



Northamptonshire County Council

Northamptonshire Archaeology

Northamptonshire Archaeology

Bolton House
Wootton Hall Park
Northampton NN4 8BN

t. 01604 700493 f. 01604 702822

e. sparry@northamptonshire.gov.uk

w. www.northantsarchaeology.co.uk



Northamptonshire
County Council



APPENDIX B. FINDS REPORTS

B.1 Pottery

by Paul Booth

Introduction and methodology

- B.1.1 The evaluation produced 2080 sherds (18,069g) of pottery, mostly of later prehistoric and (particularly) Roman date but including middle Neolithic sherds from one context, a single possible early Anglo-Saxon sherd, a few medieval fragments and a modest quantity of post-medieval/modern sherds. The pottery was scanned quite rapidly and quantified by period for each context group (Table 1). The material was recorded by Paul Booth, incorporating identifications and dating of the post-Roman pottery by John Cotter. The fabrics of the later prehistoric pottery (probably all of middle to late Iron Age date) were recorded in terms of the principal inclusions present. General ware codes were noted for the Roman material, using a modified form of the standard OA recording system terminology (Booth 2011), cross-referenced to the national Roman pottery fabric codes (Tomber and Dore 1998) where appropriate. Medieval pottery was defined in terms of the Oxford coding system (Mellor 1994) and standard terms (eg 'pearlware') were used for the post-medieval material. In addition to recording by fabric, broad vessel types were also quantified by count of rim sherds, with occasional note made of more specific types where these were of significance for dating. The detailed records are contained in the project archive and a breakdown by fabric type or group for each context is not shown in Table 1. An assessment of the date of each context group, a terminus post quem, is presented in Table 1. It should be noted that these dates are based upon the pottery alone and many of the 'Roman' contexts, for example, can be assigned a later date on stratigraphic criteria or on the basis of the presence of other material such as post-medieval ceramic building material.
- B.1.2 The condition of the material was variable within all chronological groupings. Many of the sherds appeared to be moderately worn, with variable preservation of surfaces. This was in part a consequence of soil conditions, but although some of the material from ploughsoil contexts was more abraded than that from other contexts only a very few sherds were noted as extremely worn, presumably as a result of repeated redeposition. The mean sherd weights (MSW) were quite low. The prehistoric pottery was typically well fragmented (MSW 6.1g) and the MSW for the Roman material was only 9.1g. That for the post-medieval pottery was slightly higher, but this reflects the relatively robust nature of much of that material – typified by glazed red earthenwares. Medieval sherds had the lowest mean weight, a mere 2.7g.

Table 1: Quantities of pottery by period and context

Context	Prehistoric		Roman		Medieval		Post-medieval		Pottery context date	Comment
	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)		
500							1	11	17C+	
3901							1	19	19C+	
4000							1	16	19C	
4805	73	311							E-MIA	
4806	8	43							E-MIA	
4807	6	34							E-MIA	
4900							1	21	17C+	
6100							4	15	19C+	
6700							1	19	17C+	
6800							2	12	19C+	
7604			3	31					2C+	
8005			1	2					1C?	
8107	45	184							E-MIA	
8603	3	2							IA?	
9704	22	121							Middle Neolithic	Peterborough ware
9801			4	87					3-4C?	
9904			20	149					3-4C	
10003			3	20					3-4C?	
10004			85	1626					2C+	
10006			2	4					Late 1C+	
10504			1	4					RB	
10505			7	78					4C	
10607			1	1					RB?	worn



Context	Prehistoric		Roman		Medieval		Post-medieval		Pottery context date	Comment
	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)		
11003	2	10	17	76					1C	
11203			45	347					Late 1C-mid 2C	
11205			35	652					Mid-late 1C	
11208			6	71					Late 1C+?	
11302							1	18	17C+	
11400			2	36					RB	
11401			2	5					RB	
11403			17	66					2C+	
11404			66	285					Early-mid 2C	
11406			58	248	8	26			13-16C	
11408			11	61					2C+	
11409			4	12					2C+	
11410			1	6					2C+	
11414			6	100					1C	
11417			5	21					Late 1C+	
11505			1	1					RB	
11800							1	12	17C+	
12100							1	6	1750-1780	
12304			1	2					1C+	
14600							1	4	17C+	
17000			24	87	4	6			13-15C	
17004			1	16					1C	
17300			72	456					Mid 3C+	
17302			36	342					Late 1-2C	



Context	Prehistoric		Roman		Medieval		Post-medieval		Pottery context date	Comment
	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)		
17304			293	2399					Mid 4C+	
17305			187	1759					Late 3C+	
17308			6	26					Late 1-2C	
17310			60	479					2C	
17405			5	15					Late 2C+	
17500			1	20					2-4C	
17503			7	135					3-4C	
17505			6	199					3-4C	
17506			1	11					2C+	
17600			2	26					Late 1C+	
17601			2	8					RB	
17603			5	39					Mid 3C+?	
17607			9	40					2C+	
17700			4	15					2-4C	
17703			4	8					2-4C	
17800			3	15			1	6	17C+	
17808			6	26					Mid 3C+	
17903			1	2					RB?	
18000			1	2	1	2			EAS?	Small coarse sand-tempered sherd
18300			1	25					2-4C	
18302			32	681					325-400	
18903							1	37	18C+	
22409							1	2	17C+	
25200							1	15	17C+	



Context	Prehistoric		Roman		Medieval		Post-medieval		Pottery context date	Comment
	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)		
25300							3	21	19C+	
26600							2	16	17C+	
27300							2	26	17C+	
27608					4	10			13-16C	
27610			1	4					RB?	
28000							1	2	18C+	
28004							1	2	17C+?	
28304							1	7	17C+	
28500							2	10	17C+	
29000			1	7					RB	
29005			27	108					Mid 3C+?	
29006			28	230					Mid-late 1C	
29007			6	44					Late 1C	
29009			36	302					Mid-late 1C	
29504							1	1	17C+	
30204			1	23					1C	
31002							2	5	17C+	
32200	1	4					1	24	17C+	
32202	61	527							MIA	
32204			2	54					Late 1C	
32300			1	31					RB	
32301			4	35					2C+?	
32304			44	256					Early-mid 2C	
32306	1	1	1	23					1C	



Context	Prehistoric		Roman		Medieval		Post-medieval		Pottery context date	Comment
	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)		
32400							1	31	17C+	
33400							2	7	17C+	
34100							1	6	17C+	
34203							1	1	17C+	
37200			3	101					2-4C	
37700			28	131			2	23	17C+	
37703			14	84			1	3	17C+	
37704			1	4					RB?	
37711			7	41					2C+	
37712			7	65					Mid 3C+	
37713			3	17					4C	
37716			2	9					4C	
37800			13	117					4C	
37805	5	21	21	209					Late 1C?	
37902			4	91					Mid 3C+	
38600							2	8	17C+	
39000			7	67					Mid 3C+	
39201			1	45					Mid 3C+	
39402	1	1							M-LIA?	
39703			1	3					RB	
39908					1	5			15-16C	
40100							3	55	19C+	
40300							2	15	17C+	
40502							1	12	17C+	



Context	Prehistoric		Roman		Medieval		Post-medieval		Pottery context date	Comment
	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)		
42202			64	412					Mid 4C+	
43000							1	5	19-20C	
43800			1	9					Mid 3C+	
45600							5	52	19C+	
45800							2	3	17C+	
46203	3	11							MIA?	
47003	1	13							MIA?	
49200					1	3			14-16C	
50000							1	10	17C+	
50100			1	12					RB?	But possibly CBM?
50203			1	3					2C+	
50206			2	5					Late 1C+	
50208			2	19					2C+	
50300			31	450					Late 3C+	
50303			41	246					Late 2-mid 3C	
50308			1	4					1C	
50311			1	4					RB	
50312	1	30	50	453			6	29	17C+	
50313			27	197					Mid 3C+	
50400			13	183					Mid 3C+	
50404			4	6					2C+	
50502			2	38			1	5	17C+	
50504			4	20					Late 1C+	
50700			1	52					2-4C	



Context	Prehistoric		Roman		Medieval		Post-medieval		Pottery context date	Comment
	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)		
50709			7	112					Mid 3C+	
51000			2	28					2C+	
51201			2	13					2C+, poss mid 3C+	
51203			8	73					Mid 3C+	
51500			1	44					Mid 3C+	
52600							2	15	17C+	
53100			1	13					Mid 3C+	
54100			1	4					RB	
55304	18	231	1	1					MIA	1 RB frag probably intrusive
55500							1	31	17C+	
55802							1	36	17C+	
TOTAL	252	1546	1738	15743	19	52	71	728		
MSW		6.1		9.1		2.7		10.3		
% of site total	12.1	8.6	83.6	87.1	0.9	0.3	3.4	4		

The assemblage: early prehistoric

B.1.3 Early prehistoric pottery was identified in a single context (9704) in a possible linear feature. Of the 22 sherds (121g) in this context all but one tiny fragment were in flint-tempered fabrics – the only instance of this kind of tempering in the entire assemblage. There were two main groups; 13 sherds (64g) with coarse flint and unidentified voids were unoxidised and comprised decorated rim and body sherds of a Peterborough ware bowl. The second group, comprising 8 sherds (55g), was in a similar fabric but without the voids; the exterior surfaces were oxidised and there was no decoration, but the similarity of general fabric character strongly suggests that these sherds were contemporary with the Peterborough ware. A broad middle Neolithic date is certain for this material, but the association with a linear feature is a little unusual and might possibly suggest that the sherds were redeposited.

The assemblage: later prehistoric

B.1.5 The later prehistoric pottery occurred in a fairly wide range of hand made fabrics. These were defined in terms (usually) of their two most common inclusion types (listed in order of frequency), though detailed fabric description was not undertaken. Inclusion types were identified by letter codes, as follows: A – quartz sand; C – calcareous grit; G – grog; L – limestone; N – none; P – clay pellets; S – shell; V – organic; Z – uncertain voids. A numeric code defines the relative coarseness of the fabric, on a scale of 1 (very fine) to 5 (very coarse). Fabrics in the upper part of this range were common here. The following discussion is based largely on consideration of the principal inclusion type. In some cases sherds, particularly groups of small fragments, were defined only in these terms. The fabrics present were as follows (Table 2):

Table 2: Quantification of later prehistoric pottery fabrics

Fabric	no. sherds	Weight (g)	Rim sherds
A unspecified	1	8	
AL3	1	1	
AS3	1	1	
CS5	1	21	1
L unspecified	38	101	1
LA4	8	45	
LAG4	9	50	
LAV4/5	12	155	1
LG4, LGA, LGZ4	4	32	
LS5	3	51	
LVA3	3	11	
LV4/5	55	459	1
S unspecified	39	100	2
S5, SN4, SN5	21	174	1
SA4	15	122	1
SAGV4, SGA4	2	29	
SC4/5	4	13	
SPV4	3	9	1



Fabric	no. sherds	Weight (g)	Rim sherds
SV4	5	30	1
VAL4	2	4	
Z, ZA	3	9	
TOTAL	230	1425	

B.1.6 The dominant fabric groups are those tempered with limestone and shell (in some cases the shell was probably fossil and therefore itself derived from limestone), suggesting that most of this pottery is probably from fairly local sources. Overfired sherds in fabric SA4 from contexts 4805 and 4806 certainly suggest local production if their condition was not a consequence of (perhaps accidental) refiring. The absence of sand tempering as a significant tradition is notable and is paralleled for example at nearby Whitelands Farm (Brown 2011a, 201). It marks a contrast with assemblages from the upper Thames Valley to the west and may also have an implication in terms of chronology, since sand tempering was particularly important in the middle Iron Age in this region. Shell tempering is a dominant regional tradition in the early Iron Age, for example, but its significance in this respect in this part of the county is much less clear, and shell and limestone traditions probably remained important here through the middle Iron Age as well as earlier. The difficulty of close dating is exacerbated by a lack of diagnostic sherds. Only ten vessels were represented by rims and almost all of these were small sherds, probably from simple ovoid or barrel shaped jars. Two rims, one each in fabric S (unspecified) and SV4, had fingertip impressions on the top of the simple upright rim, but this was the only decoration noted on any of the later prehistoric sherds. Much of this pottery can therefore only be dated as broadly early-middle Iron Age, but a subjective impression is that more is likely to have been of middle Iron Age date than earlier. There is, however, little indication of close spatial associations of any of this material with pottery of late Iron Age/early Roman date (context 37805 is perhaps the only example of such an association), which might suggest that middle Iron Age activity was restricted chronologically as well as spatially (see further below).

The assemblage: Roman

B.1.7 The Roman fabrics were defined in terms of OA ware codes, as mentioned above. These were mostly applied at an intermediate level of precision (eg fabric R30 – moderately sandy reduced coarse wares). The wares are grouped into major categories for analytical purposes, as set out in the OA documentation (Booth 2011). The wares present are as follows (Table 3):

Table 3: Quantification of Roman wares

Ware	Summary description	No. sherds	Weight (g)	No. vessels (rim count)
S30	Central Gaulish samian ware	17	49	3
F30	Mica dusted fine oxidised ware	1	4	1
F50	Red-brown colour-coated ware unsourced	3	16	
F51	Oxfordshire red-brown colour-coated ware	93	864	23
OF	Possible Oxfordshire red-brown colour-coated ware	6	48	3
F52	Nene valley colour-coated ware	9	112	1
F61	?South-western brown slipped ware	1	8	



M22	Oxfordshire white mortarium	16	851	8
M31	Oxfordshire white-slipped mortarium	2	31	1
M41	Oxfordshire red colour-coated mortarium	14	136	3
W10	Fine/slightly sandy white wares	17	90	3
W11	Oxfordshire parchment ware	2	44	1
W20	Sandy white wares	47	492	2
W23	Oxfordshire burnt white ware	2	13	
Q10	Oxidised white slipped wares	2	13	
<i>Subtotal</i>	<i>Fine and specialist wares</i>	236	2771	49
E20	Fine sand tempered 'Belgic type' wares	9	50	3
E30	Coarse sand tempered 'Belgic type' wares	8	61	
E80	Grog-tempered 'Belgic type' wares	95	804	8
O/O50	Oxidised coarse wares unspecified	2	5	1
O10	Fine (sandy) oxidised wares	202	805	12
O20	Coarse sandy oxidised ware	45	285	10
O30	Medium/fine sandy oxidised wares	6	25	
O37	Medium/fine sandy oxidised ware, West Oxfordshire?	3	62	1
O40	Severn Valley ware	8	102	1
O60	Calcareous-tempered oxidised wares	1	16	1
O80	Coarse grog-tempered oxidised wares	155	2132	7
O81	Pink grogged ware	92	2010	5
R10	Fine (sandy) reduced wares	351	2301	24
R20	Coarse sandy reduced wares	36	212	2
R21	Coarse sandy fabric (Young 1977, 202, fabric 2)	1	33	
R30	Medium sandy reduced wares	197	1506	27
R37	Medium/fine sandy reduced ware, West Oxfordshire?	11	128	1
R50	Black-surfaced medium sandy ware (cf Young 1977, 203, fabric 5)	1	11	
R90/99	Coarse grog-tempered reduced wares	45	1005	4
R96	Grog-tempered reduced fabric, West Oxfordshire?	5	81	2
B10	Black-burnished type ware, source uncertain	4	93	1
B11	Black-burnished ware, Dorset BB1	38	186	5
C10	Shell-tempered wares, various sources	163	915	24
X	Misc unassigned (from soil samples)	27	144	
TOTAL		1738	15743	188

B.1.8 The fine and specialist ware component of the assemblage which is identifiable to source consists very largely of products of the Oxford industry (fabric F51 (and probably



OF) and all the mortarium fabrics). The only other significant fine ware is Nene Valley colour-coated ware (F52), while a few sherds of samian ware (probably all Central Gaulish) were the only imported pieces in the entire assemblage; they included two decorated fragments. The sources of the white wares are less clear – they may have been mostly Oxford products, but this is not certain.

