Archaeological excavation at L'Erée, Guernsey, 2008

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Draft report, June 2009

1. Introduction

This report presents the results of an archaeological excavation relating to Neolithic/Early Bronze Age occupation at the northern end of L'Erée Bay on the west coast of Guernsey (Figure 1). The work was carried out on States of Guernsey land, just below the Prosperity Memorial car park, in September 2008. The excavation was initiated in response both to the findings of small-scale excavations carried out immediately to the south in 1998 (Cunliffe & de Jersey 2000, 869-893), and to the results of a more recent geoarchaeological survey (Garrow & Sturt 2008). It consisted of a rectangular 10 x 5m trench, set 10m in from the present-day cliff face. Significant quantities of Late Neolithic/Early Bronze Age (EBA) pottery and lithics were revealed, as well as a probable Late Neolithic structure (defined by a shallow gully and post-hole). These finds are of especial significance given their location immediately below the passage tomb, Le Creux ès Faïes, which is also known to have been used during the Late Neolithic/Early Bronze Age (Kendrick 1928, 184-5; Sebire 2005, 74). In addition, if the gully does represent one part of a building, this would represent the first Late Neolithic domestic structure found anywhere in the Channel Islands.

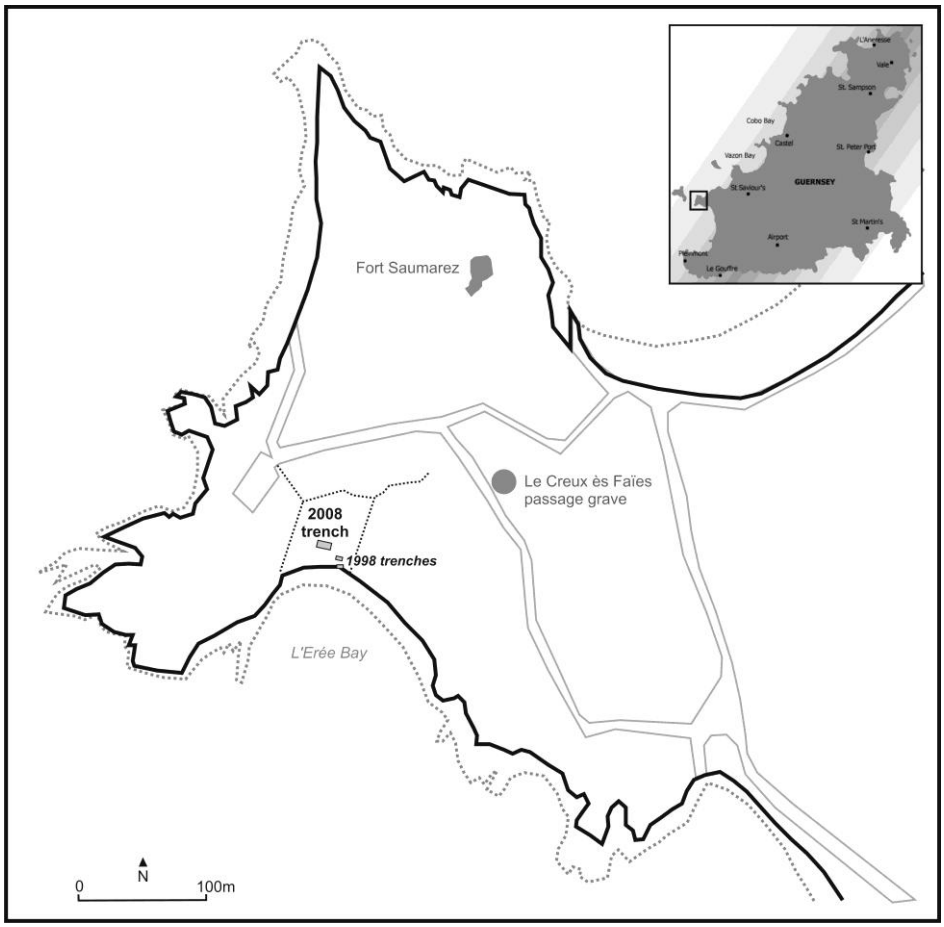


Figure 1. Site location, showing 2008 and 1998 trenches

The Neolithic of Guernsey is renowned for the impressive number of burial monuments found within its shores, a picture mirrored across the Channel Islands more widely (Patton 1995; Sebire 2005). In stark contrast, the settlement record of the same period remains very poorly understood. Across the Channel Islands as a whole, only three potential Neolithic occupation sites have been identified: an artefact scatter or midden at La Motte, Jersey (Patton 1997, 41), a group of ephemeral post-holes and pits at the Royal Hotel site, St Peter Port, Guernsey (Sebire 2005, 55 and pers. comm.), and the site at L'Erée under discussion here.

Since the 1970s, seasonal storms have gradually revealed what appears to be a very promising Neolithic habitation site at L'Erée. Each year, quantities of pottery and flint/quartz along with occasional settlement-related features (such as hearths) are eroded out of the low cliff face onto the beach below. Concerned by the continuing loss of this vital archaeological material, Barry Cunliffe (University of Oxford), in conjunction with Heather Sebire (then Archaeology Officer at Guernsey Museum), initiated a small-scale excavation at the site in 1998.

The results of Cunliffe's excavation are detailed in full in Cunliffe & de Jersey (2000). In summary, their work recovered substantial artefactual evidence, two buried horizons (assigned to the Early Neolithic and the Late Neolithic/EBA) and a ditch-like feature, all within two 2 x 4m trenches. The artefact assemblage included 247 sherds of undiagnostic prehistoric pottery and 296 lithics of Neolithic/Early Bronze Age date. These artefacts were associated with a series of strata including laminated interleaving lenses of sand and loam and a "stable loam" (ibid., 872-6). The majority of the finds came from the latter. Taken together, this evidence considerably strengthened previous suggestions that the site was indeed a potentially substantial Neolithic and/or Early Bronze Age settlement.

A proper understanding of settlement practices is vital to our understanding of any archaeological region. In Guernsey, and indeed the Channel Islands more broadly, it is critical that the well-known and rich monumental record is placed within its broader landscape context, and that we gain a better knowledge of the sites where people lived out their daily lives (see also Scarre 2009). It was this aspect of the site's research potential, along with the continuing damage caused by coastal erosion – highlighted specifically as cause for concern within the recent Coastal Strategy document drawn up for the island (Royal Haskoning 2007, 48) – that prompted our interest in and investigations at the site.

Excavation rationale

Following his work at the site, Cunliffe suggested that any settlement relating to the substantial quantities of Neolithic/Early Bronze Age material (identified eroding out of the cliff face, and then subsequently within his trenches) was likely to be located to the north of his excavations. The material that his team recovered was viewed not as being *in situ*, but as having been deposited down slope from its original (settlement?) context by water/wind erosion (Cunliffe & de Jersey 2000, 875). In response to these preliminary suggestions, we decided to locate our trench a short distance upslope of the two previous trenches. In siting it away from the present-day cliff face, we also sought to ensure that our archaeological work did not have a negative impact on the very coastal erosion we were working against.

Neolithic settlement remains are notoriously difficult to identify, often being comprised of ephemeral pits, shallow gullies and post-holes. Therefore, in order to provide ourselves with the best possible opportunity of finding features of this character, we decided to open a single trench

(covering as large an area as possible) rather than several narrower evaluation trenches (in which such features would be difficult to spot); a strategy which appears to have met with some success.

2. Methodology

Due to its ecological importance and sensitivity, L'Erée headland is designated as a 'Ramsar' site. Consequently, at the recommendation of La Société Guernesiaise, no mechanical earth-moving machinery was used on site. As a result, the 10 x 5m trench was hand-excavated from top to bottom, to a maximum depth of 1.42m. In order to gain maximum control over the distribution of finds within the deposits encountered, excavation of the uppermost layers (Medieval/Post-Medieval) was carried out in spits of 20cm depth, and of the lower deposits (Neolithic/EBA) in spits of 10cm. The distribution of finds within the latter was recorded horizontally as well as vertically, in 2.50m grid squares (see Figures 7 and 8). The site archive is currently held at the University of Southampton under the site code LER08. Once the project is fully completed, the archive will be deposited along with all relevant reports at Guernsey Museum.

