogley soils

(Wickham I and Denchworth Association: Jarvis *et al* 1983). A fifth group, comprising a more dispersed string of thirteen findspots (AQ, AR, AT-AZ and BA-BC) lying on alluvium, Low Terrace gravels and Weald Clay, overlooks the river Mole and one of its tributary streams, the Burstow brook.

Moving west to east, the first of these four groups is represented by 7 findspots (J-P) situated between TQ 1546 4124 and TQ 1631 4116, north-east of Ockley Court. All lie on or just above the 76m contour adjacent to sandstone outcrops overlooking feeder streams of the North river, a tributary of the Arun. Thirty-nine flints were recovered, including a number of flakes and blades and a robust awl, which, together with two other miscellaneous waste pieces, had been burnt.

The second group is represented by four findspots (AE, AH, AF and AG) situated between TQ 2371 4195 and TQ 2406 4196, north of Charlwood. All lie above the 76m contour on an eastward-facing slope of Paludina limestone overlooking headwaters of the river Mole. Between them, the four findspots account for 38 flints including flakes, blades, a small opposed-platform bladelet core (Clark 1960, form Bi), core rejuvenating flakes, several miscellaneous retouched pieces and a burnt, basally-retouched ('Horsham') point (fig 2, no 2). A series of other findspots, situated both west and east of the four highlighted above, produced smaller numbers of flints; see Appendix. Mesolithic finds have been recovered from the Charlwood area in the past. These include two tranchet axes and many microliths, of obliquely-backed, 'Horsham' and geometric form (eg Rankine 1952, 3;

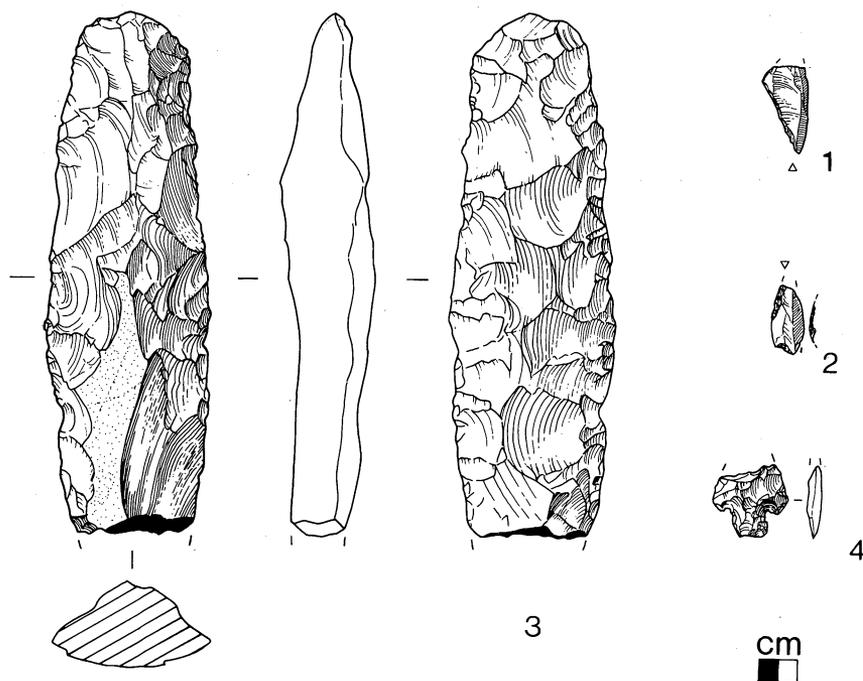


Fig 2. Esso pipeline 1981: diagnostic flintwork comprising 1, an incomplete microlith of broad scalene or isosceles triangle shape, of mottled grey-brown flint, from findspot H (Forest Green); 2, a broken and burnt basally-retouched ('Horsham') point, with marginal retouch on its ventral face, from findspot AG (Charlwood area); 3, a slender, broken core adze, of mottled cherty grey-blue/smoke-brown flint, with light bluish patination and a patch of smooth cortex on its dorsal face, from findspot BE (lower slopes of Tilburstowhill); 4, a broken barbed-and-tanged arrowhead, of translucent orange-brown flint, from findspot AY (Meath Green, Horley).