- B.1.9** The coarse wares include a range of material with different chronological emphases. The E wares are characteristic of the 1st century AD and were in production and use both before and after the Roman conquest. They were complemented and superseded from the mid-late 1st century onwards by both oxidised and reduced coarse wares, although coarse fabrics in the O80 and R90 groups, both typically used for large storage jars, could date from as early as the inception of the E ware range. The E wares are sufficiently numerous to indicate at least limited activity within the site in the 1st century. The dominant reduced coarse wares (31.1% of sherds) were in circulation thereafter and neither R10 nor R30 groups is chronologically diagnostic in terms of fabric alone. Most of the vessels in these fabrics are likely to have been Oxford products, but the fabrics are rarely sufficiently distinctive, even when examined closely, for this to be certain. The presence of material from other more local sources is possible, but not demonstrable. The oxidised coarse wares present slightly different issues. Sherds in fabric O10 are again likely to have included many Oxford products, but this code is also used for a number of otherwise undiagnostic fine oxidised fragments (the MSW of O10 was a mere 3.9g) which could have included eroded fine wares (such as F51 – the code OF was used where this identification was fairly certain based on the presence of distinctive forms) and even eroded fine red earthenwares of post-medieval date. A similar caveat might apply to some sherds in the O20 group as well. A distinctive component of the oxidised wares was fabric O81, pink grogged ware, with a known source at Stowe in Buckinghamshire. This tended to be most widely distributed in the 3rd and 4th centuries in the form of large thick-walled jars (Booth and Green 1989), but the present assemblage consists mainly of thinner sherds from other jar types for which a wider 2nd-4th century date range is possible; at a distance of c 20km from Bicester this was in effect almost a local producer.
- B.1.10** Another significant component of the coarse ware range on the site consisted of shell-tempered wares (C10). This group was not subdivided at this stage, but is likely to have included vessels in several different traditions of varying date, including early and middle Roman period production in or close to the upper Thames valley, but all with very similar if not effectively identical fabrics. A very small number of C10 sherds could be assigned with some confidence to the industry at Harrold, Bedfordshire (Brown 1994), products of which are most likely to be of 4th century date in this region. The majority of the black-burnished ware here is probably also of later Roman date, but this material was poorly represented, the site lying fairly close to the eastern margin of its distribution in quantity (cf Allen and Fulford 1996).
- B.1.11** Some 188 vessels were represented by rim sherds. Jars were dominant, as is usual in rural assemblages, but even including uncertain jar/bowl types only amounted to 57.4% of the assemblage. Since early Roman rural assemblages in the region are typically much more comprehensively dominated by jars, this figure is indicative of the later Roman date of the majority of the pottery (Booth 2007). This point is emphasised by the relative frequency of vessels in fabric F51 (and OF) – these were entirely bowls and (mainly) dishes, with the common Oxfordshire form (Young 1977) C45 being particularly well-represented. A few of the Oxfordshire vessels were of types that can be dated specifically to the 4th century rather than the wide AD 240-400 range of the commonest types such as C45 and C51, and it is notable that the only Nene Valley vessel represented by a rim sherd was a bead and flanged bowl from context 17305, almost



certainly of 4th century date. Few individual vessels were of note, however. The early pottery included a butt beaker rim in fabric E80 from context 11404, and a decorated body sherd of another early beaker in fabric O10 came from context 29006. Base sherds of a cheese press in fabric R10 came from 2nd century context 17310, and another relatively unusual grey ware form was a handled jug in fabric R10 from the late Roman context 17304 in the same trench. A further R10 sherd from the topsoil in this trench had been reworked as a disc with a drilled central hole, but seems rather large to have been used as a spindle whorl. Samian ware vessels represented by rims were cup forms 35 and 33 and an uncertain bowl (probably form 37 or 38). The absence of form 18/31 and 31 dishes is notable.

The assemblage: post-Roman

- B.1.12 The post-Roman pottery is for the most part unremarkable. One tiny fragment (*c* 1.5g) from context 18000 was in a coarse black sand-tempered fabric that had some characteristics of early Anglo-Saxon pottery, but the identification is not certain (compared, for example, to that of early Anglo-Saxon pottery from nearby Alchester; Evans 2001, 382; cf Brown 2011b), and the significance of a single unstratified fragment is rather doubtful. Nineteen sherds (52g) were certainly of medieval date. These were mostly products of the Brill-Boarstall industry, including glazed and unglazed vessels of 13th-16th century date (Oxford fabric OXAM). Context 27608 also produced a small worn fragment of Oxford fabric OXAQ. The post-medieval pottery is dominated by a range of oxidised earthenwares, mostly brown glazed. Many of these are also likely to have been Brill-Boarstall products. The majority have potentially wide date ranges of 17th-19th centuries.

Distribution and chronology

- B.1.13 The distribution of the pottery across the site shows distinct spatial and chronological patterning. The single incidence of Neolithic pottery (in Trench 97) has been noted above. Iron Age pottery occurred in 15 context groups, of which ten are potentially dated by the material, but at least four of these are very small groups and of doubtful stratigraphic integrity. This leaves Iron Age context groups in four locations, Trench 48 (three groups, 87 sherds, 388g), Trench 81 (45 sherds, 184g), Trench 322 (61 sherds, 527g) and Trench 553 (18 sherds, 231g) which together account for nearly 92% (by sherd count) of all the Iron Age pottery recovered. The four locations are all discrete. The pottery does not provide sufficiently close dating for it to be possible to determine if these represent separate locations of contemporary activity or sequential activities.
- B.1.14 The pattern of distribution of the Roman pottery is inevitably more complex. For present purposes small groups of material have been ignored, although they may have been significant in relation to particular features. The main early Roman (1st-2nd century) groups, possibly including a little pre-conquest material, are found in three areas of quite different sizes. In the western part of the site Trenches 100, 110, 112, 114, 173, 176 and 177 all contain groups of this date and are arguably sufficiently close to one another for the early Roman activity within them to be seen as related. Trench 173, in particular, also produced late Roman pottery groups as well as two late Roman coins. Further north-east, Trenches 290 and 323, on either side of the railway line, produced mid-late 1st century and early-mid 2nd century assemblages respectively, while some 700m east of here Trench 378 produced a single ?late 1st century group (with a little middle Iron Age pottery as well); late Roman pottery was also collected from this trench.
- B.1.15 Late Roman pottery was more widely distributed across the site, which complements the suggestion (above) that the larger part of the Roman assemblage was of this date. An



arbitrary selection of groups of at least five sherds usually dated from the mid 3rd century onwards showed that such groups existed in Trenches 99, 105, 173, 175, 176, 178, 183, 290, 377, 422, 503, 507 and 512, while in addition assemblages of this date were recovered from topsoil in Trenches 378, 390, 503 and 504. What this shows is that late Roman groups occur within all three areas with significant early Roman assemblages, though the overlap of early and late features is far from complete within them. With the exception of the small area represented in the late Roman period only in Trench 290, the evidence indicates more widespread activity in the occupation complexes in the western (Trenches 99, 105, 173, 175, 176, 178 and 183) and north-eastern (Trenches 377, 378, 390, 422, 503, 504, 507 and 512) parts of the evaluated area. This suggests a degree of continuity and indeed expansion of activity within these areas, although there is a lack of clear cut evidence for groups of middle Roman date (the group from context 50303 was unusual in being specifically dated late 2nd-mid 3rd century). This may reflect an absence of particularly diagnostic material rather than discontinuity in occupation sequences, but features of the assemblage such as the relative absence of samian ware might possibly suggest a reduction in occupation levels in the middle of the Roman period – Antonine samian ware tends to be particularly characteristic of rural settlement assemblages in the region but is poorly represented here (Booth 2012; see also above). Overall, however, the broad correspondence of occupation location between the early and late Roman periods suggests some continuity of activity in these areas throughout the period.

Local Context

- B.1.16 There are a number of published later prehistoric and Roman pottery assemblages from sites in the Bicester area. Early-middle Iron Age pottery is recorded from Alchester (Evans 2001) and Slade Farm (Woodward and Marley 2000), while the balance of fabrics, with an emphasis on grog tempering, suggests that assemblages from Bicester Fields Farm (Brown 1999) and Whitelands Farm (Brown 2011a) are mainly of late middle Iron Age and later date. At the latter site the pottery assemblage spans the conquest period and later, as is the case at Oxford Road (Booth 1996) and perhaps at Bicester Park (Timby 2008), while Roman activity at Alchester begins after the conquest and is better represented (in the northern extramural settlement area) from the 2nd century onwards (Evans 2001). Intensive late Roman occupation is best represented at Alchester (Evans 2001). Fourth century activity at Bicester Park and Whitelands Farm seems to have been rather limited and was completely lacking in other excavated assemblages from the Bicester area mentioned here. Sites in the vicinity of the present one therefore show a variety of trajectories of development and provide useful material for comparative purposes in the event of further analysis. Within the evaluated area comparison of the assemblages from the two principal foci of Iron Age and Roman occupation could be of particular interest, although the evaluation assemblages alone are too small to permit meaningful analysis. Wider regional comparisons have not been attempted at this stage, but frameworks for such analyses are in place (eg Booth 2004; 2007; 2012) and provide a secure basis for such work.

B.2 Fired Clay

by Cynthia Poole

Introduction and methodology

- B.2.1 The evaluation produced a small assemblage of fired clay amounting to 30 fragments (471g), which was recovered from twelve trenches. The majority was found in pits and ditches with only a few pieces recovered from the ploughsoil.

Discussion

- B.2.1** Fired clay was used for structures such as ovens, hearths and kilns over a considerable time from the prehistoric period to the medieval, when it gradually goes out of use being replaced by brick or tile, though clay continues in use for building daub, cob and similar uses. However it is unusual to find building daub without evidence of a burnt building. Much fired clay is inherently undatable except to this very broad date range and is dependent on associated datable artefacts for phasing. However, certain diagnostic forms, usually portable oven or kiln furniture are known from the middle Bronze Age onwards.
- B.2.2** The clay fabrics used are either smooth clay (fabric A) or sandy clays (fabric Q), sometimes with clay pellets (fabric E) or mudstone inclusions (Q2). Only one example had added organic temper (fabric AV). The clay is all likely to be derived from locally available clay sources.
- B.2.3** The assemblage does not contain any diagnostic forms, most pieces having only one or two flat moulded surfaces. Some pieces (50709, 29005) with finger marks and a poorly fired eroded back face are typical of oven lining or wall structure of any period. The large broken fragments without any evidence of a moulded surface recovered from the topsoil in Trench 170 have the appearance of *in situ* burnt clay natural forming the base wall or floor of the subsurface section of an oven or a hearth cut into the natural clay. It is unusual for such large pieces of fired clay to survive in the ploughsoil and it is likely that machining disturbed the base of such a feature surviving in the subsoil.
- B.2.4** A high proportion of the assemblage appears to be fragments of oven furniture in the form of flat slabs 18-22mm thick, some with evidence of a straight edge or squarish corner. The general finish and form has most in common with late Iron Age-early Roman rectangular plates and discs, whilst one could be the edge of a triangular perforated brick, though no perforation survives.
- B.2.5** The assemblage indicates the presences of hearths or ovens, possibly with shallow truncated bases surviving in some areas together with oven/hearth furniture of probably late Iron Age-early Roman date indicative of domestic activity.

Table 4 : Summary and quantification of the fired clay by context

Context	Number of Fragments	Weight (g)	Class	Fabric	Date	Comments
11406	1	6	Oven furniture	A	LIA-RB?	Possibly circular disc frag
11800	3	5	Indet	Q	PreH-Med	amorphous
17000	6	283	Oven/ hearth	Q	PreH-Med	Probably derived from subsurface <i>in situ</i> clay structure
17302	1	4	Indet	A	PreH-Med	Irregular rough surface
17304	3	63	Oven furniture	E	IA-RB?	Smooth moulded surface
17304	1	8	Indet	Q	PreH-Med	Irregular rough surface
17808	1	14	Oven furniture	A	IA-ER	Flat oven plate or disc
23703	2	4	Indet	Q	PreH-Med	amorphous
28304	1	11	Oven	E	PreH-Med	Two rough surfaces
29005	2	12	Indet	E	PreH-Med	Amorphous except for possible finger mark from moulding surface



29007	4	23	Oven furniture	Q2	IA-RB?	Square corner fragment, probably from rectangular oven plate.
37713	1	6	Oven furniture	A	IA-RB?	Rounded corner fragment possibly from oven plate or triangular brick
37900	1	12	Oven furniture	AV	PreH-Med	Fragment of flat slab
43906	2	4	Indet	A	PreH-Med	Small fragment with finger marks
50709	1	16	Oven lining	E	PreH-Med	Fragment with finger marks across moulded surface.
Totals	30	471				

B.3 Ceramic Building Material (CBM)

by Cynthia Poole

Introduction and methodology

B.3.1 Ceramic building material (CBM) amounting to 123 fragments (3888g) was recovered from 55 trenches (five fragments were too small to date). The assemblage is summarised by context in the table below. The majority of the tile was found in topsoil/ploughsoil, together with a few pieces in subsoil and colluvial deposits. Only 11% (by weight) was found in features, predominantly ditches with a small quantity in pits. The assemblage is very scrappy consisting of small fragments with a low mean fragment weight of 31g and variable rates of abrasion. The material is dominated by medieval – post-medieval tile with only a small quantity of Roman material identified. Fabrics have only been broadly characterised and no detailed descriptions made. The majority of the CBM is made in laminated clays containing red and cream clay pellets and frequent quartz sand, typical of fabrics found and presumably produced in the region.

The Roman tile

B.3.2 A small quantity of Roman tile (9 fragments weighing 453g) was recovered from five trenches (111, 273, 377, 397, 503) with only three pieces recovered from ditches, the remainder being found in the topsoil. Three pieces could be identified as *tegula*, whilst most pieces were plain flat tile between 17 and 26mm thick suggesting they also derive from *tegula*. Abrasion tended to higher levels, which is not unexpected for pieces in soils subject to cultivation over a long period of time.

The post-Roman tile

B.3.3 The post-Roman tile (109 fragments, 3429g) ranges from medieval to 20th century, though much is no more closely datable than medieval to post-medieval on account of the fragmentary and abraded character of the assemblage. Most was found in the topsoil apart from a scatter of small fragments in three pits and three ditches. Roof tile accounts for almost half of the CBM; probably all pegtile although only three had evidence of circular pegholes, measuring 12-14mm diameter. The roof tile measured from 10-16mm thick and in general had a fairly neat finish. The overall character of the roof tile suggests much of it is of late medieval to early post-medieval date. Only a couple of pieces were more typical of 18th-19th century tile. One curved tile may have been a 'half-round' ridge tile, though it could alternatively be a piece of field drain tile.

B.3.4 Several pieces of pipe were found, measuring 14-20mm thick and all 19th and 20th century in date. These were plain field drain pipes of circular section and glazed

stoneware sewer pipe. All were found in topsoil except one in ditch 29503. A few pieces of thicker flat tile (15-16mm) could be flat field drain tile rather than roof-tile.

B.3.5 Post-medieval brick (10 fragments, 802g) was found exclusively in the topsoil. The brick is mostly of 18th-19th century date together with three of 20th century date, including two Fletton bricks. All the pieces were fragmentary and no complete dimensions survived except for one of the Flettons measuring 67mm thick. This brick was frogged with just the tip of the first letter of a stamp surviving within it, possibly the M of MARSTON, used by the London Brick Company for bricks produced at its Marston works.

Discussion

B.3.6 The ceramic building material is very dispersed across the project area with no significant concentrations. The character of the assemblage is typical of a ploughsoil assemblage comprising material that has become incorporated during arable cultivation from manuring or material relating to agricultural improvement such as field drainage or general maintenance such as metalling of farm tracks.

B.3.7 The Roman tile is more limited in its distribution and may relate to an area of Roman settlement, though the degree of abrasion suggests that this is equally likely to relate to agricultural activities.

B.3.8 The assemblage has more in common with field walking assemblages, than excavated tile assemblages and appears to reflect the use of the ploughsoil rather than the character of any underlying archaeological features.