Figure 2. Excavation in progress, September 2008

3. Results

Stratigraphy

In total, 8 stratigraphic layers were identified within the trench. Three of these related to post-medieval/modern activity, two to Neolithic/EBA occupation; a further three contained no evidence of human activity. In addition, two archaeological features – a shallow gully and post-hole – of probable Late Neolithic/EBA date were identified. These are described below:

Modern/post-medieval deposits

[1] Modern Topsoil 'A1' Horizon: A dark brown (10YR 3/3) sandy silt with frequent pebble (4-64mm diameter) and granule (2-4mm diameter) inclusions. In evidence across the entire site ranging in thickness from eight to ten centimetres.

[2] Current 'B1' Horizon: A very dark greyish brown (10YR 2/3) sandy silt. In evidence across the site ranging in thickness from one to four centimetres.

[3] Medieval/Post-medieval cultivation soil: Mid brown (10YR 5/3) silty sand (41.3% sand, 26.4% silts and clays, 32.3% gravels) with frequent pebble (4-64mm diameter) inclusions. In evidence across the site, with an average thickness of 0.6m. Interpreted here as Medieval/Post-medieval in date due to pottery found within it, as well as the numerous pebble inclusions resulting from the use of seaweed as a fertilizer.

Neolithic/EBA deposits

[4] Late Neolithic/EBA 'A2' horizon: Dark brown (10YR 3/3) sandy silt (39.9% sands, 43.2% silts and clays, 16.8% gravels). The layer varied between 0-10cm in thickness due to truncation from later ploughing associated with context [3]. Context [4], and the first ten centimetres of the one below it [7], contained the majority of archaeological finds recovered. Interpreted as the remnant lower part of a Late Neolithic/EBA topsoil.

[7] Buried soil 'B2' horizon: Mixed dark greyish brown (10YR 4/2) and very pale brown (10YR 8/2) clayey sandy silt (83.4% silt, 7.8% sand, 8.8% clay). This layer was approximately 40cm thick. It contained a minority of the archaeological finds recovered. It is interpreted as a 'B' horizon to the buried soil 'A' horizon [4] described above (i.e. a buried Late Neolithic/EBA subsoil in the process of forming from the *in situ* loess layers beneath). This being said, whilst there was some evidence for the usual mineral deposits associated with 'B' horizon formation (such as iron panning), they were not extensive or uniform across the deposit. As such, determination of 'B' horizon status was derived from the overall structure of the profile.

Earlier 'natural' deposits

[8] In situ loess with stabilisation layers intermixed with small bands of re-deposited loess: Lamina deposits of very dark brown (10YR 2/2) and very pale brown (10YR 7/4) sandy silt. This deposit varied between 20-40cm across the trench and was similar in structure to context seven above it (see Figure 3). It is interpreted here as a series of windblown loess deposits, with periods of stabilisation leading to organic accumulation. Some of the variation in deposit might be explained by periodic exposure of loose loess and then either wind and/or Aeolian re-deposition on a localised scale.

[9] Sand: Brownish yellow (10YR 6/6) sand underlying loess deposits. This layer ranged in thickness from 3-10cm. Context [9] was only exposed in the north west corner of the trench.

[10] Gravelly head material: Dark yellowish brown (10YR 3/4) sandy gravel. Exposed to a depth of 18cm in a sondage in the north west corner of the trench. This layer was interpreted as the top of gravel head material. Renouf & Urry (2000, 873) date this layer to the Devensian cold stage.

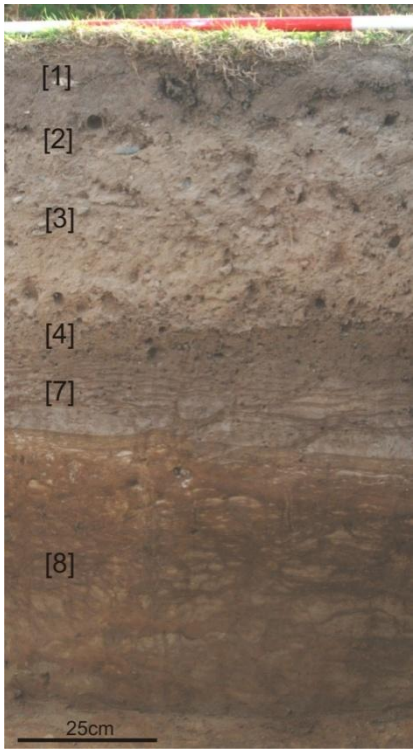
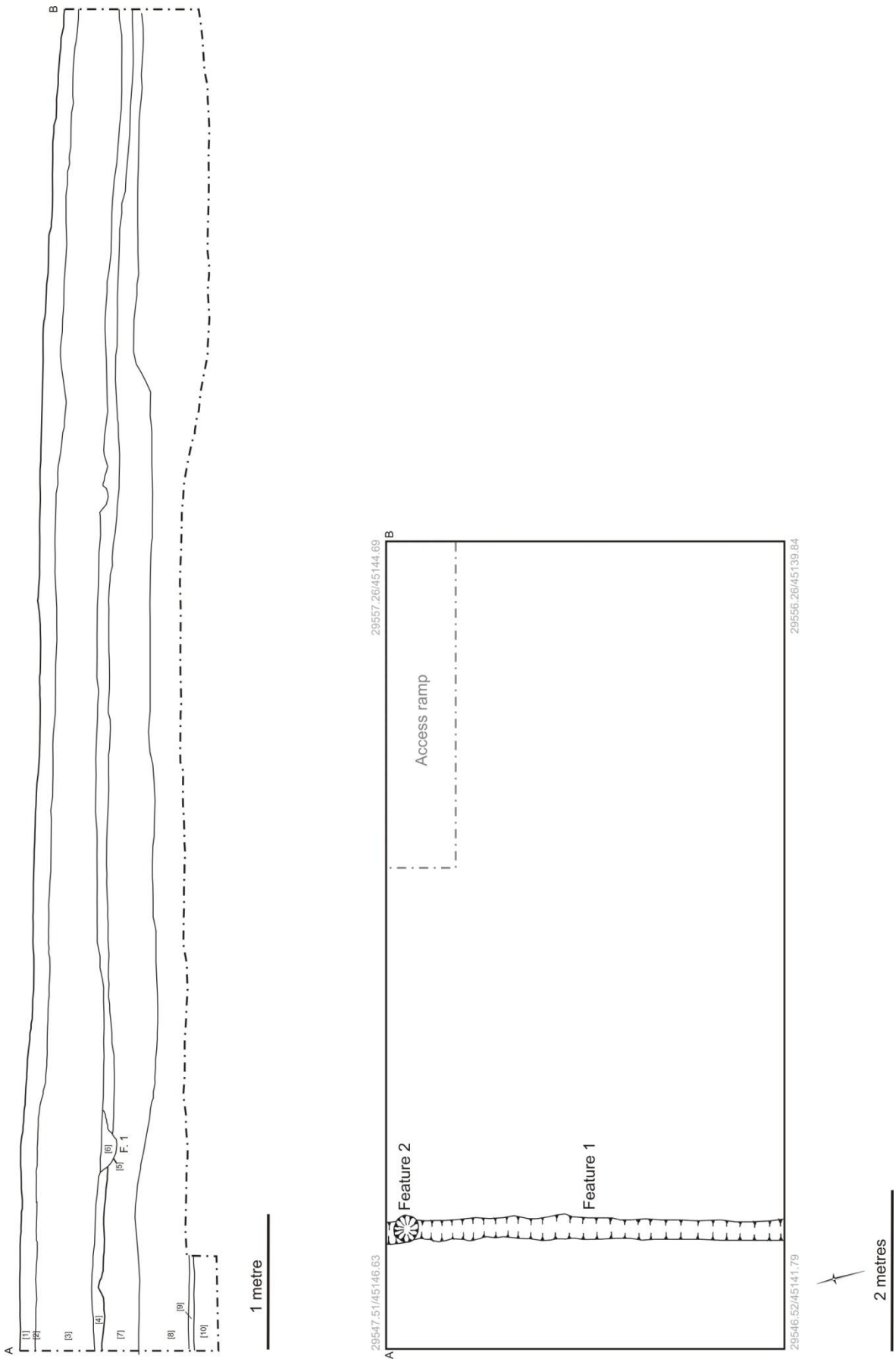