Wymer 1977, 270; Ellaby 1977). The four findspots noted here lie some 800m north-east of the prolific Later Mesolithic site excavated by Roger Ellaby; to date the finds include hearths and large numbers of microliths, many of the latter of minute scalene form (Ellaby 1983; 1987, 65-6).

The third group lies east of the river Mole and south of Outwood. A series of eight findspots (BM, BL, BO, BN, BP, BQ, BS and BT), six of which lie above the 76m contour, is sited on a southward-facing slope of Paludina limestone between TQ 3106 4480 and TQ 3228 4496. These produced a total of 35 flints, including the usual flakes and blades, together with a small, single-platform bladelet core (Clark 1960, form Aii), several core rejuvenators, a number of miscellaneous retouched pieces and a convex scraper. Wilfrid Hooper recorded several Mesolithic sites in the locality, which produced cores, graters, scrapers and microliths - the latter including a 'Horsham' point (1933, 66; Rankine 1956, 30); Wymer lists a series of finds now in Guildford Museum including microliths, cores, graters and a scraper (1977, 270).

The final group lies to the north-east, on an eastward-facing slope below Tilburstowhill Common, between TQ 3557 4920 and TQ 3601 5001. Straddling the 107m contour, a string of eight findspots (BE, BK, BG, BH, BI, BJ, BU and BV) traverses an area of sandy Weald Clay, with the Atherfield Clay and the Lower Greensand outcropping only a few score metres to the north and west; the chalk lies two miles further north. Forty-two flints were recovered, the majority apparently knapped on 'chalk' flint. Few blades were present, though one opposed-platform bladelet core (Clark 1960, form Bi) was found. The bulk of the material comprised flakes, but included three flake cores (Clark 1960, form Biii, D and unclassifiable) and miscellaneous waste, together with a small convex scraper and a slender core adze with milky patination on its dorsal face (fig 2, no 3). Turner records two small groups of worked flint, including blades, from Godstone parish - one from the Weald Clay and the other from the Folkestone Beds of the Lower Greensand (Turner 1967). Hooper too mentions a site on the nearby Hythe Beds of the Lower Greensand at Tandridge (1933, 68); Wymer lists finds, including a tranchet axe and microlith (1977, 285).

Conclusion

Although small, the collection considered here is a significant one, and contains a number of new findspots from Wealden localities already well represented in the literature, such as Charlwood and Outwood, in addition to others less familiar, such as Forest Green, Ockley and Tilburstowhill.

Diagnostic finds are few, however, but include two microliths, of broad scalene or isosceles triangle shape and a basally-retouched, 'Horsham', form (findspots H and AG; fig 2, nos 1 & 2, respectively), together with a fine core adze (findspot BE; fig 2, no 3). All three pieces have clear Mesolithic affinities; the two microliths in particular can be accommodated within a generally 'Horsham' Mesolithic flintworking technology (Ellaby 1987). Other artefacts probably also referable to the period included many of the blades, blade fragments and the three blade cores (the latter from findspots AF, BJ and BS). Together, these finds point to exploitation of Wealden resources by hunter-gatherer groups at various times within the Mesolithic, and, as Ellaby has pointed out (1987, 55), to a preference on the part of such groups for the better-draining slopes of ridges overlooking streams.

The presence of part of a barbed-and-tanged arrowhead, and also perhaps of the hollow scraper (findspots AY (fig 2, no 4) and AQ, respectively), meanwhile, is a reminder that some of the material in the collection is likely to be of later date. Such post-Mesolithic flintwork has been recorded previously elsewhere within the Low Weald, particularly - as in both cases cited here - from sites overlooking the river Mole and its tributary streams (eg Ellaby 1985, 56-7).

ACKNOWLEDGEMENTS

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