Table 5: Summary and quantification of the ceramic building material by context

Context	Number of Fragments	Weight (g)	Fabric Group	Class	Form	Date
5900	1	42	Sandy	Pipe	field drain	C19
6000	1	9	Sandy	Brick	Brick	C18-C19
6000	1	33	Sandy	Roof	flat	C18-C19
6000	1	13	Clay	Roof	flat	C18-C19
6300	1	11	Sandy	Roof	flat	Med-Pmed
6300	1	19	Clay	Brick	Brick?	C19-C20
6400	1	38	Sandy	Roof	flat	Med-Pmed
6700	1	22	Sandy	Roof	flat	Med-Pmed
6800	1	237	Clay	Pipe	drain	C19-EC20
7400	1	33	Sandy	Roof	flat	Med?
7400	1	32	Sandy	Curved	ridge?	Med-Pmed
8204	1	4	Sandy	Indet	Indet	Med-Pmed
10104	5	7	Sandy	Indet	Indet	Med-Pmed
11100	1	109	Sandy	Tile	Flat	RB
11704	2	16	Sandy	Tile	Flat	Pmed
11900	3	37	Sandy	Tile	Flat	Pmed
11902	1	2	Sandy	Indet	Indet	U
13200	1	11	Sandy	Tile	Flat	Med-Pmed



Context	Number of Fragments	Weight (g)	Fabric Group	Class	Form	Date
15200	1	30	Sandy	Tile	Flat	Pmed
17000	1	261	Fletton	Brick	Brick	C20
17200	2	64	Sandy	Roof	flat	LMed-EPM
17800	1	5	Sandy	Roof	flat	Med-Pmed
18302	1	27	Sandy	Roof	flat	Med-Pmed
23803	2	3	Sandy	Indet	Indet	U
24002	2	428	Sandy	Roof	flat	EPM
24100	1	44	Sandy	Roof	flat	Med-EPmed
24900	2	20	Sandy	Roof	flat	Med-EPmed
25000	1	66	Sandy	Roof	flat	Med-EPmed
25200	2	29	Sandy	Roof	flat	LMed-EPM
26600	1	10	Sandy	Roof	flat	Med-Pmed
27300	1	22	Sandy	Roof	flat	Pmed
27303	1	15	Sandy	Tile	flat	?RB
27400	1	17	Sandy	Roof	flat	Med-EPmed
28500	3	28	Sandy	Brick	Brick	Pmed
29505	16	188	Silty	Pipe	field drain	C19
31300	1	7	Sandy	Roof	flat	Med-Pmed
32500	1	28	Clay	Brick	Brick	Lpmed
33600	1	21	Sandy	Roof	flat	Med-Pmed
37700	1	8	Sandy	Tile/FC	indet	RB?
37700	1	65	Sandy	Tile	Flat	RB
37700	2	77	Sandy	Roof	Tegula	RB
37704	2	1	Sandy	indet	CBM/FC	U
37800	1	51	Sandy	Brick	Brick	Pmed
39100	2	25	Sandy	Tile	flat/roof	Med-Pmed
39103	2	5	Sandy	Tile	indet	Med-Pmed
39700	1	13	Sandy	Tile	indet	RB?
39703	3	38	Sandy	Roof	flat	Med
40900	1	23	Sandy	Brick	Brick	Med-Pmed
43900	5	61	Gritty	Pipe	water/field drain	C20
45600	1	12	Sandy	Roof	flat	Med-Pmed
45800	1	34	Sandy	Roof	peg	Med-EPmed
45800	1	23	Sandy	Roof	flat	Pmed
45800	4	36	Sandy	Roof	flat	Med-Pmed
46000	1	22	Sandy	Roof	flat	Pmed



Context	Number of Fragments	Weight (g)	Fabric Group	Class	Form	Date
47100	5	240	Sandy	Pipe	field drain	Mid-late C20
47100	1	35	Sandy	Roof	flat	Med-Pmed
48400	1	93	Stoneware	Pipe	sewer	C19
49300	1	8	Sandy	Roof	flat	Med-Pmed
49700	2	43	Sandy	Roof	flat	Med-Pmed
50000	1	383	Fletton	Brick	frogged	C20
50000	2	116	Sandy	Roof	peg	EPmed
50000	1	23	Sandy	Tile	flat	Med-Pmed
50312	1	14	Sandy	Indet	brick?	Pmed
50312	1	14	Sandy	Roof	peg	Med-EPmed
50312	1	14	Sandy	Flat tile	Flat tile	RB
50312	1	152	Sandy	Roof	Tegula	RB
51000	1	70	Clay	Roof	flat	M-L C20
51800	1	29	Sandy	Roof	flat	Med-EPmed
52400	1	20	Sandy	Roof	flat	Med-EPmed
52900	2	42	Sandy	Roof	flat	Med-EPmed
53900	1	54	Sandy	Roof	flat	Pmed
55500	1	27	Sandy	Roof	flat	Med-EPmed
55500	1	20	Sandy	Roof	flat	Med-EPmed
55802	1	9	Sandy	Roof	flat	Med-EPmed

B.4 Clay Pipe

by John Cotter

Introduction and methodology

B.4.1 A small collection of 9 pieces of clay pipe weighing 32g was recovered from 8 contexts. This has been catalogued and recorded on an Excel spreadsheet. The catalogue records, per context, the spot-date, the quantity of stem, bowl and mouth fragments, the overall sherd count, weight, and comments on condition and any makers' marks or decoration present.

Discussion

B.4.2 In general the assemblage is very fragmentary and very worn or weathered - probably from prolonged exposure to the elements and perhaps the effects of repeated plough-damage. The size and condition of the material is typical of casual loss and field scatters. It comprises eight short pieces of pipe stem and a single very worn pipe bowl. The latter is datable to c 1750-1790 by reference to the local Oxford typology (Oswald 1984). The stems range in date from the 17th century to the 18th or early 19th century, although an 18th-century emphasis is apparent. Fuller details maybe consulted in the spreadsheet catalogue.

Table 6: Quantification of clay tobacco pipe by context

Context	Stem	Bowl	Number of sherds	Weight (g)	Comments	Spot date
11704	1		1	1	Short worn/discoloured stem frag. Slender. Narrow stem bore diameter c2mm	18-E19C?
26703	1		1	3	Short very worn/discoloured stem frag. Stem bore c2.5mm	L17-18C?
27102	1		1	2	Short worn/discoloured stem frag. Stem bore c2.5mm	L17-18C?
27300	1		1	4	Short very worn/discoloured stem frag. Fairly chunky type. Stem bore c2.5mm	L17-E18C?
31002	1		1	2	Short very worn/discoloured stem frag. Fairly chunky. Stem bore c3mm	17C
33600	1	1	2	11	Very worn, very brown discoloured bowl of St Ebbe's, Oxford, Type D (Oswald 1984, fig. 51.D) c 1750-90, with prominent square profile heel (circular in plan), rim missing, short section of stem attached, stem bore c2.25mm. Also 1x fairly fresh short stem frag of chunky type with stem bore c2.5mm - probably L17-E18C?	c1750-1790
40700	1		1	3	Short worn/discoloured stem frag. Fairly slender. Stem bore c2.5mm	18C?
40803	1		1	6	Short very worn/discoloured stem frag widening at one end towards bowl. Chunky type. Stem bore c2.5mm	18C?
Total	8	1	9	32		

B.5 Glass

by Ian R Scott

Introduction and methodology

B.5.1 The evaluation produced a very small assemblage of just 18 fragments, including 12 sherds of vessel glass, 4 pieces of window glass, a single bead, and a piece of glass waste (Table 7). The glass waste or melted glass (context 33600) is a thick flake in an opaque grey green metal which has clearly spalled from another fragment.

Table 7: Summary quantification of glass by Context and Vessel Type (fragment count)

Context	Vessel	Window	Bead	Waste	Totals
6700	1				1
11409			1		1
11704		2			2
22406	1				1



23204	1				1
26703	1				1
28303	1				1
33600		1		1	2
36100	2				2
37900	1				1
39908	1				1
42000	1				1
42902	1				1
45800		1			1
46700	1				1
Totals	12	4	1	1	18

Discussion

B.5.2 The four small pieces of window glass are all small and modern. The bead is a small wound annular bead in an opaque green metal. It is potentially Roman given the remainder of the finds from this context and is certainly not Iron Age or Saxon, and unlikely to be medieval. The vessel glass comprises nine sherds from wine bottles and three fragments probably from other types of bottles (Table 8). The wine bottles include a number of fragments from 18th century bottles (context 26703) or late 18th or early 19th century bottles (contexts 36100, 37900, 39908, 342002). There is no glass dating earlier than the 18th century.

Table 8: Glass Summary quantification of vessel glass by Context and Vessel Type (fragment count)

Context	Wine Bottle	Bottle	Totals
6700	1		1
22406	1		1
23204	1		1
26703	1		1
28303		1	1
36100	2		2
37900	1		1
39908	1		1
42000	1		1
42902		1	1
46700		1	1
Totals	9	3	12

B.6 Metal

by Ian R Scott (coins by Paul Booth)

Introduction and methodology

B.6.1 The evaluation produced a small assemblage which comprises 134 metal objects (152 fragments) (Table 10) including 132 pieces of iron and 2 pieces of copper alloy. The most numerous iron finds are hobnails and nails.

Ironwork

B.6.2 The ironwork includes a complete large post medieval horseshoe (context 23000) and a post medieval horseshoe nail (context 22409).

B.6.3 There are 72 hobnails with 48 from context 17304. This context also produced six nails, six nail stem fragments and small fragments of iron including small bits of bar and two small pieces of thin iron sheet. The hobnails are likely to be Roman in origin and their presence may indicate a cremation, or pyre material (or a discarded item of footwear). The nails found with the hobnails are probably Roman too. Other contexts with hobnails are 17305, 18302, 37704, 37713, 37718, 42202 and 50312. There is a small concentration (n = 14) in context 37713 and single hobnails in contexts 37704 and 37718.

B.6.4 The only household item is part of a post medieval whittle tang knife with a solid bolster and dropped blade edge (context 11704). It is probably a 19th century table knife. There is a small number of structural items including a nut and bolt (context 42000), a quantity of nails and some nail stem fragments. Most of the nails were found singly and although all are hand made they are probably all of 18th or more probably 19th century date. The only concentration of nails is the small group of probable Roman nails from context 17304, found in association with hobnails. There are numerous small miscellaneous fragments (eg. bar, rod, sheet, etc), some of which may be nail stem fragments rather than bar fragments. There are small number of objects or uncertain function.

B.6.5 With the exception of the hobnails and their associated nails there are no iron finds which need date before the 19th century.

Copper alloy

B.6.6 The six copper alloy finds comprise four coins, a small plain ring (context 39003) which is not closely datable, and a fragment of a Romano-British bracelet (SF 50302, context 50313). This is a light bangle of a type generally dated to the 4th century (Cool 1983, 158) and comprises a thin strip (width c 4mm) with incised parallel lines flanking a chased pattern along its centre line. One end of the strip is broken but would have ended in a hook and the other end is a pierced with an an eye to receive the hook. The four coins were all of Roman date and are listed below in Table 9.

Table 9: Catalogue of Roman Coins

Context	Date AD	Denomination / Size	Obverse	Reverse	Mint	Comments
17304	364-378	AE3 16mm	head r	GLORIA ROMANORUM	Lyons O F II / R S / LUGS.	not exactly in LRBC, probably AD 367-375
17304	350-364?	AE4 9mm	crude head r	unclear		almost certainly Fel Temp Rep imitation
50312	364-367?	AE3 19mm	DN VALEN S PF AUG	SALUS REIPUBLICAE	Arles OF III / CONT	as LRBC2, 485-6
50313	388-	AE4 11mm	head r	Victory I??		rev ID uncertain so date



Context	Date AD	Denomination / Size	Obverse	Reverse	Mint	Comments
	402?					not sure, definitely after AD 330

Discussion

B.6.7 The metalwork assemblage is very limited in quantity, and seems largely to date to the 19th century. It does however include a small group of hobnails, particularly those from context 17304 found in association with a small number of Roman nails, which may indicate a cremation burial or a deposit of pyre material. There is also the fragment of Romano-British bracelet from context 50313 to further hint at the presence of some Roman activity or occupation.

Table 10: Metal finds: Summary quantification by Context and Object Function (object count)

Context	Transport	Personal	Hobnails	Household	Structural	Nails	Misc	Query	Undiag	Totals
7200						1				1
10003						0 (1)	1			1
10004							1			1
11003								1		1
11403						1				1
11404						0 (1)				0
11406						0 (1)				0
11417							3			3
11704				1			1			2
11906						1				1
17300					1	1				2
17304			48			6 (6)	7			61
17305			3			2 (1)	1			6
17400								1		1
17505						0 (1)				0
17607						1 (1)				1
17703									0 (1)	0
17808							1			1
18302			3			0 (1)				3
20304						1 (2)				1
22409	1									1
23000	1									1
26704								1		1
27608						1				1



Context	Transport	Personal	Hobnails	Household	Structural	Nails	Misc	Query	Undiag	Totals
28303					1					1
28304					1	1		1	0 (1)	3
29101					1					1
29706						1				1
30603						1				1
34203						1				1
37200						1				1
37704			1			1		1		3
37713			14							14
37718			1				1	1		3
39003							1			1
39700						1				1
40300								1		1
42002					1					1
42200							1			1
42202			1			1		1		3
50312			1			1				2
50313		1								1
50404							2			2
50709						1				1
Totals	2	1	72	1	5	25 (15)	20	8	0 (2)	134

Nails: Figures in parentheses are nail stem(s) and are additional to nail and nail head counts

Undiagnostic: Figures in parentheses are undiagnostic fragments present.

B.7 Slag

by Geraldine Crann

Introduction and methodology

B.7.1 The evaluation produced 27 fragments of slag from three contexts which were spatially disperse, although of probable Roman date.

Table 11: Quantification of slag by context

Context	Weight (g)	Description
17500	63	A single piece of ferrous slag
27800	72	25 fragments of vesicular slag
37805	12	1 fragment vesicular slag



B.8 Human Bone

by Helen Webb

Introduction and methodology

- B.8.1 Burnt and unburnt human remains were recovered from four trenches during the Bicester Eco Development archaeological evaluation. In Trench 323, an unurned cremation deposit (32306) was recovered from pit 32305. The pit was sub-circular in shape with a diameter of 0.65-0.70m and a maximum depth of 0.08m. As well as burnt bone, the pit fill contained a significant quantity (c. 40%) of charcoal.
- B.8.2 A second unurned cremation deposit was recovered from Trench 98. This deposit (9804) was recovered from a circular pit (9803), which measured 0.3m in diameter and just 0.05m in depth. Charcoal was present but is far less frequent in this deposit (c. 5%). The very shallow depths of pits 32305 and 9803 are a reflection of the heavy ploughing that has occurred on the site from the medieval period to the present day.
- B.8.3 In Trench 507 the partial remains of a very young juvenile skeleton were recovered from the topsoil (50700). The remains were not in articulation, probably having been dragged up into the topsoil from a grave disturbed by ploughing. Indeed, the topsoil across the site was noted to contain fragments of pottery and other artefacts, almost certainly representing the disturbance of features below the topsoil.
- B.8.4 In Trench 422 a single human tooth was recovered from probable rubbish pit 42203, fill 42202. This partially exposed, roughly circular pit had an uneven base and edges which were hard to define. The maximum revealed width of the feature was 2.3m, with a maximum depth of 0.18m. The fill was very mixed and stony, and contained quantities of pottery and animal bone, as well as metal objects.
- B.8.5 The artefacts recovered from fill 42202 date this feature to the Roman period. Two small fragments of pottery recovered from deposit 32306 are also probably Roman. No datable finds were recovered in association with cremation deposit 9804 or the disarticulated skeleton from topsoil 50700. However, given the proximity of these remains to other features of Roman date, it is provisionally suggested that these are also of Roman date.
- B.8.6 All cremation deposits were subjected to whole earth recovery and processed by wet sieving. The deposits were then sieved to sort them into >10mm, 10-4mm and 4-2mm fractions. Cremated and unburnt human remains were examined in accordance with the recommendations set out by the IfA and BBAO (Brickley and McKinley 2004).

Trench 98

- B.8.7 Table 12 presents a summary of cremation deposit 9804. This deposit comprised fragments of skull, including tooth crown and root fragments, vertebral arch and upper limb bone fragments. The total bone weight was just 42.2g, which includes an estimated weight of 8.5g for the bone within the unsorted 2-0.5mm residue (estimated by sorting a 5g sample, as described above). The level of fragmentation was high, with the largest proportion of fragments within the 4-2mm fraction. Just 14% of the fragments were over 10mm, and the largest was a 20mm long ulna shaft fragment. Whilst the majority of bone fragments were white in colour (c. 75%), grey, black and brown fragments were also present.
- B.8.8 The minimum number of individuals represented in the deposit was one. Of the tooth root fragments present, one was a permanent mandibular incisor and another was probably a partial deciduous molar root. Assuming that both of these were from the same individual, this would suggest an age of around 7 to 10 years. The general size and thickness of the other identified fragments, including the skull vault, was in keeping with an older child. No pathology was observed.

Table 12: Summary of cremation deposit 9804

Skeletal region	>10mm fragments weight (g)	10-4mm fragments weight (g)	4-2mm fragments weight (g)	2-0.5mm residue weight (g)	Colour, MNI, Age, Sex, Pathology
Skull	0.5 (vault fragments)	2.0 (vault + tooth root/crown fragments)	0.4 (tooth root/crown fragments)	-	Predominantly white bone (75%), but some grey (15%), black (5%) + brown (5%) fragments
Axial	-	0.5 (vertebral arch fragments)	-	-	MNI = 1 Tooth root fragments inc. a permanent mandibular incisor + a probable deciduous molar – probably an older juvenile (7-10 years)
Upper limb	4.6 (ulna + radius shaft)	0.2 (?clavicle fragment)	-	-	No pathology observed
Lower limb	-	-	-	-	
Unid. long bone	0.9	3.4	0.5	-	
Unid. trabecular bone	-	-	-	-	
Unid. joint surface	-	-	-	-	
Unid. hand/foot	0.1	1.0	-	-	
Unid. other		5.8	13.8	est. 8.5	
(UNID TOTAL)	(1.0)	(10.2)	(14.3)	(est. 8.5)	
Total	6.1	12.9	14.7	est. 8.5	42.2

(Key: CV = cervical vertebra, MC = metacarpal, L = left, ??M = possible male, ??F = possible female)

Trench 323

B.8.1 A summary of cremation deposit 32306 is given in Table 13. This deposit comprised fragments from all parts of the skeleton including the skull (cranium, mandible and tooth roots), torso (ribs and vertebrae), upper and lower limbs, hands and feet. The deposit weighed a total of 1419.1g, but it should be highlighted that this includes an estimated bone weight of 385.8g for the bone within the 4-2mm fraction and 2-0.5mm residue, which were unsorted (ie the bone was not separated from the extraneous material). It was evident that a significant quantity of bone was present within these fractions, thus it was necessary to accurately estimate the total bone weights present. This was calculated by sorting a 10g sample and applying the proportion of bone present (est. 29% weight) to the total weight of the unsorted deposits (1330.3g).