Figure 3. Photo of east-facing section, showing the different layers [1] to [8]

The layers of greatest archaeological significance were contexts [4] and [7], here interpreted as a Late Neolithic/EBA 'A' and 'B' horizons. A total of 516 sherds of prehistoric pottery, 12 pieces of daub and 194 pieces of worked flint/stone were recovered from these layers, suggesting that the locality must have witnessed a significant phase of Late Neolithic/EBA activity, as Cunliffe and others have suggested previously. The distribution of artefacts was far from even across contexts [4] and [7], with the vast majority of finds recovered towards the south-eastern corner of the trench (see Figures 7 and 8). Interestingly, Cunliffe's team found a comparably high density of finds within their trenches, with Trench 2 (the one closer to ours) producing a higher density than Trench 1. Possible explanations for this uneven distribution of artefacts are discussed in more detail below.

It is important to point out at this stage a significant difference between the deposits encountered within our trench and those within Cunliffe's trenches, excavated just a few metres to the south east. Between the bottom of the Medieval/Post-medieval ploughsoil and the *in situ* loess, Cunliffe recorded a series of layers (3-8 in Trench 1, 13-17 in Trench 2) which in post-excavation were grouped together into two units, termed Unit 1 and Unit 2 (Cunliffe & de Jersey 2000, 874-5). Unit 1, the lower of the two, was seen as representing a sequence of wind/water erosion (resulting in the formation of finely-laminated deposits of sand interspersed with loam) followed by a more stable phase of consolidation (resulting in the formation of loamy soil); it was thought to be Earlier Neolithic in date. Unit 2, which lay immediately above Unit 1, represented a repetition of this sequence, and thus resulted in the formation of essentially very similar deposits (ibid., 875); it was thought to be Late Neolithic/EBA in date.

Within our excavation trench, only a single set (or Unit) of deposits along these lines was identified, rather than two: a layer of finely-laminated deposits of sand interspersed with loam [7] overlain by a layer of more stable loam [4]. Consequently, in between our trench and those dug in 1998, one of the two units identified in Cunliffe's trench just 9m to the south is lost. Possible reasons for this absence are considered in detail below.



Figures 4 and 5. South facing section (Fig. 4) and plan of features within 2008 trench (Fig. 5)

Archaeological features

At a depth of 0.6m, at the interface between the Medieval/Post-medieval ploughsoil [3] and the Late Neolithic/EBA 'A' horizon [4], two archaeological features were observed (Figures 4, 5 and 6). Both were sectioned and then fully excavated.

The first of these was a shallow gully (Feature 1). It extended right across the trench, and was aligned SSW-NNE (parallel with the trench edge and present-day field boundary). The feature was 20cm wide and approximately 10cm deep. Considering the shallow depth which remained, it was very regular in terms of its straightness and overall depth.

The second feature was a post-hole (Feature 2), identified close to the northern edge of excavation. The post-hole was actually set within the gully and so it can be assumed that both features formed part of the same putative structure. The post-hole measured 32cm in diameter x 18cm deep, and had steep/vertical sides with a rounded base. Its fill [6] was a light brown sandy silt. Within the fill, eight pebbles/cobbles were observed; these are likely to represent packing material for the post. A sherd of diagnostically Late Neolithic/EBA pottery and a small scraper were found within the post-hole fill (see pottery and lithics reports below).

Figure 6: Features 1 (gully) and 2 (post-hole)

On its initial discovery, both the date and the structural nature of the gully were uncertain. The Medieval/Post-medieval ploughsoil layer [3] appear to have truncated both the layer into which the gully was cut [4], and probably also the gully itself. Unfortunately, because the fill of the gully was very similar to the layer above [3], it was impossible to determine in section whether it had originally been cut during the Neolithic/EBA and then subsequently truncated, or whether it had simply been cut in the Medieval/Post-medieval period.

The discovery of a substantial post-hole, with packing stones, within the gully confirms that the gully was indeed a structural feature (rather than, for example, a particularly deep Medieval plough scar). Similarly, the discovery of a sherd of Neolithic/EBA pottery within its fills adds

considerable weight to the argument that both the gully and the post-hole were indeed prehistoric in date. Given the fact that grid squares A and B (within which the gully and post-hole were found) produced the lowest densities of pottery of all the squares (Square A produced only four sherds in total for example), the chance of the sherd being residual are much lower than if the post-hole had, for example, been located in the south-eastern corner of the trench where there was a much higher density of prehistoric pottery.

Overall, an element of doubt inevitably remains as to the precise structural nature of these two features, and indeed their date. Nevertheless, the most likely explanation – given the evidence so far revealed – is that they belong to a Late Neolithic/EBA structure, the rest of which lies beyond the edge(s) of excavation to the north and/or west.

4. Pottery (Anwen Cooper)

Introduction

606 pottery sherds were recovered from three excavated contexts, weighing a total of 2993g.

This assessment focuses upon 518 of these sherds, which are handmade and of prehistoric origin. The remaining sherds were retrieved from layer [3], and mainly comprised modern glazed fragments together with occasional earlier (probably medieval) pieces. The prehistoric sherds weigh 2311g in total and have a mean sherd weight of 4.5g. All but one of them were recovered from layers [4] and [7]. Indeed a large proportion (54% by weight) were retrieved from the upper excavated spits of just two sample squares (G and H) at the eastern end of the investigation area (see Figure 7). The remaining sherd was found in the fill of the posthole (Feature 2). In addition to the pottery, twelve small pieces of fired clay – almost certainly daub fragments – were recovered from layer [4].

The assemblage consists mainly of worn undiagnostic sherds. Several sherds are extremely weathered, and some are also heavily burnt. However, occasional fragments have fresher breaks. Diagnostic elements (formal and decorative) were identified on 69 sherds. Most of the distinctive sherds appear to relate to Chalcolithic activity (2850-2250BC). However it is likely that some of the assemblage dates to the late Neolithic (3250-2850BC) and/or early Bronze Age (2250-1500BC) (based on dates and period divisions defined in Patton 1995).

The following report examines the principal fabric types and forms represented. Comparisons are also made with the more substantial collection from L'Erée examined previously by Bukach (in Cunliffe & de Jersey 2000, 881-4), and with published collections from elsewhere on the Channel Islands (e.g. Patton 1995).

Methodology

The assemblage from LER08 was examined in accordance with the Prehistoric Ceramics Research Group guidelines (1997) and in keeping with the overall project design (Garrow & Sturt 2007). All sherds (prehistoric and otherwise) were counted and weighed to the nearest whole gram. Following examination by hand and using a hand lens with x10 magnification, each prehistoric sherd was assigned a fabric type, and its condition assessed. A record was made of all formal and decorative elements, including surface treatments. Where possible, connections were sought between fabric types and formal and decorative traits. In addition the fabric types defined

were cross-referenced with those identified by Bukach (2000). A representative sample of diagnostic sherds was illustrated (Figures). The pottery archive is currently held at the University of Southampton. Once the project is fully completed, it will be deposited at Guernsey Museum.