B.8.2 Overall, the deposit was very mixed in colour, with roughly equal proportions of white, grey and black fragments and a small proportion of brown fragments. Whilst the level of fragmentation was high, the largest proportion of fragments in terms of overall weight, were over 10mm in size. The largest was a piece of cranial vault, at 56mm long. Whilst there were no obvious repeated elements, two adult individuals are thought to be represented in the deposit. Fragments of a left temporal bone exhibited a fairly long, robust mastoid process and a large petrous part, whilst the same regions of a right temporal bone were smaller and much more gracile. It is therefore estimated that the remains represent a possible male and a possible female. A fragment of orbit margin exhibited male morphology. No pathology was observed.

B.8.3 In addition to the total bone weight given above, 9.5g of burnt and 1.9g of unburnt animal bone was recovered. Most of these fragments were identified as juvenile sheep/goat bones. The burnt fragments were mainly blackish-brown in colour, indicating that they had not been subjected to a high heat ($\leq 300^{\circ}\text{C}$) (McKinley 2004a, 11), and it is likely that some of the burnt and unburnt bones are from a single animal (L Strid, pers. comm.). It is possible that more animal bone was present amongst the unidentified bone fragments.

Table 13: Summary of cremation deposit 32306

Skeletal region	>10mm fragments weight (g)	10-4mm fragments weight (g)	4-2mm fragments weight (g)	2-0.5mm residue weight (g)	Colour, MNI, Age, Sex, Pathology
Skull	139.7 (vault, mandible, maxilla, temporal + zygomatic fragments)	20.6 (vault, mandible + tooth root fragments)	0.2g (tooth root fragments)	-	Very mixed in colour (c. 30% white, 30% black, 30% grey, 10% brown).
Axial	26.5 (rib + vertebral fragments, CV2)	8.5 (rib + vertebral arch fragments)	-	-	MNI = 2 Probably x2 adults, ??M + ??F
Upper limb	78.1 (clavicle, humerus, radius + ulna shaft fragments, partial radial head, MC shaft)	3.0 (radius shaft, partial radial head, x2 hand phalanges)	-	-	No pathology observed
Lower limb	175.1 (pelvis, femur, tibia + fibula shaft fragments, near complete L patella, prox + dist femur joint surfaces, tarsals)	10.8 (pelvis, femur, tibia + fibula shaft fragments, foot phalanx)	-	-	
Unid. long bone	76.0	41.6	-	-	
Unid. trabecular bone	8.8	-	-	-	
Unid. joint surface	12.6	2.3	-	-	



Unid. hand/foot	0.9	10.6	-	-	
Unid. other	30.1	442.6	est. 190.1	est. 195.5	
(UNID TOTAL)	(128.4)	(497.1)	(est. 190.1)	(est. 195.5)	
Total	547.8	485.5	est. 190.3	est. 195.5	1419.1

(Key: CV = cervical vertebra, MC = metacarpal, L = left, ??M = possible male, ??F = possible female)

Trench 507

B.8.4 The human remains recovered from Trench 507 topsoil comprised the left and right femur and partial, unsided tibia and fibula shafts, of a young juvenile. The condition of the bones was good, with bone surfaces exhibiting only slight, patchy surface erosion (McKinley 2004b, 16). The length of the left femur suggested an age of 38 to 40 weeks gestation (Scheuer and Black 2000), so this was a neonate who had been still born, or who had died during or shortly after birth. No lesions of pathology were observed.

Trench 422

B.8.5 The single human tooth recovered from pit fill 42202 was a left mandibular third molar. A closed root apex and a minimal level of attrition indicated that the individual was over 15 years but probably less than 25 years (Moorrees et al 1963a; Brothwell 1981; Miles 1962). A small carious lesion was present on the occlusal surface of the tooth, in addition to a shallow, root surface caries at the cemento-enamel junction.

Discussion and recommendations

B.8.6 At 1419.1g, the total weight of cremation deposit 32306 was in keeping the expected range for a cremated adult, which is between 1000g and 2400g, with an average of c. 1650g (McKinley 2000a, 269). However, the minimum number of individuals represented within the deposit was two, both probably adult. Whilst this brings the total weight lower than expected, it should be reiterated here that the pit was just 0.08m in depth, probably having been heavily truncated by ploughing. Therefore, the original total weight is unknown. This also applies to cremation deposit 9804, which was recovered from an even shallower pit (0.05m). Only a very small quantity of bone was present in this deposit (42.2g) and although the remains are thought to be those of a juvenile, it is evident that only a very small proportion of the individual was represented. Whilst it is clear that truncation of both cremation deposits had occurred, it should of course be considered that the entire the cremated remains were never included within these deposits. For example, they may be a memorial deposit (e.g. cenotaph burials), whereby only a small token amount of the cremated bone is buried, or they may be deposits of pyre debris (McKinley 2004a, 10; McKinley 2000b). Redeposited pyre debris generally comprises a mixture of bone fragments and fuel waste, and deposit 32306 did contain a large proportion of charcoal.

B.8.7 The presence of two individuals within a cremation deposit, as in 32306, has been observed in other Romano-British cremation burials (McKinley 2000a, 372). In dual cremations and burials, the probability of a kin relationship, either familial or through friendship, is compelling (ibid, 372). The presence of burnt animal bone, including a young sheep/goat, within deposit 32306 indicates the presence of pyre goods. Burnt animal bone, often including sheep/goat, has been found in many Romano-British cremation deposits (McKinley 2000a; McKinley 2004c, 302; Philpott 1991, 196-200, Table 37).

B.8.8 The bone in both cremation deposits was a mixture of colours, ranging from white, grey, black and brown. Whilst deposit 9804 had a higher proportion of white bone, deposit

32306 had a fairly even mix of white, grey and black fragments, but fewer brown fragments. With white fragments indicating full oxidation (> c. 600°C), the presence of non-white fragments indicates incomplete combustion. This suggests that exposure to heat had been limited. This may have been due to insufficient time/temperature afforded to the cremation process, or it may reflect a deliberate choice – perhaps limited exposure was considered to be sufficient (Barber 1990, 381; McKinley 1994, 79-80). This has been seen in other Roman contexts (McKinley 1994). It was interesting to note that the foot bones identified in deposit 32306 were predominantly brown in colour, indicating that the feet of at least one of the individuals represented were among the body regions least affected by the heat, perhaps because they were positioned close to the edge of the pyre.

- B.8.9 The unburnt human remains comprise a partial, disarticulated neonate skeleton and a single tooth. Aside from the osteological findings, very little can be stated about these remains given their contexts. No information pertaining to the burial of the neonate is available, given that the remains were recovered from the topsoil (50700), having been disturbed by ploughing. The tooth was recovered from a probable rubbish pit (42203), although the circumstances surrounding the deposition of the tooth in the pit remain unknown. It is possible that the tooth had been deliberately discarded into the pit having been lost antemortem, either by trauma, deliberate extraction or through pathology. The tooth did have carious lesions although macroscopically these did not appear to be severe. Alternatively, the tooth may have come from a disturbed burial somewhere in the vicinity.
- B.8.10 Sufficient data have been obtained from all human bone deposits allowing, where possible, observations to be made regarding pyre technology, funerary rite and demography, thus no further osteological analysis is recommended. However, if further burials are recovered from this site in the future, the burials discussed here should be considered as part of the wider burial landscape.

B.9 Animal Bone

by Lena Strid

Introduction and methodology

- B.9.1 A total of 1288 hand-collected animal bone fragments were recovered from this site (Table 14). The assemblage came from features preliminarily dated to the Prehistoric/Iron Age, Roman and post-medieval periods, the majority of the bones being Roman (Table 15). The bones from the post-medieval and undated assemblages are included in the tables but are not discussed further.

Description

- B.9.2 The bone condition varied across the phases: the Prehistoric/Iron Age assemblage was mostly fair to very poor, whereas the Roman assemblage was mostly good to fair. A small number of bones had traces of gnawing by carnivores, probably dogs. Burnt bones were rare (Table 16).
- B.9.3 The assemblage contains bones from cattle, sheep/goat, pig, horse, dog, fox and domestic fowl. Cattle and sheep/goat are the most numerous animals in the Prehistoric/Iron Age and Roman assemblages. Their predominance is typical for sites from these periods and suggests the importance of secondary products such as dairy, wool and the use of cattle for traction. However, due to the small sample size it is not possible to extrapolate on the frequency of cattle, sheep/goat and pig and their contribution to the economy and diet. Wild animals are generally rare on rural sites, domestic animals providing the bulk of the meat in the diet. The presence of fox suggests the utilization of fur for clothing.



- B.9.4 With exception for the Roman assemblage, only a small number of bones could be attributed to minimum age at death (Table 17). The data from the Roman assemblage show a relatively large frequency of young cattle and sheep/goat slaughtered for meat. Only a single cattle mandible indicated an old animal. The adult sheep/goats had been slaughtered at a range of ages, from 2-3 years up to 4-6 years. Three sheep/goat teeth could potentially have come from animals of up to eight or ten years of age.
- B.9.5 Generally in the Iron Age and Roman periods cattle were either killed as surplus animals after their first few winters or later on as adults past their prime as milk cows, breeders or draught animals. Sheep/goat also show a wide range of slaughter ages, but were rarely kept to an old age. This suggests that they were kept for a variety of products, possibly primarily meat (van Dijk and Groot 2013, 184). Pigs were raised for meat and due to their high fecundity and growth rate they were mostly killed as sub-adults after reaching maximum size. Horses were killed as adults, indicating their main use as riding or pack animals.
- B.9.6 Butchery marks were noted on three cattle bones from the Prehistoric/Iron Age period and four cattle bones from the Roman period. The former represent sagittal division of the carcass, disarticulation of the hip joint and disarticulation of the meat-poor lower leg. The butchery marks in the Roman assemblage included disarticulation of the elbow joint and of the lower leg, as well as filleting of the shoulder and legs. The Roman assemblage also included portioned ribs of large and medium mammals. With exception of the cut marks from disarticulation of the lower leg, all Roman butchery marks were carried out by heavy cleavers. This has been considered an import from urban and military sites where it was a more efficient way of processing large quantities of meat than using knives for disarticulation of the joints (Maltby 2007).
- B.9.7 Two sheep/goat mandibles, from the Roman period, showed evidence of oral infections, suggested by swelling of the horizontal ramus and patches of porous bone growth on the same, level with the fourth premolar and first molar. Oral pathologies are rather common in sheep/goat and may be connected to food lodged between the gums and tooth roots.
- B.9.8 No further information can be gained from such small sample of bones. However, if further excavations take place on the site, the bones should be included in the full excavation report.

Table 14: Bone assemblage; quantification in fragments by context

Context	Quantity	Weight (g)
3770	1	1
4805	42	226
4806	25	72
4807	1	0
7400	1	20
7503	1	125
8004	1	14
8005	5	2
8107	49	271
9904	4	11
9906	4	85



Context	Quantity	Weight (g)
10003	5	5
10006	3	27
10504	9	1081
10505	1	3
11003	2	4
11203	12	121
11205	5	38
11400	3	3
11404	17	138
11406	7	16
11408	3	8
11409	2	146
11414	35	163
11417	1	0
17000	3	4
17300	4	18
17302	2	3
17304	314	2032
17305	32	380
17308	5	13
17405	11	102
17603	1	21
17703	26	47
17808	6	14
18005	23	5
18302	85	1307
23204	3	6
27604	1	4
27610	1	1
28304	1	0
29005	14	81
29006	9	42
29009	2	76
32306	16	10
32310	2	28
37700	2	31
37703	24	131
37704	18	20



Context	Quantity	Weight (g)
37706	2	2
37708	5	25
37711	2	20
37712	21	133
37716	3	18
37718	44	183
37800	8	57
37803	4	56
37804	8	87
37902	3	15
42202	8	49
46205	1	0
47701	2	31
50208	7	38
50209	1	47
50300	1	7
50303	1	96
50310	7	216
50311	1	18
50312	50	750
50313	21	189
50400	1	4
50404	1	0
50502	6	155
50504	19	37
50701	66	183
51200	1	120
51203	79	714
52902	21	103
55304	50	358
Totals	1288	10667

Table 15: Bone assemblage; quantification in fragments by period

Species	Prehistoric/ IA	Prehistoric/ IA?	Roman	Roman?	Post-medieval	Undated
Cattle	16		80	1	1	7
Sheep/goat	8		178*	8	1	2
Pig	4		12	2		1



Horse	1		13			2
Dog	1		9			
Fox	1					
Dog/fox			1			
Rabbit						1
Domestic fowl			1			
Small mammal			2			
Medium mammal	13		103	12	3	4
Large mammal	20		109	6	9	8
Indeterminate	103	1	457	28	11	48
Total	167	1	965	57	26	72
Weight (g)	927	0	8504	323	265	648

*: incl. 65 bones from articulate sheep/goat skeleton

Table 16: Bone preservation and number of bones with traces of burning and gnawing

	N	0	1	2	3	4	5	Burnt	Gnawed
Prehist/IA	167		4.2%	40.7%	31.1%	24.0%		3	2
Prehist/IA ?	1		100.0%					1	
Roman	965	2.9%	12.0%	68.2%	8.0%	8.9%		8	26
Roman?	57	3.5%	7.0%	71.9%	14.0%	3.5%			2
Post-med	26	3.8%	11.5%	42.3%	26.9%	15.4%			1
Undated	72		6.9%	50.0%	2.8%	40.3%			1

Table 17: Tooth wear and estimated age of sheep/goat and pig, following Grant (1982), O'Connor (1988) and Payne (1973)

Phase	Species	dp4	M1	M2	M3	MWS	Estimated age
Prehist/IA	Sheep/goat	e				3-6	<2 years
Roman	Cattle	j				8-29	<30 months
		j				8-29	<30 months
		k				23-26	<30 months
					k	46-50	Senile
	Sheep/goat	f				4-12	<2 years
		g				5-22	<2 years
		g	e			11-21	<2 years
		h				9-24	<2 years
			g	b		20	1-2 years
			g	e	C-E	23-25	1-2 years
			b	28-32	2-3 years		
	g	f	c	31	2-3 years		



			g	g	f	35	3-4 years
				g	g	36-41	4-6 years
					g	36-46	4-8 years
					g-h	36-47	4-10 years
					g-h	36-47	4-10 years
Roman?	Cattle	k		f	C-E		8-18 months
	Sheep/goat		m	j	g	43	6-8 years
Undated	Sheep/goat		g	e	E	25	1-2 years

B.10 Shell

by Geraldine Crann

B.10.1 The evaluation produced 18 fragments of marine (oyster) and land mollusc, 12g from context 17304. The feature is of probable Roman date and the shell may represent food rubbish.

B.11 Flint

by Geraldine Crann

Introduction and methodology

B.11.1 The evaluation produced 7 fragments of worked flint. The size and nature of the assemblage, and its dispersed location across the spread of evaluation trenches, limits interpretation. Technologically, three pieces, from Trenches 48 and 82, may be broadly dated to the Mesolithic or Neolithic periods, beyond this the assemblage simply attests to human presence in the landscape during the prehistoric period. The flints from the evaluation should be fully integrated into any future analysis arising from further investigation on the site.

Table 18: Flint catalogue

Context	Description	Weight (g)	Date
4805	Flint blade, 5 sub-parallel dorsal scars	4	Mesolithic – early Neolithic
6901	Plough shattered fragment	22	
8204	Fine blade, patinated white, soft hammer lip	3	Mesolithic – early Neolithic
8204	Thin flake fragment, patinated white, soft hammer lip, broken in antiquity - dorsal end missing	7	Mesolithic – Neolithic
17304	Irregular flake, recent edge damage forms notch in right distal margin	7	-
42202	Plough or naturally shattered fragment	19	-
50313	Flake fragment, distal end snapped in antiquity, patinated mottled white	4	-



B.12 Stone

by Ruth Shaffrey

Introduction and methodology

B.12.1 A total of 175 fragments of stone were retained. These were briefly examined and where found to be worked, or used, examined with the aid of a x10 magnification hand lens.

Description

B.12.2 Nine items were found to be worked. These include five fragments of lava or fuel ash slag from 37709 and another similar fragment from 39703. These very small fragments look too fine to be fuel ash slag but do not look quite right for lava querns either, so the identification is uncertain.

B.12.3 A small fragment of shelly limestone with a wide perforation of 14mm is probably from a roof-stone although none of the original edges survive (17304, SF 17306).

B.12.4 A roughly cuboid block of very shelly limestone (17703, SF 17700) has shallow sockets (each roughly 20mm deep x 50mm diameter) set in opposing faces. The sockets are not deep enough for it to have been a pivot stone and the block has an unfinished look to it suggesting it was abandoned partway through working. Its function is unknown.

B.12.5 Approximately one third of a shale spindle whorl was found in context 17304 (SF 17305). It is bun shaped with a single circular groove around the perforation on the flat face. The perforation measures 6.5mm diameter and is a narrow hole suggesting an Iron Age or Roman, rather than later date.

B.12.6 A single perforated piece of shelly limestone was found in context 50312 (SF50300). It may be cut down from a roof-stone and worn into its current shape. It may have served as a pendant, although no wear marks from suspension are present.



APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Environmental samples

By Sharon Cook

Introduction

- C.1.1 Sampling was undertaken to determine whether environmental evidence (such as plant remains, animal bone, human bone and molluscs) are present, to determine the quality, range, state and method of preservation of any ecofactual evidence, to recover and identify any small artefacts and to make further recommendations about sampling for future excavations at the site.

Methodology

- C.1.2 The samples were processed for charred plant remains (CPR) by water flotation using a modified Siraf style flotation machine. The flot was collected on a 250µm mesh and the heavy residue sieved to 500µm; both were dried in a heated room, after which the residue was sorted by eye for artefacts and ecofactual remains.
- C.1.3 The dried flot was scanned for charred plant remains using a binocular microscope at approximately x10 magnification. All flots of <100ml were 100% scanned, for all larger flots 100ml was scanned.
- C.1.4 Seed identifications were made with reference to Oxford Archaeology's reference collection. Nomenclature for the plant remains follows Stace (2010). Confirmation of plant identification was done by Kath Hunter. Animal bone identifications were carried out by Lena Strid. All finds have been added to the site compendium.

Results

- C.1.5 The majority of flots from these samples were rich in modern plant material, this mostly consisted of fine plant roots although occasional straw was also present, this is a result of the features being fairly shallow when excavated. On the whole charcoal, while very well preserved where present, was small, in most cases being <4mm and therefore unsuitable for species identification. The exceptions for this are the samples from a post hole (sample 28000), a burnt mound (sample 43100) which contained good amounts of charcoal, and a cremation (sample 32300) which was extremely rich in charcoal showing that it can survive well on this site.
- C.1.6 Charred grain and wild plant seeds were also present in a number of samples with the full listing being present in Tables 20 and 21 below (columns with no entries had only unidentifiable charcoal present). While it was possible to identify some grain to genus, the majority was in poor condition and therefore not further identifiable. The wild plant seeds were in variable condition and an effort has been made to identify those that were well preserved.
- C.1.7 Snails were present in almost all samples. However, the depth of the features does make it likely that the majority of these are modern in date.
- C.1.8 Animal bone was well preserved and has been listed below in Table 22. A single human tooth was present in sample 42200 and two well preserved cremations were also sampled.

Table 19: Summary of Environmental Samples

Trench Number	Sample Number	Context Number	Feature Type	Period	Sample Volume (litres)	Findings
48	4800	4805	Large Pit	Early Iron Age	40	P, BAB
98	9800	9804	Cremation	Roman	5	CB
100	10000	10004	Ditch	Roman	20	P, Fe, MB
114	11400	11409	Well	Roman	17	P, MB, AB, Bead
173	17300	17302	Ditch	Roman	26	P, BC
237	23700	23706	Pit	Undated	10	-
237	23701	23703	Burnt Deposit	Undated	1.5	BC
238	23800	23803	Ditch	Undated	20	CBM
280	28000	28006	Posthole	Undated	4	-
323	32300	32306	Pit	Roman	15	CB, MB
377	37700	37713	Pit	Roman	40	P, Fe, MB, BC
422	42200	42202	Pit	Possible Roman	40	P, MB, HB
431	43100	43103	Burnt Mound	Bronze Age	40	BS
435	43500	43501	Ditch	Undated	20	-
439	43900	43903	Pit	Prehistoric	40	-
439	43901	43904	Pit	Prehistoric	40	-
439	43902	43906	Pit	Prehistoric	40	BC
439	43903	43908	Pit	Prehistoric	40	-
502	50200	50203	Burnt Deposit	Roman	8	P, MB
503	50300	50312	Ditch	Roman	40	P, Fe, MB
512	51200	51203	Ditch	Roman	40	P, MB

Findings Key: AB = Amphibian Bone, BAB = Burnt Animal Bone, BC = Burnt Clay, BS = Burnt Stone, CB = Cremated Bone, Fe = Iron Object, HB = Human Bone, MB = Mammal Bone, P = Pottery

Discussion

C.1.9 While the shallowness of many of the excavated features indicated that there may be issues with the survival of environmental evidence, this does not appear to have been the case for all features. The existence of both wheat and barley within Roman features may indicate a varied crop regime which may be worth investigating further if the site goes to full excavation. The wild plant seeds are mostly common grassland plants. Unfortunately, the charcoal found in the majority of undated features is not suitable for C14 dating or species identification although sample <8000 did contain some fragments which are >4mm and may be of use.

Conclusions and Recommendations

C.1.10 Charred remains while not common in the samples investigated, are evidently well preserved at the site. Animal bone and snails are also preserved in good condition. Any future excavations should incorporate a sampling policy in accordance with the most recent sampling guidelines (eg Oxford Archaeology 2005 and English Heritage 2011). It is not recommended that further work should be carried out on these samples.



Sample No	4800	9800	10000	11400	17300	23700	23701	23800	28000	32300	37700	
Flot volume	10ml	10ml	40ml	15ml	25ml	10ml	10ml	100ml	25ml	700ml	150ml	
Latin Binomial												English Common Name
Cereal Grain												
<i>Hordeum</i> sp.					*							barley
<i>Triticum</i> sp. – indeterminate			**		***						*	indeterminate wheat
Cereal Grain – indeterminate					**					*	*	indeterminate grain
Cereal Chaff												
<i>Triticum</i> sp – glume wheat				*	**							glume wheat
Nutshell												
<i>Corylus avellana</i>			*									hazel
Indeterminate		*										unidentified nutshell
Legume – indeterminate					*							legume
Wild Plant Seed												
<i>Anthemis cotula</i>			*									stinking chamomile
Amaranthaceae	**											goosefoot family
<i>Carex</i> sp.			**									sedges
Caryophyllaceae					*							pink family
<i>Chenopodium</i> sp		*						**				goosefoot
Cyperaceae												sedge family
<i>Lotus</i> sp.												bird's-foot-trefoil
<i>Montia fontana</i>					*							blinks
Poaceae		*	*		**			*				grasses
<i>Ranunculus sardous</i>			*									hairy buttercup
<i>Rumex</i> sp			*									docks
<i>Silene dioica</i>					*							red campion
<i>Veronica hederifolia</i>	*											ivy-leaved speedwell
NID			*		**			*				unidentified wild plant seed



Sample No	4800	9800	10000	11400	17300	23700	23701	23800	28000	32300	37700	
Other												
<i>Arrhenatherum elatius</i>	*											onion couch grass

Table 20: Charred plant remains part 1

Key: * <5, ** 5-25, *** 25-100, **** 100+

Sample No	42200	43100	43500	43900	43901	43902	43903	50200	50300	51200	
Flot volume	300ml	200ml	100ml	30ml	60ml	150ml	150ml	15ml	100ml	100ml	
Latin Binomial											English Common Name
Cereal Grain											
<i>Hordeum</i> sp.		*									barley
<i>Triticum</i> sp – indeterminate											indeterminate wheat
Cereal Grain – indeterminate	*	*							*	*	indeterminate grain
Cereal Chaff											
<i>Triticum</i> sp – glume wheat		*								**	glume wheat
Nutshell											
<i>Corylus avellana</i>		*			*						hazel
Indeterminate											unidentified nutshell
Legume											legume
Wild Plant Seed											
<i>Anthemis cotula</i>											stinking chamomile
Amaranthaceae											goosefoot family
<i>Carex</i> sp.											sedge
Caryophyllaceae								*			pink family
<i>Chenopodium</i> sp											goosefoot
Cyperaceae		*									sedge family
<i>Lotus</i> sp.											bird's-foot-trefoil
<i>Montia fontana</i>											blink
Poaceae										*	grass family



Sample No	42200	43100	43500	43900	43901	43902	43903	50200	50300	51200	
<i>Ranunculus sardous</i>											hairy buttercup
<i>Rumex</i> sp											dock
<i>Silene dioica</i>											red campion
<i>Veronica hederifolia</i>	*									*	ivy-leaved speedwell
NID								*			unidentified wild plant seed
Other											
<i>Arrhenatherum elatius</i> – culm node											onion couch grass

Table 21: Charred plant remains part 2

Key: * <5, ** 5-25, *** 25-100, **** 100+

Sample	Context	Sheep	Pig	Cattle	Rodent	Amphibian	Large mammal	Medium mammal	Not Identified	Total
10000	10004	-	-	-	-	-	-	-	2	2
11400	11409	-	-	-	86 (not id'd to element)	40 (not id'd to element)	Bone fragment from juvenile.	1 rib (3 fragments)	3	100+
32300	32306	1 deciduous pre-molar	-	-	-	-	-	1 juvenile long bone		2
37700	37713	1 Pre -molar 1 3 rd Mandibular molar	-	-	-	-	-	1 vertebrae	4	7
42200	42202	2 molars	-	-	-	-	-	1 long bone (3 fragments)	6	11
4800	4805	1 incisor	-	-	-	-	-	-	1	2
50200	50203	-	-	-	-	-	-	1 rib	-	1
50300	50312	2 molar	1 incisor	1 molar, 1 1 st phalanx	-	-	Long bone (6 fragments)	-	4	15
51200	51203	1 1 st phalanx	-	1 ulna	1 watervole tooth, 1 femur	1 tibia/fibia	-	1 long bone	7	13

Table 22: Animal bone remains from samples



APPENDIX D. BIBLIOGRAPHY AND REFERENCES

- Airphoto Services, 2010 Bicester Eco Town, Oxfordshire: Interpretation of Aerial Photographs for Archaeology. Part 1: The Entire Site
- Allen, J R L and Fulford, M G, 1996 The distribution of south-east Dorset Black Burnished category 1 pottery in south-west Britain, *Britannia* **27**, 223-282
- Barber, P T, 1990 Cremation, *Journal of Indo-European Studies* **18** (3-4), 379-388
- Booth, P, 1996 Pottery and other ceramic finds, in C Mould, An archaeological excavation at Oxford Road, Bicester, Oxfordshire, *Oxoniensia* **61**, 75-89
- Booth, P, 2004 Quantifying status: some pottery data from the Upper Thames Valley, *J Roman Pottery Stud* **11**, 39-52
- Booth, P, 2007 Cotswold Water Park Roman ceramic assemblages in their regional context, in D Miles, S Palmer, A Smith and G P Jones, *Iron Age and Roman settlement in the Upper Thames Valley: Excavations at Claydon Pike and other sites within the Cotswold Water Park*, Oxford Archaeology Thames Valley Landscapes Monograph **26**, Oxford, 319-335
- Booth, P, 2011 Oxford Archaeology Roman pottery recording system: an introduction, unpublished OA document, revised
- Booth, P, 2012 The occurrence and use of samian ware in rural settlements in the Upper Thames Valley, in D G Bird (ed.), *Dating and interpreting the past in the western Roman Empire: essays in honour of Brenda Dickinson*, Oxbow, Oxford, 254-265
- Booth, P and Green, S, 1989 The nature and distribution of certain pink, grog tempered vessels, *J Roman Pottery Stud* **2**, 77-84
- Brickley, M, and McKinley, J I (eds), 2004 *Guidelines to the Standards for Recording Human Remains*, IFA Paper No. 7, British Association for Biological Anthropology and Osteoarchaeology (BABA) and IFA
- Brothwell, D R, 1981 *Digging up Bones*, Oxford, Oxford University Press
- Brown, A, 1994 A Romano-British shell-gritted pottery and tile manufacturing site at Harrold, Beds, *Bedfordshire Archaeol* **21**, 19-107
- Brown, K, 1999 The pottery, in A M Cromarty, S Foreman and P Murray, The excavation of a late Iron Age enclosed settlement at Bicester Fields Farm, Bicester, Oxon, *Oxoniensia* **64**, 182-195
- Brown, K M, 2011a Later prehistoric and Romano-British pottery, in J Martin, Prehistoric, Romano-British and Anglo-Saxon activity at Whitelands Farm, Bicester, *Oxoniensia* **76**, 201-210
- Brown, K M, 2011b Anglo-Saxon pottery, in J Martin, Prehistoric, Romano-British and Anglo-Saxon activity at Whitelands Farm, Bicester, *Oxoniensia* **76**, 210-211
- Champion, T, 1999 The Later Bronze Age, in J Hunter and I Ralston eds *The Archaeology of Britain*, London
- Cool, H E M, 1983 A study of the Roman personal ornaments made of metal, excluding brooches, from Southern Britain, unpublished PhD thesis, University of Wales
- English Heritage, 2011 Environmental Archaeology, A guide to the theory and practice of methods, from sampling and recovery to post-excavation (2nd edition), Centre for Archaeology guidelines



- Evans, J, 2001 Iron Age, Roman and Anglo-Saxon pottery, in P Booth, J Evans and J Hiller, *Excavations in the extramural settlement of Roman Alchester, Oxfordshire, 1991*, Oxford Archaeology Mono 1, Oxford, 263-383
- Grant, A, 1982 The use of toothwear as a guide to the age of domestic ungulates, in *Ageing and sexing animal bones from archaeological sites* (eds B Wilson, C Grigson and S Payne), BAR Brit. Ser. **109**, 91-108, Oxford
- Habermehl, K H, 1975 *Die Altersbestimmung bei Haus- und Labortieren*, Berlin, Hamburg
- Hyder Consulting, 2011 Bicester Eco Town: Desk-based Assessment
- Maltby, M, 2007 Chop and change: specialist cattle carcass processing in Roman Britain, in TRAC 2006. Proceedings of the sixteenth annual Theoretical Roman Archaeology Conference (eds B Croxford, N Ray, R Roth and N White), 59-76, Oxford
- McKinley, J I, 1994 Bone fragment size in British cremation burials and its implications for pyre technology and ritual, *Journal of Archaeological Science*, **21**, 339-342
- McKinley, J I, 2000a Cremation burials, in *The Eastern Cemetery of Roman London. Excavations 1983-1990* (B Barber and D Bowsler), 264-277, MoLAS Monograph **4**
- McKinley, J I, 2000b Phoenix rising; aspects of cremation in Roman Britain, in *Burial, Society and Context in the Roman World* (J Pearce, M Millett and M Struck eds), 38-44, Oxford, Oxbow Books
- McKinley, J I, 2004a Compiling a skeletal inventory: cremated human bone, in M Brickley and J I McKinley 2004, 9-13
- McKinley, J I, 2004b Compiling a skeletal inventory: disarticulated and co-mingled remains, in M Brickley and J I McKinley 2004, 14-17
- McKinley, J I, 2004c The human remains and aspects of pyre technology and cremation rituals, in *The Roman Cemetery at Brougham, Cumbria, Excavations 1966-67*, (H E M Cool), 283-309, English Heritage Britannia Monograph Series No. 21, Society for the Promotion of Roman Studies
- Mellor, M, 1994 Oxfordshire pottery: A synthesis of middle and late Saxon, medieval and early post-medieval pottery in the Oxford Region, *Oxoniensia* **59**, 17-217
- Miles, A E W, 1962 Assessment of the ages of a population of Anglo-Saxons from their dentitions, *Proceedings of the Royal Society of Medicine* **55**, 881-886
- Moorrees, C F A, Fanning, E A, and Hunt, E E, 1963 Age variation formation stages for ten permanent teeth, *Journal of Dental Research* **42**, 1490-1502
- Northamptonshire Archaeology, 2011 Archaeological Geophysical Survey for the Proposed Bicester Eco Development, Oxfordshire
- Northamptonshire Archaeology, 2012 Archaeological Geophysical Survey of land off Howes Lane, Bicester, Oxfordshire
- Northamptonshire Archaeology, 2013 An Archaeological Evaluation of land off Howes Lane, Bicester, Oxfordshire
- O'Connor, T, 1988 *Bones from the General Accident site, Tanner Row*, Archaeology of York **15/2**, York Archaeological Trust/Council for British Archaeology
- Oswald, A, 1984 Clay Pipes in Hassall, T G, Halpin, C E and Mellor, M, Excavations in St. Ebbe's, Oxford, 1967-1976: Part II: Post-medieval domestic tenements and the post-Dissolution site of the Greyfriars, *Oxoniensia* **49**, 251-262



Oxford Archaeology, 2010 Bicester Eco Town Exemplar Site, Caversfield, Oxon: Archaeological Evaluation Report

Oxford Archaeology, 2013a Bicester Eco Development: Written Scheme of Investigation for an Evaluation

Oxford Archaeology, 2013b Bicester Eco Development: Written Scheme of Investigation for Further Geophysical Survey

Oxford Archaeology, 2005, OA Environmental Sampling Guidelines and Instruction, Manual

Payne, S, 1973 Kill-off patterns in sheep and goat: the mandibles from AKwan Kale, *Anatolian studies* **23**, 281-303

Philpott, R, 1991 *Burial practices in Roman Britain: a survey of grave treatment and furnishing AD43-410*, BAR Brit. Ser. **219**, Oxford

Scheuer, L, and Black, S, 2000 *Developmental Juvenile Osteology*, London, Academic Press

Stace, C, 2010 (3rd ed) *New Flora of the British Isles*. Cambridge: Cambridge University Press

Timby, J, 2008 The Roman pottery, in A Westgarth and S Carlyle, A Roman settlement at Bicester Park, Bicester, Oxfordshire, *Oxoniensia* **73**, 136-141

Tomber, R and Dore, J, 1998 *The national Roman fabric reference collection: a handbook*, Museum of London Archaeol Services Monograph No **2**, London

van Dijk, J, and Groot, M, 2013 The late Iron Age-Roman transformation from subsistence to surplus production in animal husbandry in the central and western parts of the Netherlands, in *Barely surviving or more than enough? The environmental archaeology of subsistence, specialisation and surplus food production* (eds M Groot, D Lentjes and J Zeiler), Leiden, 175-200

Woodward, A and Marley, J, 2000 The Iron Age pottery, in P Ellis, G Hughes and L Jones, An Iron Age boundary and settlement features at Slade Farm, Bicester, Oxfordshire: a report on excavations, 1996, *Oxoniensia* **65**, 233-248

Young, C J, 1977 *The Roman pottery industry of the Oxford region*, Brit Archaeol Rep (Brit Ser) **43**, Oxford



APPENDIX E. SUMMARY OF SITE DETAILS

Site name: Bicester Eco Development, Bicester, Oxfordshire

Site code: BITO 13

Grid reference: SP 56700 24200

Type: Evaluation

Date and duration: 12th August and 25th October 2013

Area of site: 360 hectares

Summary of results: Evidence was found for activity from several periods. The earliest was represented by a single feature containing pottery sherds (Peterborough ware) of middle Neolithic date (c. 3400-2500 BC). The presence of isolated features or small clusters of features widely dispersed in the landscape is typical of this period.