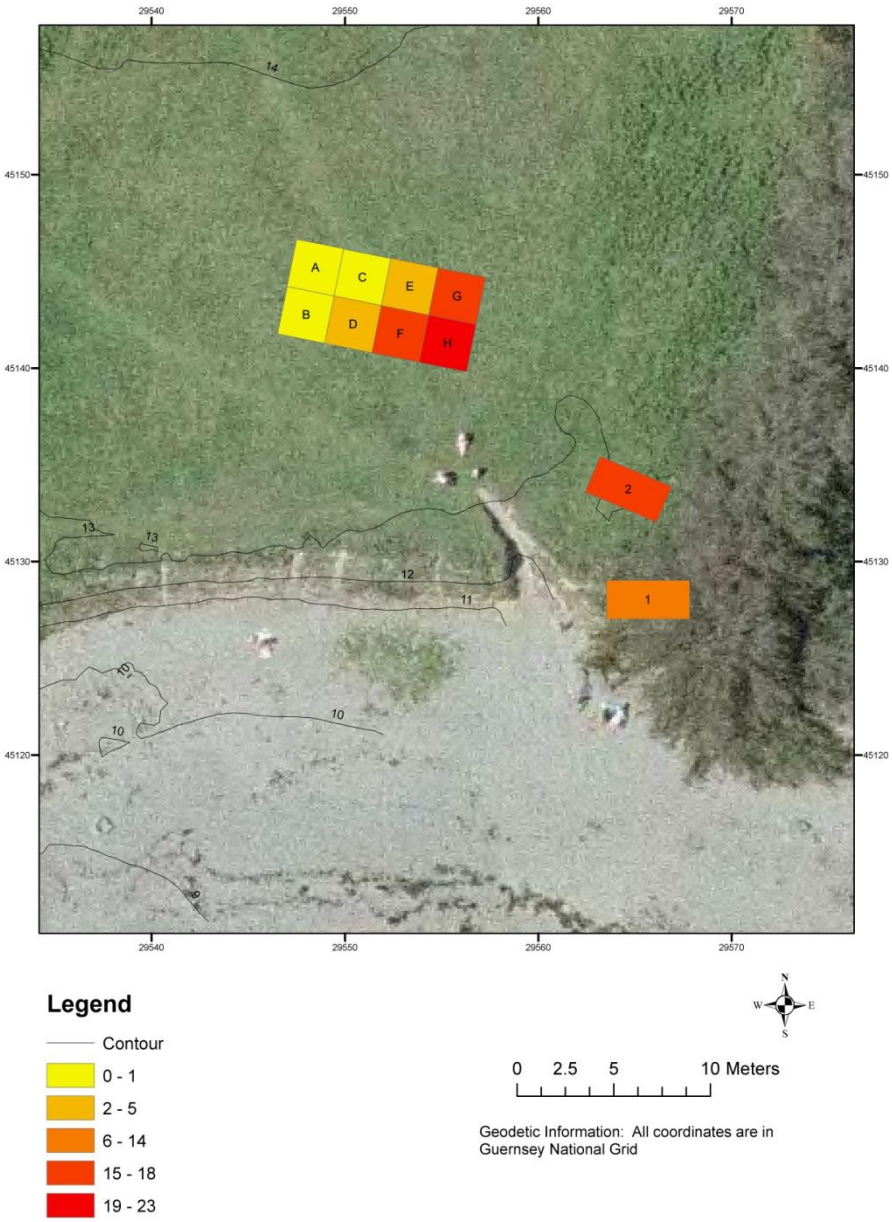


Figure 7: Number of sherds per m^2 for all excavated areas (the 1998 trenches are labelled as 1 and 2)

Fabric types

Six main fabric types were identified. Inclusions of feldspar, quartz, granitic rock fragments and sand were present in all of these. However the fragment size, abundance, and the extent to which these components were sorted varied considerably. As outlined by Bukach (2000) it appears that the clay for all of these fabrics was sourced locally. Fabric B was the most common type, representing at least 30% of the assemblage.

Fabric A

Soft to medium hard pinkish grey-brown fabric with rough gravelly surfaces, very poorly sorted rock fragments and small pebbles (<1.5cm), sparse feldspar and quartz (1-3mm), rare voids and varying amounts of sand (<1mm). Diagnostic sherds in this fabric appear to fall into two distinctive categories: those relating to large, thick-walled (up to 2cm) jars (Figure XX) and those representing slightly finer bowls with walls of <1cm thickness (Figure XX). This fabric probably equates to Bukach's Fabric 3 (2000).

Fabric B

Hard, mostly well-oxidised reddish-brown fabric with sandy to very sandy surfaces, common moderate to well sorted feldspar (1-3mm), sparse quartz (1-3mm), sparse poorly sorted rock fragments and small pebbles (0.2-1cm), rare voids, and varying amounts of sand (<1mm). Sherds in this fabric make up at least 30% of the total assemblage, were found in all but one of the excavated contexts, and are generally 0.75-1.5cm thick. There are proportionally fewer diagnostic sherds in this fabric. However those identified derive from either flat-based jars or bowls (Figure XX). Two sherds have slipped (and possibly burnished) surfaces. Two others were perforated through the body of the vessel when the clay was still wet. Rims are typically slightly everted, sometimes with quite pronounced flattened or rounded lips (Figure XX-XX). One fragment may represent a detached cordon, while another may be part of a perforated lug (Figure XX). This fabric probably equates to Bukach's Fabric 1 (2000).

Fabric C

Hard, often poorly-oxidised reddish-grey-brown to black fabric, with sandy to very sandy surfaces, sparse to moderate fairly well-sorted feldspar and quartz (<3mm), rare poorly sorted rock fragments (1-3mm), common sand (<1mm), and rare voids. Sherds in this fabric are typically fine, with walls of c.0.5-0.75cm thickness. Several sherds are angled, some quite sharply - almost right-angled - (Figure XX) and probably derive from carinated bowls. Rim sherds in this fabric are everted (Figure XX).

Fabric D (?Beaker)

Fine, hard, well-oxidised fabric, with smooth to sandy surfaces, moderate fairly well-sorted feldspar (<1mm), rare quartz (<1mm), rare rock fragments (1-3mm), and varying amounts of sand. Sherds in this fabric are invariably from thin walled vessels (<0.7cm thick) upright upper profiles and everted rims. One rim is rolled outwards (Figure XX). Another sherd has small, diagonal fingernail or grain impressions in a horizontal line along its lower edge (Figure XX).

Fabric E (?Jersey Bowl)

Fine, fairly hard, poorly oxidised fabric with smooth to sandy surfaces, sparse to moderate rock fragments (<3mm), rare quartz (<3mm), rare feldspar (<1mm), and a relatively low sand content. Sherds in this fabric are invariably fine with walls <0.7cm thick, and several sherds have slipped inner or outer surfaces. Three body sherds are also decorated. One has a single vertical incised line, just below the rim. One has an incised horizontal line, above which there are short, vertical incised lines (Figure XX). Another has scored horizontal grooves (Figure XX). Rims in this fabric are often tapered, sometimes flattened and mostly everted (Figure XX). Two body sherds are angled and may represent shoulders or carinations (Figure XX).

Fabric F

Hard, mostly well-oxidised fabric with a fine paste, smooth to sandy surfaces, sparse to moderate well-sorted feldspar (<1mm), sparse rock fragments and tiny pebbles (>3mm), rare quartz (1-3mm), and varying amounts of sand (<1mm). Sherds in this fabric have a moderate wall thickness of 0.7-1.5cm. Two sherds derive from bowls with pronounced carinations (Figure XX). One of these has an incised line directly above the carination. The single rim sherd is everted (Figure XX). Other sherds are decorated with diagonal fingernail or grain impressions, arranged either in a horizontal band or in a zigzag formation (Figure XX).

Form

The fragmentary character of this assemblage precludes a detailed discussion of the forms and sizes of vessels represented. Nevertheless a sufficient number of formal traits were identified to allow for a broad assessment to be made of vessel forms, how these relate to fabric types, and what proportion of the assemblage they make up.