A number of archaeological features were in a small valley on the eastern side of the site. While these were undated, the presence of burnt stones and charcoal forming low mounds sealed beneath a deposit of colluvium (hill-wash deposits) is significant. Such 'burnt mounds' are widely known (although unusual in Oxfordshire) and generally date to the Bronze Age (c. 2400-700 BC) and may be the remains of prehistoric saunas or, alternatively, specialised cooking sites. A number of pits and a sinuous ditch in the same valley may represent further activity of the same date.

There were five widely-separated locations which produced substantial quantities of early-middle Iron Age pottery (c. 700-100BC), as well as a number of other features which produced single sherds or where the pottery was found in association with later material. Such a dispersed pattern of activity is somewhat unusual for this period but may suggest that the site lies in the hinterland of a more substantial settlement located elsewhere.

There were two main areas and one subsidiary area of Roman activity (AD 43-410) revealed by the evaluation. The two main areas of activity are typical of Roman rural settlements in Oxfordshire (and elsewhere) in terms of the types of features and range of artefacts present. They are potentially noteworthy, however, in terms of their chronological range, spanning, as they did, the whole Roman period. Such continuity, with some evidence of expansion in the late Roman period, is perhaps unusual. The third, smaller area of activity contained material of largely early Roman date and may have been a small, outlying farmstead. Human remains were found in all three areas.

Geophysical anomalies suggesting the presence of ridge and furrow agriculture were fairly widespread across the site and furrows were also present in a number of trenches. This suggests that much of the site was under arable cultivation during the medieval period (and later). No evidence of medieval or later settlement was recorded on the site, aside from the extant farmhouses themselves.

There were a large number of undated features present across the site. Most of these were ditches and it is likely that these were boundary and drainage ditches associated with the agricultural use of the site. While these could be of almost any date from the later prehistoric period onwards, it is, perhaps, most likely that they are of medieval or later date.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the Oxfordshire Museum Service in due course, under the following accession number: OXCMS:2013.102.



**Head Office/Registered Office/
OA South**

Janus House
Osney Mead
Oxford OX2 0ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarch.co.uk
w: <http://thehumanjourney.net>

OA North

Mill 3
Moor Lane
Lancaster LA1 1GF

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: [oanorth@thehumanjourney.net](mailto: oanorth@thehumanjourney.net)
w: <http://thehumanjourney.net>

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
f: +44 (0) 1223 850599
e: [oaeast@thehumanjourney.net](mailto: oaeast@thehumanjourney.net)
w: <http://thehumanjourney.net>



Director: David Jennings, BA MIFA FSA

*Oxford Archaeology Ltd is a
Private Limited Company, N^o: 1618597
and a Registered Charity, N^o: 285627*

Bicester Eco Development Bicester Oxfordshire



Archaeological Evaluation Report Volume 2: Figures and Plates

oxfordarchaeology

southsouthsouth
January 2014

Client: Hyder Consulting (UK) Ltd

Issue No: 1
OA Job No: 5694
NGR: Centred on SP 56700 24200

Bicester Eco Development, Bicester, Oxfordshire

Archaeological Evaluation Report

Volume 2: Figures and Plates

Figures

- Fig. 1 Site location map
- Fig. 2a-d Plan of Trenches
- Fig. 3 Index to Figures 4-22
- Fig. 4 Plan showing features in Trenches 13 and 36
- Fig. 5 Plan showing features in Trenches 45, 47, 48, 55, 69, 70, 75 and 76
- Fig. 6 Plan showing features in Trenches 79, 80, 81, 82, 86 and 97
- Fig. 7 Plan showing features in Trenches 92, 98-101, 105, 106, 110, 112, 114, 115, 169, 170, 172-180, 183 and 195
- Fig. 8 Plan showing features in Trenches 117, 119, 121, 123 and 124
- Fig. 9 Plan showing features in Trenches 137, 139, 200, 203 and 204
- Fig. 10 Plan showing features in Trenches 256, 266, 267, 270, 271, 272, 273 and 274
- Fig. 11 Plan showing features in Trenches 276, 277, 278, 280, 290, 293 and 294
- Fig. 12 Plan showing features in Trenches 189, 224, 226, 228, 295, 297, 298, 300 and 302
- Fig. 13 Plan showing features in Trenches 238, 257, 304-308, 310 and 313
- Fig. 14 Plan showing features in Trenches 283, 316, 322, 323 and 348
- Fig. 15 Plan showing features in Trenches 342, 343, 391, 394, 395, 397, 405, 407, 408 and 409
- Fig. 16 Plan showing features in Trench 368
- Fig. 17 Plan showing features in Trenches 364 and 471
- Fig. 18 Plan showing features in Trenches 377-379, 382, 390, 422, 501-507 and 512
- Fig. 19 Plan showing features in Trenches 414, 418, 429, 431, 435 and 439
- Fig. 20 Plan showing features in Trenches 403, 404 and 436
- Fig. 21 Plan showing features in Trenches 450, 457 and 462
- Fig. 22 Plan showing features in Trenches 529, 553 and 556
- Fig. 23 Trenches 13, 36, 45 and 47: sections
- Fig. 24 Trenches 48, 55 and 69: sections
- Fig. 25 Trenches 70, 75, 76 and 79: sections
- Fig. 26 Trenches 80, 81, 82 and 86: sections
- Fig. 27 Trenches 92, 97, 98 and 99: sections
- Fig. 28 Trenches 100, 101, 105 and 106: sections
- Fig. 29 Trenches 110, 112 and 114: sections
- Fig. 30 Trenches 115, 117 and 119: sections
- Fig. 31 Trenches 121, 123, 124, 169, 170 and 172: sections
- Fig. 32 Trench 173: sections
- Fig. 33 Trenches 174 and 175: sections
- Fig. 34 Trenches 176, 177 and 178: sections
- Fig. 35 Trenches 179, 180 and 183: sections
- Fig. 36 Trenches 189, 195, 200 and 203: sections
- Fig. 37 Trenches 204, 238, 256, 267 and 273: sections
- Fig. 38 Trenches 276, 277, 278 and 280: sections
- Fig. 39 Trenches 283 and 290: sections
- Fig. 40 Trenches 293, 294, 300, 302 and 304: sections
- Fig. 41 Trenches 310, 316 and 322: sections



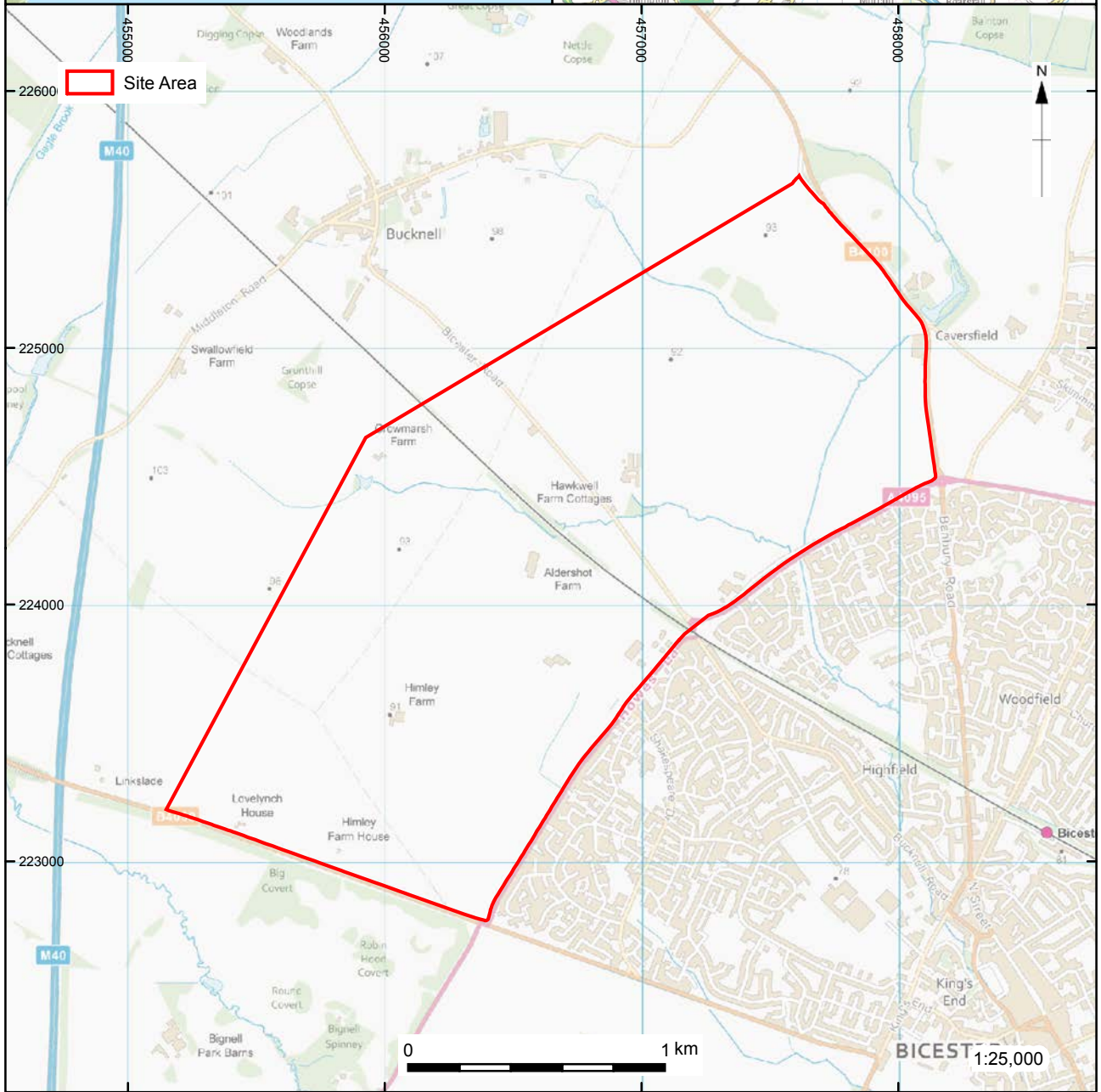
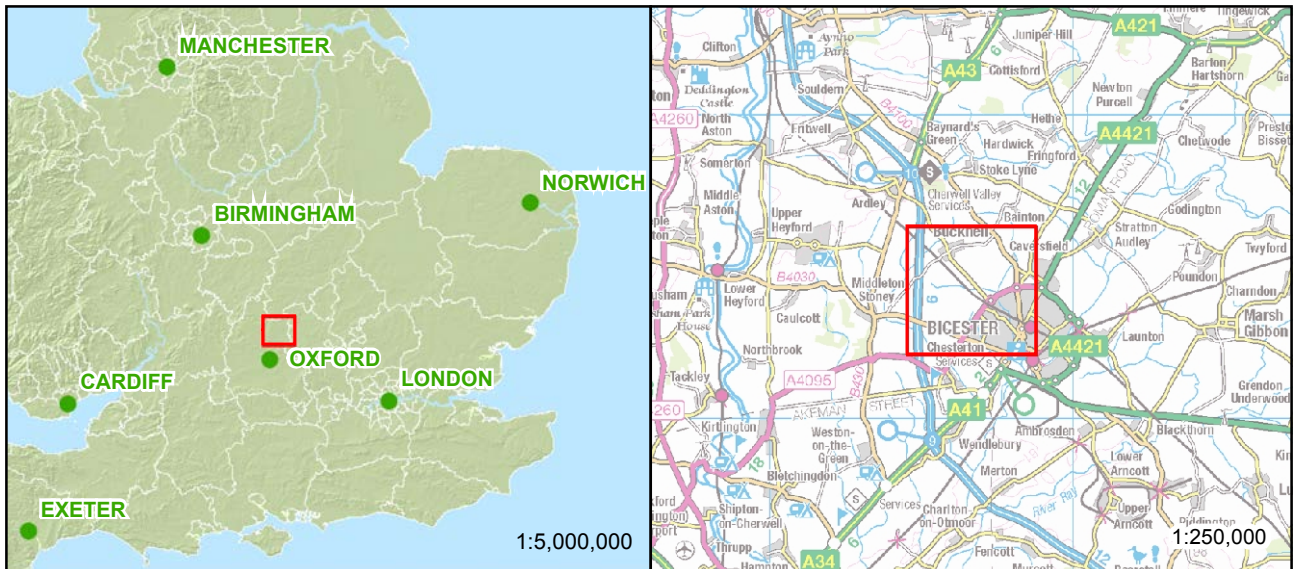
Fig. 42	Trenches 323, 343, 348 and 377: sections
Fig. 43	Trenches 378, 379, 390 and 394: sections
Fig. 44	Trenches 403, 404, 405, 407 and 414: sections
Fig. 45	Trenches 418, 422 and 429: sections
Fig. 46	Trench 431: sections
Fig. 47	Trenches 435, 436 and 439: sections
Fig. 48	Trenches 450, 457, 462 and 471: sections
Fig. 49	Trenches 501 and 502: sections
Fig. 50	Trench 503: sections
Fig. 51	Trenches 504, 505, 506 and 507: sections
Fig. 52	Trenches 512 and 529: sections
Fig. 53	Trenches 553 and 556: sections
Fig. 54	Additional geophysical survey
Fig. 55	Archaeological zones

Plates

Plate 1	Trench 13: Feature 1303, looking north-west
Plate 2	Trench 48: Feature 4804, looking south
Plate 3	Trench 92: Feature 9203, looking south
Plate 4	Trench 97: Feature 9703, looking south-west
Plate 5	Trench 99: Feature 9903, looking north-east
Plate 6	Trench 100: Fill 10004, looking west
Plate 7	Trench 100: Feature 10005, looking east
Plate 8	Trench 112: Feature 11204, looking east
Plate 9	Trench 114: Feature 11407, looking west
Plate 10	Trench 114: Feature 11410, looking south
Plate 11	Trench 114: Feature 11410, looking north-west
Plate 12	Trench 119: Feature 11905, looking east
Plate 13	Trench 123: Feature 12303, looking north-west
Plate 14	Trench 169: Feature 16903, looking east
Plate 15	Trench 172: Feature 17204, looking south-east
Plate 16	Trench 173: General view, looking north-east
Plate 17	Trench 173: Feature 17307, looking west
Plate 18	Trench 174: Feature 17404, looking west
Plate 19	Trench 177: Feature 17702, looking north-west
Plate 20	Trench 177: Feature 17704, looking north-west
Plate 21	Trench 177: Working shot, looking south-west
Plate 22	Trench 180: Feature 18002, looking south
Plate 23	Trench 200: Feature 20008, looking north-east
Plate 24	Trench 204: Feature 20403, looking south
Plate 25	Trench 276: Feature 27603, looking east
Plate 26	Trench 278: Postholes looking east
Plate 27	Trench 280: Feature 28003, looking south
Plate 28	Trench 290: Feature 29003, looking east
Plate 29	Trench 302: Features 30203 and 30205, looking south-east
Plate 30	Trench 316: Feature 31605, looking west
Plate 31	Trench 322: Features 32203 and 32205, looking north-east
Plate 32	Trench 323: Feature 32302, looking south
Plate 33	Trench 323: Feature 32305, looking west
Plate 34	Trench 323: Features 32307 and 32309, looking north
Plate 35	Trench 348: Feature 34802, looking south-west
Plate 36	Trench 377: Feature 37707, looking north