Base sherds were identified in Fabrics A, B, C and F and mostly represented substantial, coarseware vessels. Only two of these are from jars (Figure XX), with the remainder representing vessels with open, bowl-like profiles (Figure XX).

A number of angled or occasionally rounded body sherds were identified. Rounded body sherds are only present in the coarser fabrics (Fabrics A and B). However, shouldered or carinated sherds are present in Fabrics B, C, E and F, most of which derive from relatively fine vessels. An unusually sharply angled example is present in Fabric C from a vessel which also appears to have a fairly large diameter (Figure XX). On other sherds in Fabrics B and F, the carination is accentuated with a slight ridge (Figure XX). Only in one case, in Fabric F, is the carination related to a decorative element: a single incised line (Figure XX).

Rim sherds are present in every fabric type. However, most are from finer vessels in Fabrics C, D and E, and are typically everted with rounded, tapered or flattened lips (Figure XX). Rims in Fabric D are invariably from vessels with an upright upper body profile (probably Beakers). The lip on one of these sherds is rolled outwards (Figure XX). Slightly different rim forms are present in the coarser fabrics (Fabrics A and B). These are straight and rounded, or slightly everted with pronounced or flattened lips (Figure XX).

Overall, it appears that the diagnostic assemblage includes coarseware jars, Beakers, and carinated or shouldered bowls. The precise form these vessels took cannot be determined. The paucity of diagnostic sherds in the coarser (and more abundant) fabrics (Fabrics A and B), and of other diagnostic traits on sherds deriving from jars, makes it very difficult to assign this material to a particular period. However, the absence of any cordoned sherds or strap handles probably suggests a late Neolithic rather than early Bronze Age date (see for example Patton 1995, Chapters 5 and 6, and Appendix V). The carinated or shouldered bowls, mostly in finer fabrics (Fabrics C, E and F), conform well to both fine and coarser versions of the Chalcolithic 'Jersey Bowl' type (Patton 1995, 161-2).

Decoration

Decorated sherds are only present in Fabrics B, D, E and F. Several sherds in Fabric F and a single sherd in Fabric D (probably Beaker) are adorned with a single horizontal row of diagonal fingernail or grain impressions (Figure XX). On one sherd in Fabric F, this is augmented with a further row of similar impressions in a zigzag arrangement. Similar decorative features have been identified in 'Jersey Bowl' assemblages elsewhere on the Channel Islands (Patton 1995, 171-3). In addition, as mentioned above, the carination on one sherd in Fabric F is accentuated with an incised horizontal line (Figure XX). Two sherds in Fabric B have red or dark brown slipped (and possibly burnished) external surfaces. However the finest decorative elements are restricted to tiny sherds in Fabric E (probably 'Jersey Bowl') (Figure XX). One sherd exhibits a classic 'Jersey Bowl' decoration (e.g. Patton 1995, 161), comprising a single incised line, surmounted by a row of short vertical incisions (Figure XX). Another sherd is scored with continuous horizontal grooves. Similar examples were recorded previously at L'Erée (Cunliffe & de Jersey 2000, 878)

and are known from elsewhere on the Channel Islands (Patton 1995, 170). Several sherds in Fabric E also have slipped interior or exterior surfaces.

Discussion

The pottery from LER08 adds to the growing collection of Late Neolithic to EBA material from L'Erée, and to the now considerable corpus of material of this date recovered from various contexts across the Channel Islands (Sebire 2005, 90). While most of the LER08 assemblage was worn, and only one sherd was recovered from a contemporary (possibly structural) cut feature, the presence of occasional quite freshly broken sherds suggests that at least some of the activity represented may have taken place quite close to the excavated area. The single sherd from posthole F1 was abraded but probably represents an angled body sherd in Fabric C. The fact that twelve pieces of daub were recovered is also highly significant, adding significant weight to the suggestion that the ditch and post-hole did indeed relate to a substantial building.

Overall, the LER08 assemblage shares several characteristics with the larger collection from L'Erée (including 1807 sherds, weighing 9371g, of which only 70 sherds – all from *ad hoc* surface collection – retained diagnostic features), analysed previously in Cunliffe & de Jersey 2000. No sherds could be clearly assigned to the early or middle Neolithic (as defined in Patton 1995). In addition, the earliest identifiable material conforms well to Chalcolithic – 'Jersey Bowl' and 'Beaker' – pottery-making traditions identified elsewhere on the Channel Islands. In fact material of this period was relatively more abundant in the LER08 assemblage, and included carinated or shouldered sherds as well as decorated pieces. However the assemblage from the 2008 investigation also differs from the previously analysed material from L'Erée in several important ways. There is no clear evidence in this assemblage for Late Iron Age or Gallo-Roman forms or fabrics. Moreover, other than one possible detached cordon, there were no sherds with cordons or strap handles. This is significant given that cordons were present on a large proportion of (particularly the coarseware) sherds analysed in Cunliffe & de Jersey 2000 (878-9). As a result it is possible that the early Bronze Age component present within this earlier collection is missing, or at least much less dominant in the pottery assemblage from LER08. Rather it is possible that at least some of the coarseware material – particularly the fragments from jars and the perforated lug – dates to the late Neolithic.

5. Worked flint (Fraser Sturt)

Introduction

One hundred and ninety five pieces of worked lithic material, weighing 1316 grams, and eight pieces of unworked granodiorite were recovered from four excavated contexts ([4], [6], [7] and [8]). Contexts [4] and [7] provided the matrix from which nearly all lithic material was derived. The eight pieces of unworked granodiorite were all found within context six (fill of the post hole, F2) and are thought to have served as post packing material.

The worked flint assemblage mainly consists of secondary and tertiary flake material, with the addition of a small number of identifiable tools and cores. Broadly, all of this material can be seen to fit within established lithic manufacture practices for the Late Neolithic and Early Bronze Age (Butler 2005; Edmonds 1995). The discussion below provides an analysis of this material, alongside comparisons with Brooks' report (in Cunliffe & de Jersey 2000, 884-892) on material previously collected from L'Erée.

Methodology

The assemblage from LER08 was analysed in accordance with best practice as identified by Andefersky (2003), Butler (2005) and Edmonds (1995). This included determination of raw material, reduction sequence, technology and, where appropriate, typological classification. As such, all lithic material was counted, weighed and length (proximal to distal), width (widest point) and thickness (thickest point) measured. Each lithic was examined using an illuminated x20 magnifying glass.

Results

Distribution

Within Figure 8 the amount of material recovered has been normalised against the size of the excavated area to give 'lithics per m^2". This permits direct comparison with the quantities of material recovered during Cunliffe's excavations (also shown in Figure 8 as Trenches 1 and 2). The overall impression gained from this plot is of an increasing density of lithic material towards the south-eastern area of the trench, in squares F, G and H. This follows the pattern described above for the pottery.

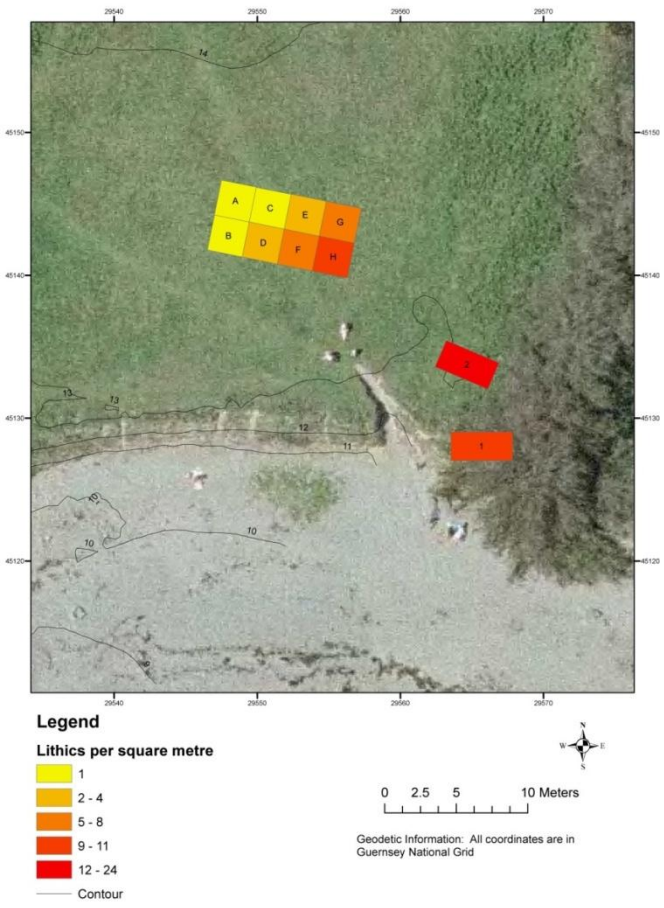


Figure 8: Number of lithics per m^2 for all excavated areas (the 1998 trenches are labelled as 1 and 2)

As noted above, the majority of material was retrieved from contexts four and seven. As these contexts were dug in arbitrary levels (spits), it has also been possible to plot variation in lithic density with increasing depth over the excavated deposits. Table 1 clearly documents a fall off in material as depth increases, with the vast majority coming from the first 10-20cm.