Plate 37	Trench 377: Feature 37709, looking south-west
Plate 38	Trench 377: Feature 37714, looking north-west
Plate 39	Trench 378: Feature 37803, looking east
Plate 40	Trench 379: Feature 37903, looking south
Plate 41	Trench 394: Feature 39403, looking north-west
Plate 42	Trench 394: Features 39405 and 39407, looking north-east
Plate 43	Trench 404: Feature 40403, looking north-west
Plate 44	Trench 407: Feature 40705, looking south
Plate 45	Trench 414: Feature 41402, looking north
Plate 46	Trench 422: Feature 42203, looking north
Plate 47	Trench 431: General view, looking north-west
Plate 48	Trench 431: Feature 43104, looking east
Plate 49	Trench 435: Feature 43502, looking north-west
Plate 50	Trench 436: Feature 43604, looking north
Plate 51	Trench 436: Feature 43606, looking north-west
Plate 52	Trench 439: Pits, looking north
Plate 53	Trench 450: Feature 45004, looking west
Plate 54	Trench 471: Feature 47104, looking south
Plate 55	Trench 502: Feature 50209, looking north
Plate 56	Trench 503: Features 50307 and 50309, looking north-west
Plate 57	Trench 504: Feature 50403, looking east
Plate 58	Trench 505: Feature 50505, looking west
Plate 59	Trench 505: Feature 50507, looking west
Plate 60	Trench 512: Feature 51204, looking west
Plate 61	Trench 529: Feature 52903, looking east
Plate 62	Trench 553: Feature 55302, looking east



X:\lib\Bicester Eco Town_Phase 2\010\Geomatics\03 GIS\current\001_projects\Evaluation\Figures\BITOEV_fig1.mxd\Gary.Jones\02/12/2013

Contains Ordnance Survey data © Crown copyright and database right 2013

Figure 1: Site Location Plan

X:\Bicester Eco Town_Phase 2\10\Geomatics\03_GIS\current\001_projects\Evaluation\Figures\BITOEV_fig2a-d.mxd**17/12/2013

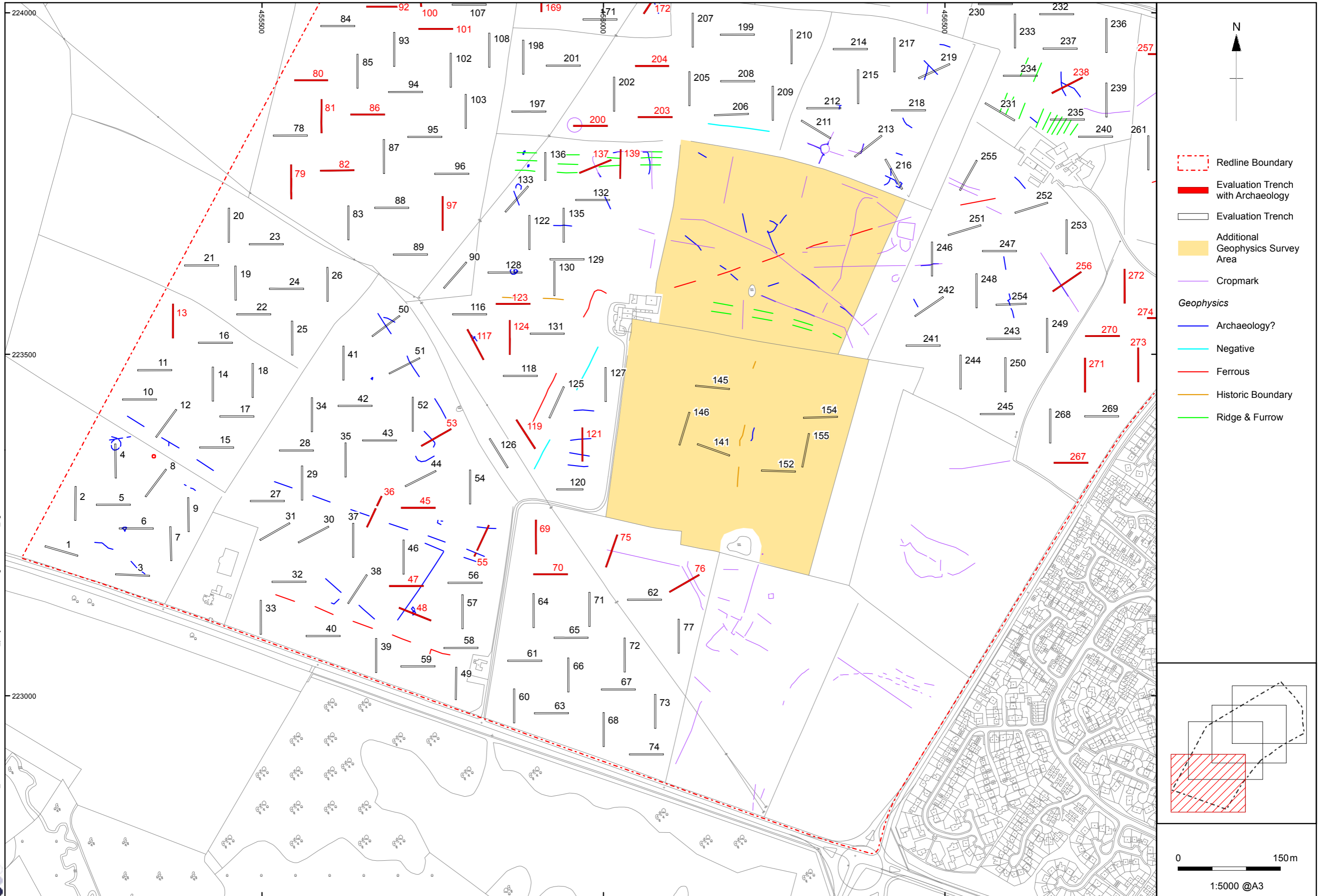
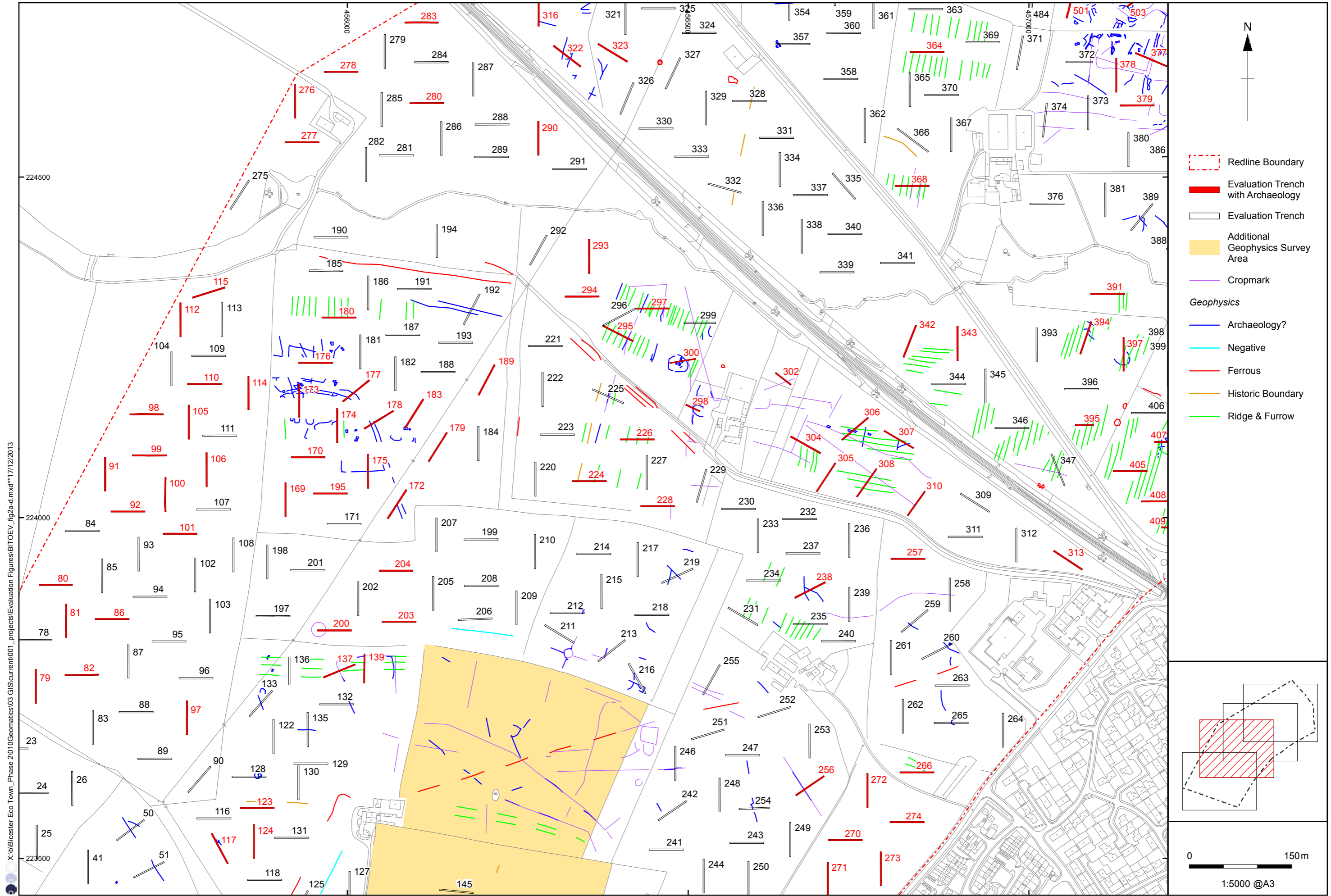
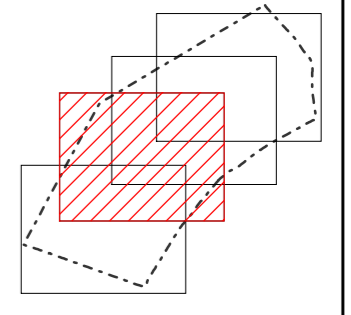


Figure 2a: Plan of Trenches



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig2a-d.mxd**17/12/2013

- Redline Boundary
- Evaluation Trench with Archaeology
- Evaluation Trench
- Additional Geophysics Survey Area
- Cropmark
- Geophysics**
- Archaeology?
- Negative
- Ferrous
- Historic Boundary
- Ridge & Furrow



0 150m
 1:5000 @A3

Figure 2b: Plan of Trenches

X:\Bicester Eco Town_Phase 2\10\Geomatics\03_GIS\current\01_projects\Evaluation\Figures\BITOEV_fig2a-d.mxd**17/12/2013

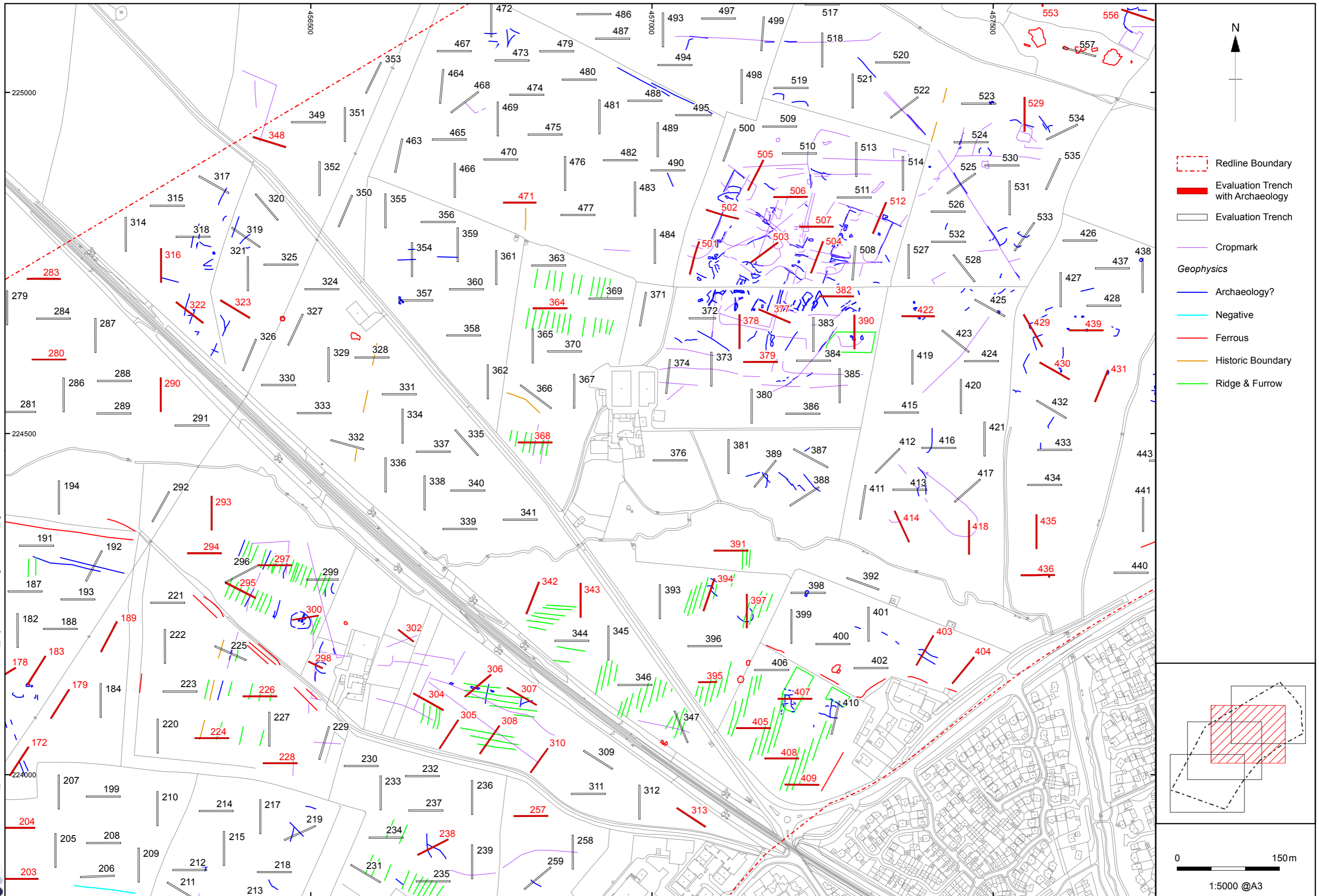
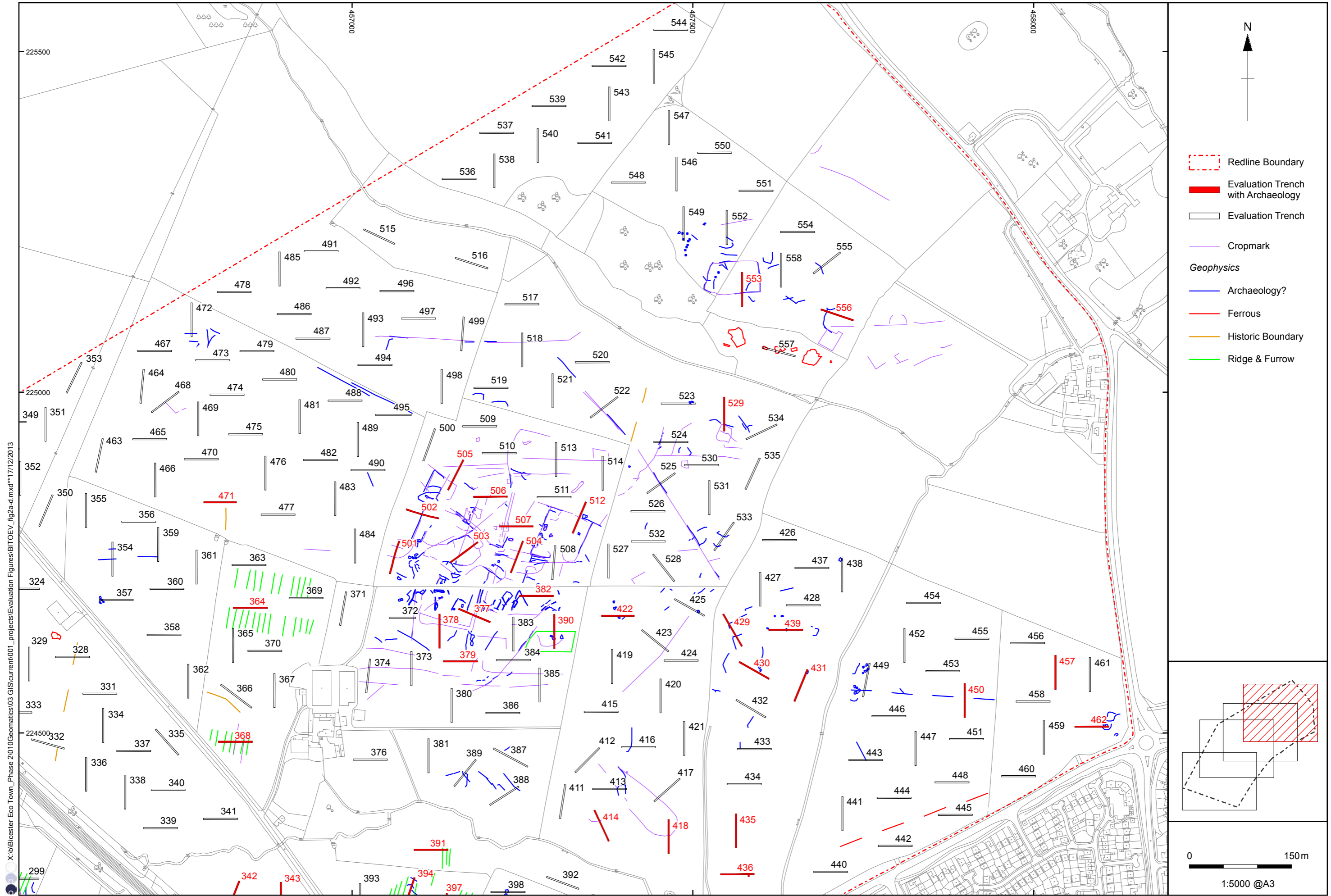
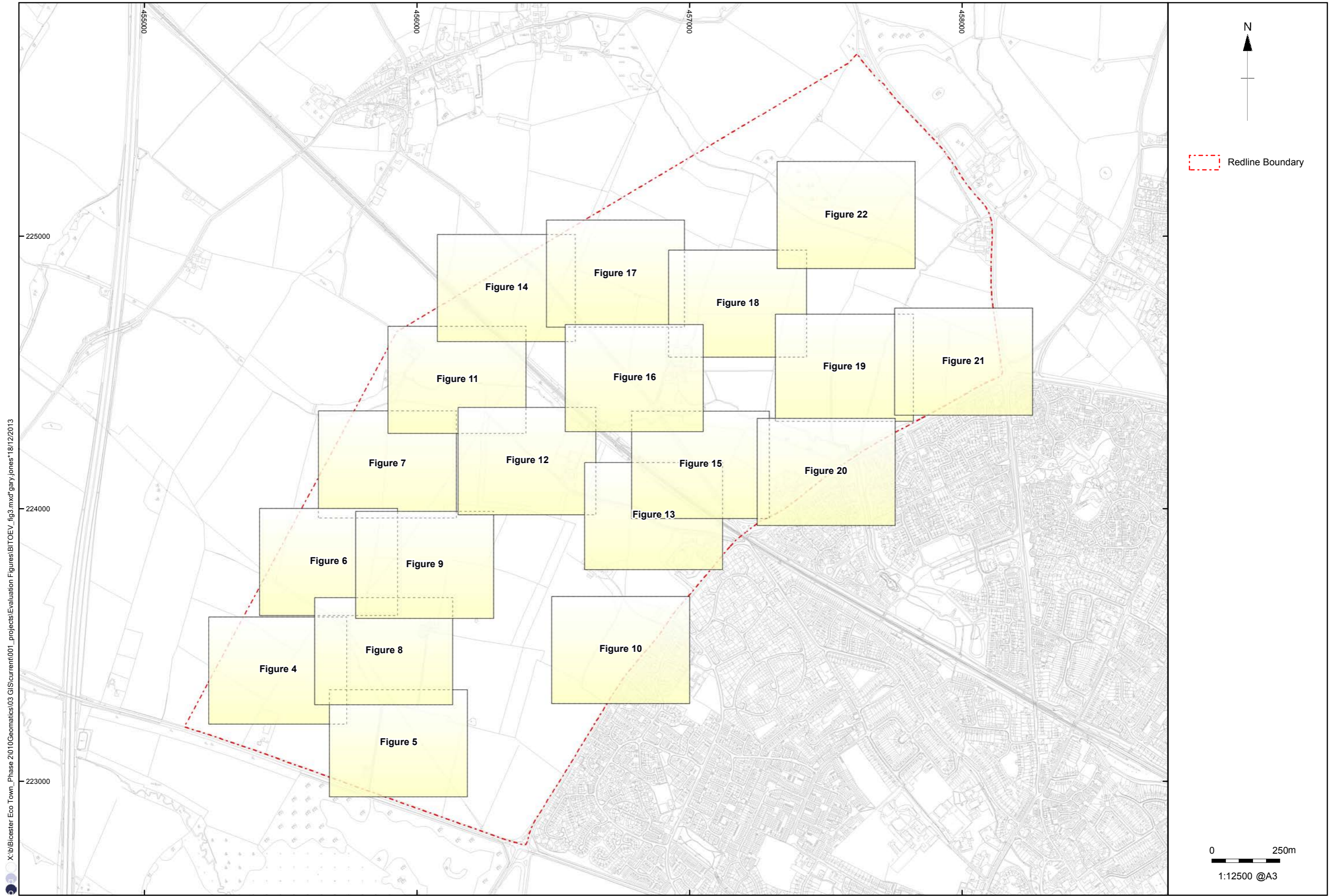