Grid Square	Context [4]	Context [7] 0-10cm	Context [7] 10-20cm	Context [8] 0-10cm	Context [8] 10-20cm	Total
A	1	1				2
B	4		1		1	6
C	1	3				4
D	10	12	2			24
E	19	2				21
F	21	10				31
G	22	2			1	25
H	12	21	11	1	8	53
Initial clean	27					27
% of assemblage	*60.82*	*26.29*	*7.22*	*0.52*	*5.16*	
Total	117	51	14	1	10	**193**

Table 1: Variation in lithic density horizontally and vertically in contexts [4], [7] and [8]

The concentration of material within context [4] is significant, indicating reincorporation of debris into a buried soil horizon, but not cut features. The continuation of material down profile to a depth of 50cm within context [8] is thought most likely to be explained by natural sorting processes, rather than multiple occupation phases.

Raw Material

The lithic material from LER08 represents a variety of raw material sources, from orange/brown to light grey in colour. As in Brooks' (2000) analysis of the material excavated in 1998/1999, the majority of lithic material is small in size, with an average length of 27.55mm. Where cortex is evident it frequently has a pitted, curved and 'rolled' appearance, indicating a pebble source in the majority of cases.

Reduction sequence

Lithic material was divided into three groups; primary, secondary and tertiary. Primary status was ascribed to flakes with cortex present across the entire dorsal surface, secondary flakes were partially corticated, and tertiary flakes lacked any cortex material. As Table 2 below indicates, there is a prevalence of secondary and tertiary material within the assemblage. This may indicate that the initial stages of the knapping sequence were occurring elsewhere.

Primary	24
Secondary	79
Tertiary	83

Table 2: Number of Primary, Secondary and Tertiary lithics recovered.

Flakes, Tools, Cores and Debitage

Table 3 below shows the make-up of the assemblage in terms of flakes, tools, cores and debitage. Flakes make up the majority of the assemblage, with pieces of angular shatter also providing for a significant proportion. Figure 10 provides length/width ratios for the flakes, demonstrating their small size and diversity in shape. There is some evidence for blade manufacture in terms of flakes with a length/width ratio greater than 2:1, but no overall uniform pattern. This probably reflects constraints imposed by the raw material being knapped; with small beach cobbles/pebbles being selected the opportunities for making blades would be reduced. It is worth noting that the length/width ratios shown here closely resemble those provided by Brooks (2000, 886), indicating that the two assemblages do directly relate.

Formal tools make up a small proportion (7.18%) of the assemblage, the majority of which (6.15%) were scrapers. This is a somewhat lower proportion than that found by Brooks, where 12.8% of recovered lithic material were tools. The scrapers (e.g. Figure 9) vary in form, but directly relate to the raw material available. In all but one case the scrapers were made by removing the top of a small pebble/nodule and retouching the edge. Again, this is in concordance with the scrapers illustrated and discussed by Brooks (2000, 886). In addition there was a single instance of a thumbnail scraper prepared on a tertiary flake (shown in Figure 9, lower).

Figure 9. Four of the scrapers recovered during excavation (scale in centimeters).

The presence of such small and varied scrapers fits well with the chronology of the site, as they are often taken as an indication of Late Neolithic/Early Bronze Age (Beaker) activity (Malone 2004; Edmonds 1995).

Type	Number	% of assemblage
Flake	117	60
Scraper	12	6.15
Thinning Flake	2	1.03
Blade	2	1.03
Single Platform Core	1	0.52
Flaked piece	11	5.56
Angular shatter	43	22.05
Multiplatform core	5	2.56

Table 3: Assemblage composition

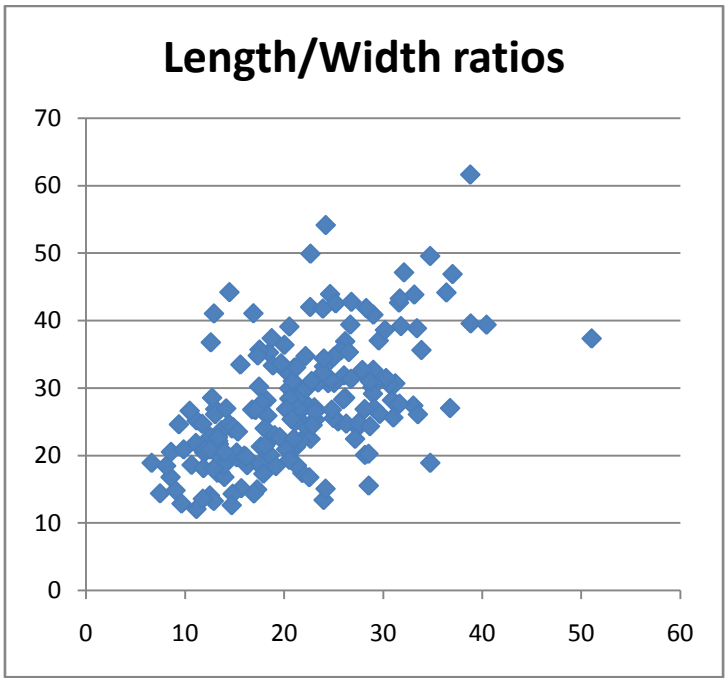


Figure 10: Length/Width ratios of lithic material from LER08.

The presence of five multiplatform cores, eleven flaked pieces and one single platform core (shown in Figure 11) within the assemblage marks a difference to the material excavated by Cunliffe. In Brooks' analysis (2000, 885), only one multiplatform core and one flaked piece were recovered. All of the recovered cores were small in size, varying in weight from 11 – 26g. Again, this emphasises the small nature of the available raw material and, by necessity, any tools produced.

Figure 11. Single platform core from context [4]

Discussion

The small lithic assemblage recovered through the 2008 excavation ties in well with the material found in previous excavations and field surveys. All of the knapped material appears to have come from local beach cobbles/pebbles, with the majority indicative of a Late Neolithic or Early Bronze Age date. The presence of the single platform core and two blades potentially gains significance when compared with Brooks (2000, 891) analysis of previously recovered material, where Brooks argued for an Early Neolithic site component based on the presence of single platform cores and blades. The 2008 excavations have not provided any definitive evidence to substantiate this. As such, the potential for Early Neolithic activity within the area is noted, but not felt to be strongly evidenced in the lithic record. What is apparent is small scale lithic manufacture, with a focus on scraper forms.

6. Particle size and Loss on Ignition analyses

It was noted early during the excavation process that whilst the deposits we were encountering closely resembled those described by Cunliffe (Cunliffe & de Jersey 2000), there were some discrepancies. In particular, as discussed in Sections 3 (above) and 8 (below), where Cunliffe identified two stabilised buried soil layers, we only had one. As such, questions emerged as to the nature of site formation process on site and the possibilities of identifying relict, but obscured soil horizons. Following guidelines laid out by English Heritage (2004) for answering such questions, particle size (PSA) and loss on ignition (LOI) analyses were carried out.

PSA is a laboratory based technique for determining the 'texture' (e.g. silty sand, clay, sandy clay) of a deposit by directly measuring the proportion of different grain sizes within a sample. In this instance samples were analysed using a Coulter laser granulometer, and the ensuing results interpreted with the aid of the grain size and distribution statistics package GRADISTAT, devised by Blott and Pye (2001). The results of PSA can help to answer questions as to site formation processes; such as whether deposits are Aeolian (wind blown), alluvial or colluvial in nature. This is determined through examining the size of particles present and the degree of sorting. In turn this can be translated into an understanding of process through considering the energy required to move the identified grain sizes (e.g. high energy for large granules, pebbles, cobbles, etc. and low energy for silts and clays) and any differences between the sampled deposit

and the local 'parent material' (i.e. is the sample deposit 'local' or has it been transported over a long distance).

LOI analysis determines the percentage of the sample that is made up of organic material. In this instance this was determined through accurately weighing the sample and then heating it to burn off organic content. The sample was then re-weighed and the percentage change noted. This change in weight can be directly related to the burnt off organic content of the sample. LOI analysis for the samples considered here was conducted according to the standards advised by Gale and Hoare (1991, 262-264). The reason for conducting LOI is that organic matter accumulates within top soils. As such, changes in organic content are one method through which shifting patterns of landform stability verses deposition and erosion (instability) can be determined. Given the research questions relating to site formation processes and potential multiple buried soils of different dates on site, this was considered an appropriate technique to carry out.

Figure 12 below presents the simplified results from both PSA and LOI analyses in a single image. What emerged from these analyses was a quantification of the distinctly different compositions of contexts [3], [4] and [7], with [8] already identified by 'soil texture by feel' in the field. Within these results it was interesting to observe that whilst context [7] and [8] were predominantly silt, rather than having a unimodal distribution, they were in fact trimodal, with notable peaks of sand and clay contained within the deposit. This was interpreted as suggestive of periodic reworking of wind blown silt deposits. This reinforces what can be seen visually within the section, thin dark bands of increased organic content marking stabilisation layers interspersed with sandy silt layers. As such, contexts [7] and [8] are interpreted here as windblown loess deposits with variable in-situ reworking. This is significant as it does not suggest large-scale colluvival process or erosion at the site of our excavation.

The results of LOI analysis reinforced the picture provided by the PSA analysis. As might be expected the medieval cultivation [3] soil and the buried top soil [4] had a higher organic content than buried sub soil [7]. However, what was interesting to note was a marked increase in organic content in context [8]. This might be suggestive of another buried soil, potentially the second layer of extensive stabilisation described by Cunliffe (Cunliffe & de Jersey 2000). Here, an Early Neolithic date was attributed to the lowest buried soil, and a late Neolithic/EBA date to the upper soil. However, as a consequence of our own investigations, given the depth of deposit separating sample points 17 and 20 (see Figure 12) and consistency across this depth in terms of interpreted energy of deposition, this dating sequence is thought unlikely. If Early Neolithic material had been encountered at this depth in our excavations, we would have been more confident in dating the deposit. However, as things stand, the increase in organic content at sample point 20 is interpreted here as reflecting a longer period of stabilisation in between episodes of loess deposition and reworking. If this is correct it is likely that these stabilisation layers date to the Late Devensian/Early Holocene. In order to verify this interpretation, further dating evidence is required, either in the form of absolute or relative dates.

As it stands both interpretations are plausible, but provide very different pictures of the local site environment through the Holocene. In Cunliffe's model there is significant landscape change between the Early and Late Neolithic, with c. 60 cm of windblown material being deposited and reworked, but, significantly, also long enough stable periods for organic accumulation and top soil formation to take place. Given the site's coastal location and the broader geological and geomorphological record of the islands, this is quite possible. However, without more secure dating evidence to support this model, and given the inconsistencies between the sections excavated in 2008 and those of 1998, a more conservative interpretation is favoured here.

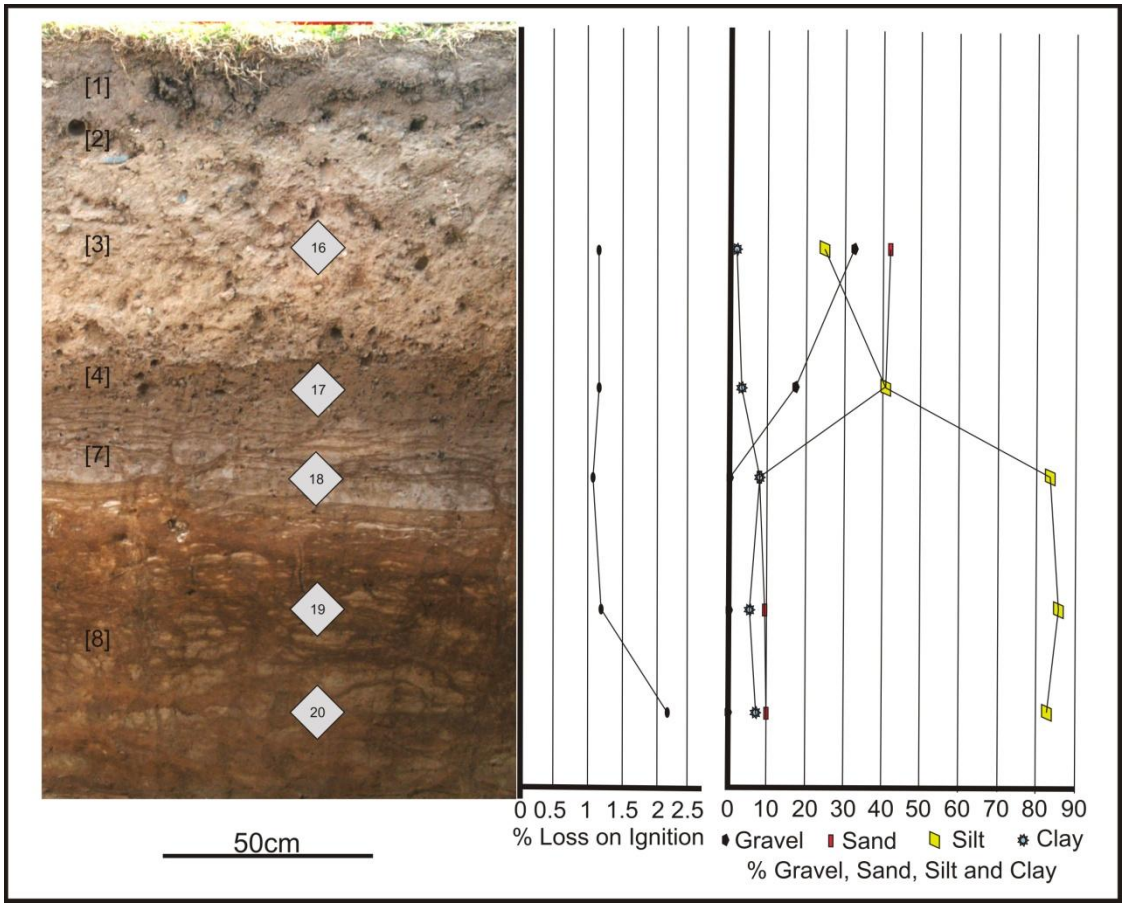


Figure 12. Loss on Ignition and Particle Size Analysis results. Sample points are shown as diamonds within the left-hand image.

7. Archaeobotanical and Osteological remains

It is worth noting that environmental samples were taken from the ditch (F1) and post-hole (F2). These were floated, but no plant remains were recovered. Equally, no bones were recovered from the site. The acidic, abrasive sandy soils provide poor preservational conditions for both sets of materials.

8. Discussion

The excavation described within this report produced a series of important results, which increase our knowledge of the site at L'Erée a great deal. It raised three key issues that it is important to discuss in more detail within this concluding section:

1. The presence of deposits containing significant amounts of Late Neolithic/EBA material needs to be explained, and the origins of that material considered.

2. The particularly high concentration of artefacts in one small area of the field needs to be accounted for.

3. The presence of a possible Late Neolithic/EBA structure is important, and also merits further discussion.

Deposits

The deposits uncovered during the 2008 excavations which contained Late Neolithic/EBA artefacts were layers [4], [7] and, to a much lesser degree, layer [8]. The latter was very distinctive, and the multiple layers within it appeared to have been formed as a result of Aeolian and waterborne deposition. Particle size analysis of samples taken from the section indicate a consistent low energy mode of deposition for contexts [7] and [8], with few/no large inclusions and predominant sand and silt make up. The fact that these contained low densities of artefacts should not necessarily be seen as significant, as these may well have been brought down into the deposit as a result of post-depositional sorting processes. In addition, the increase in organic component shown in Figure 12 may point to a period of increased landscape stability during late glacial deposition of loess, but not an occupation surface related to the material culture excavated during 2008.

The character of the deposits identified within the 2008 trench closely matched some of those identified within Cunliffe's 1998 trenches, as might have been expected. However, as discussed above, one crucial difference between the two different excavations was noted. While Cunliffe noted two successive 'units' within both of his trenches (each consisting of a layer of laminated sand/loam deposits overlain by a thinner stable layer of loam), our own excavations revealed only one such 'unit'. The loss of one significant layer over a distance of only 9m requires explanation. However, since the two units identified by Cunliffe were very similar in character – the upper one being distinguishable from the lower only by having "more discontinuous" laminated deposits (Cunliffe & de Jersey 2000, 875) – it is very difficult to establish which of the two is actually lost between the two excavation areas.

Two scenarios, through which either unit could have been lost, can be imagined. In both, the fact that Cunliffe's trenches were located at a slightly lower height OD than our own is crucial. The first scenario posits that within our trenches we identified the equivalent of Cunliffe's upper unit, and that the lower one fades out at some point in the unexcavated zone between the two areas. In this case, it is possible that the lower unit survived only in the lowest part of the site, perhaps because it had accumulated in a dip (see for example Garrow & Sturt 2008, Figure 6). The second scenario posits that we identified the equivalent of Cunliffe's lower unit, and that the upper one either faded out, or was truncated, uphill from Cunliffe's trenches. In this case, it is possible that the upper unit was destroyed by Medieval/Post-medieval ploughing associated with layer [3].

At this stage, it is impossible to determine which of the two scenarios is correct. Visually, in site photographs, the lower of Cunliffe's two units appears to be the most similar to our own. However, he attributed the lower unit to the Early Neolithic (primarily on the basis of its stratigraphic position rather than any diagnostic finds, it must be noted), whereas our unit contained only Late Neolithic/EBA material. This issue could only be resolved through further excavation.

Finds distribution

The second aspect which requires further discussion is the uneven distribution of artefacts contained within layer [4] (and the buried soil B horizon loess layer beneath it [7]). As discussed, the distribution of material was highly variable across the 2008 trench: whilst the 2.5m square in the south-east corner produced a total of 146 sherds and 68 flints, the equivalent square in the north-west corner produced just 3 sherds and 4 flints. The density of finds within Cunliffe's trenches, especially Trench 2 (the one closest to our own) was comparable with the higher densities observed in 2008 (see Figures 7 and 8 above).

There are two possible explanations for this uneven distribution of artefacts within the layer. The first explains it as a consequence of the fact that this part of site is the most low-lying. If the material had been deposited by wind and/or water erosion, finds could have ended up being deposited in the lowest part of the locality quite naturally. The second explanation is that the deposit is still in its secondary context, having been accumulated in that particular area as a consequence of human action during the Late Neolithic/EBA. In this case, it can be presumed that this happened as a result of settlement/occupation in the close vicinity. While it is difficult at this stage to distinguish for certain between these two possible explanations, as Cooper points out (see pottery report), the relatively large size of and low abrasion on some sherds could suggest that the second is more likely.

Possible structure

The evidence for some form of structure on the site is compelling, and thus highly significant. However, with only a straight section of the feature exposed it is still unclear as to what this may relate to. At the very least it indicates a wooden post, with further fencing/walling material stretching for over five metres. Further excavation would be required to ascertain whether this forms part of a house, field boundary or some other form of structure. Given the presence of daub, is appears likely that walled buildings of some sort were present in the vicinity. Bearing in mind the lack of settlement evidence for this period in the Channel Islands, the identification of a Late Neolithic/EBA structure would represent an extremely significant discovery.

9. Summary

The 2008 excavations described within this report confirm previous expectations that there was significant occupation at L'Erée during the Late Neolithic and Early Bronze Age. However, they revealed no definitive Earlier Neolithic material, and thus did little to substantiate suggestions of occupation of that date at the site. Given the presence of two horizons in the 1998 trenches, and the single horizon within the 2008 trenches, this question must remain unanswered for now, pending further archaeological investigation.

The exact character of Late Neolithic/EBA activity in the vicinity remains unestablished, and it too can only really be confirmed through further excavation. However, the presence of substantial quantities of material along with a possible structure suggests that the site may well have been a sustained settlement. As Cunliffe & de Jersey point out (2000, 893), the area could well have been very attractive to people at that time as it has light, easily-worked soils and a good mixture of marine and terrestrial resources in close proximity. Interestingly, the artefactual evidence was recovered in significantly higher densities in one localised area (in the south-east of the 2008 trench, extending into the 1998 trenches). As this is the lowest part of the site, it could be explained as the result of natural, post-depositional processes, with artefacts accumulating within a natural hollow. Equally however, it could also be explained as a result of Late Neolithic/EBA practice. It is quite possible that the putative settlement area (to the north and west) was kept significantly 'cleaner' than the land immediately adjacent to it, leading to higher finds densities in the latter.

The site at L'Erée, if indeed it is a Late Neolithic/EBA settlement, represents the first of its kind in the Channel Islands – clearly a significant discovery. On a more local level, it also provides an important landscape context for the Le Creux ès Faïes tomb immediately upslope. The tomb is known to have been used – if not built – during the Late Neolithic/EBA (Kendrick 1928, 184-5; Sebire 2005, 74). The fact that this use of the tomb may actually have been occurring in close physical proximity to a contemporary settlement would prove a very interesting addition to our understanding of burial practices in Guernsey at that time.

Acknowledgements

We are very grateful indeed to Philip de Jersey and Jason Monaghan of Guernsey Museums Service for their continuing support for and assistance with the project. We would also like to thank the States of Guernsey for allowing us access to the land, members of La Société Guernesiaise for their valuable advice in terms of minimising our impact on the ecology of the site, Janice Dockerill for her assistance in gaining planning permission to excavate, and Jamie Hooper for his help in reinstating the ground after the excavation was backfilled. We are also very grateful to Barry Cunliffe, Ian Kinnes, John Renouf and Chris Scarre for their continuing help and advice; and to Heather Sebire for discussions about the history of the site's archaeology, and for taking the time to come a long way to visit our excavations. Digimap Guernsey very kindly assisted us in obtaining the correction signal for realtime kinetic GPS, while Brandon Tool Hire, St Peter Port provided substantial assistance in meeting the full spectrum of our equipment needs. Finally, we would like to acknowledge the help and hard work of all those without whom the site would not have been excavated at all (many of whom also helped us to make us feel very welcome on the island): Jon Adams, Jenny Cataroche, Anwen Cooper, Philip de Jersey, Cate Frieman, Cara Garrow, Kit Hughes, Jody Joy, Sheila Kohring, John Lihou, Millie Rowe, Tim Sly, Dan Stansbie, Tanya Walls, Sue Wood and Tracey Woosley. The excavation was funded by the University of Liverpool (Research Development Fund) and the University of Southampton, with substantial additional support from Guernsey Museums Service.

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