Figure 2c: Plan of Trenches



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig2a-d.mxd**17/12/2013

Figure 2d: Plan of Trenches



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig3.mxd*gary.jones*18/12/2013

Figure 3: Index to Figures 4-22

X:\b\Bicester Eco Town_Phase 2\10\Geomatics\03_GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

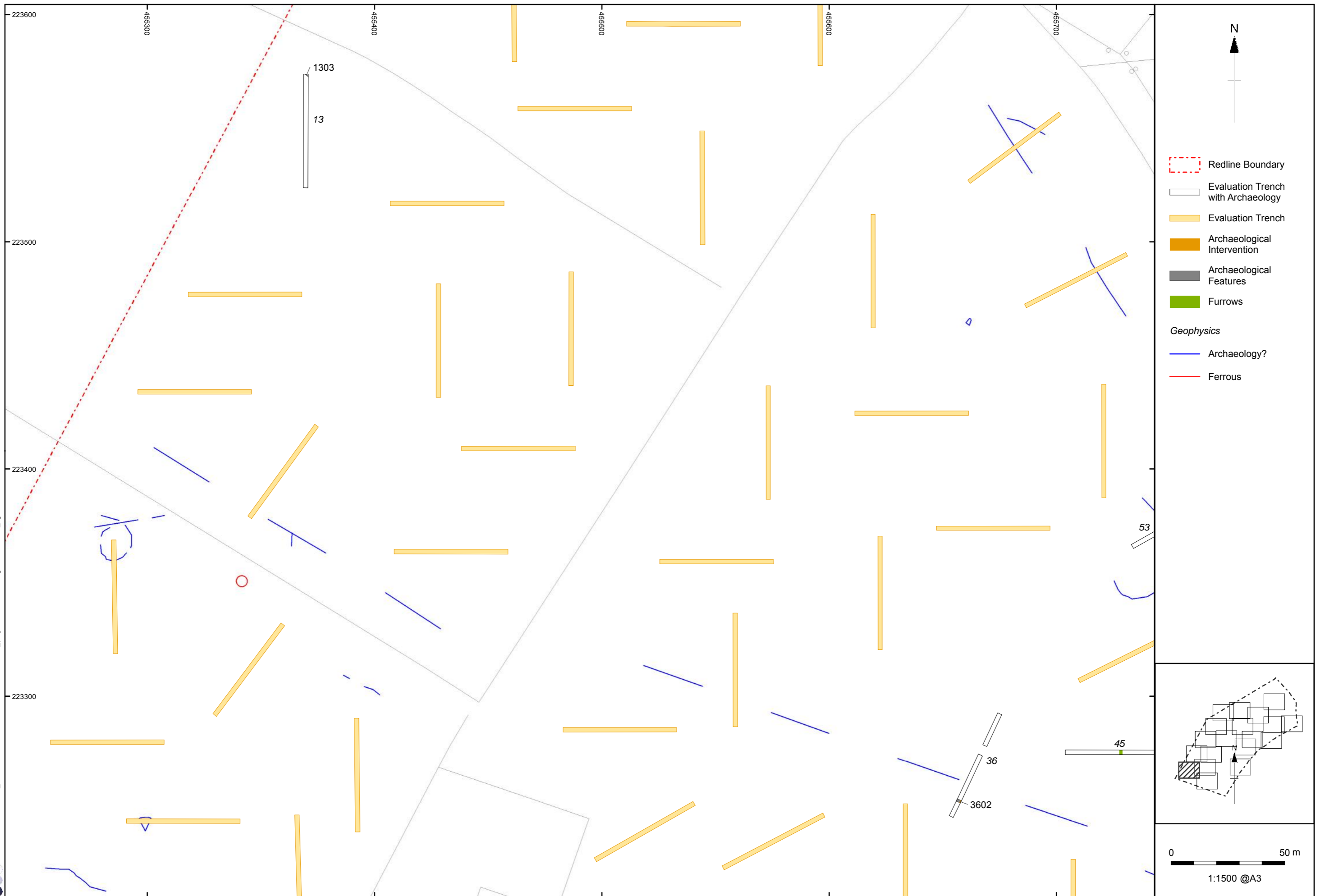
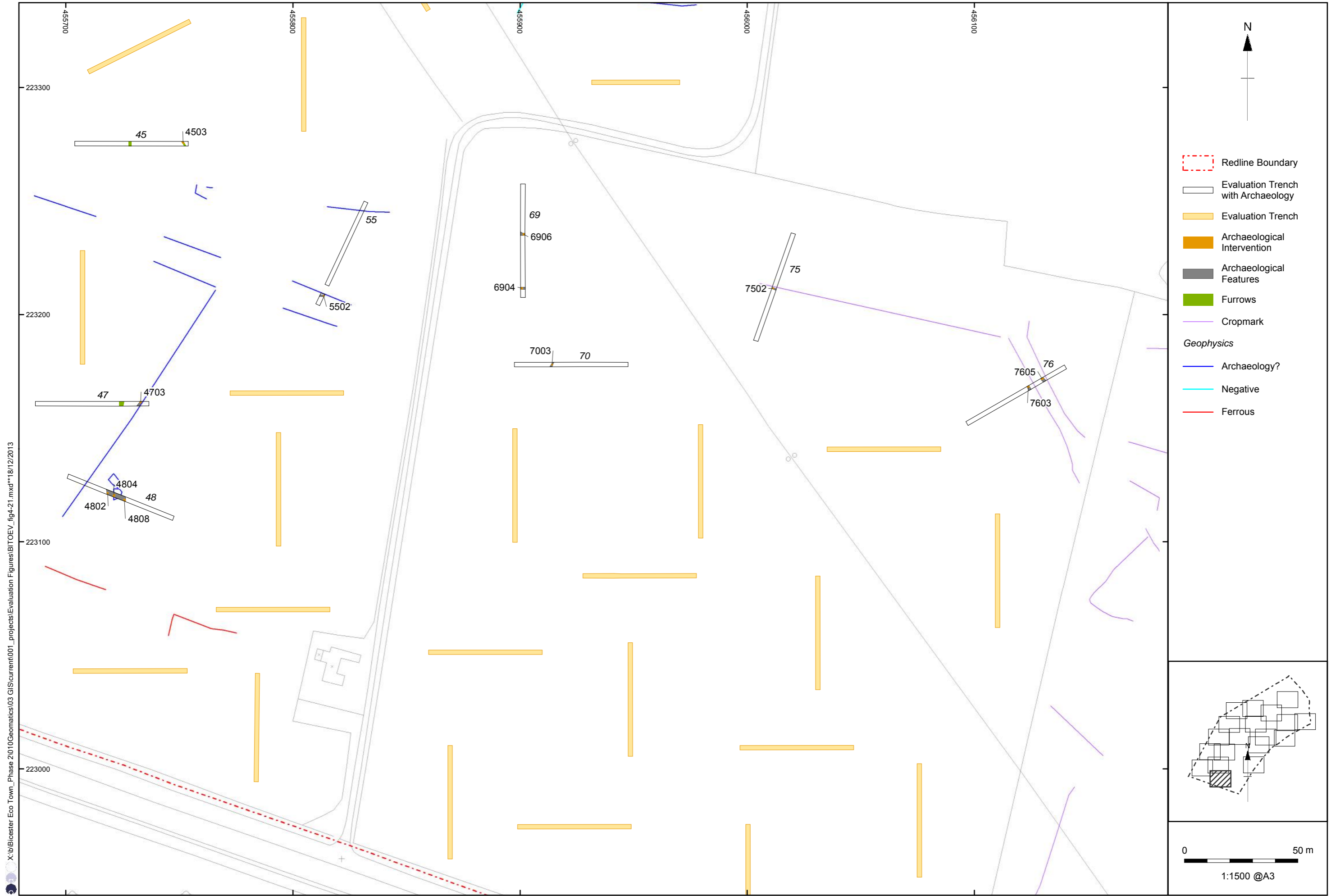


Figure 4: Plan showing features in Trenches 13 and 36



X:\b\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 5: Plan showing features in Trenches 45, 47, 48, 55, 69, 70, 75 and 76

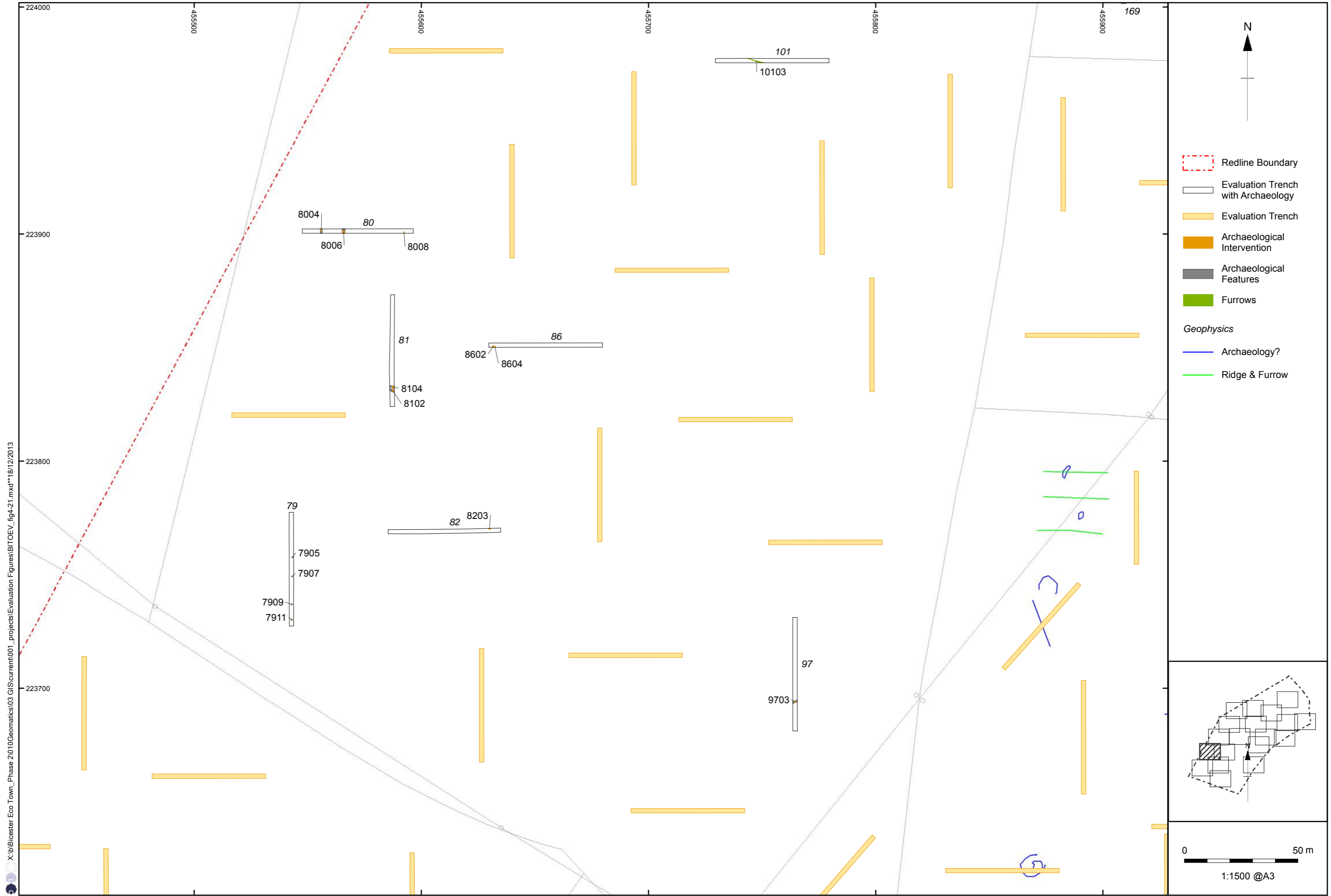
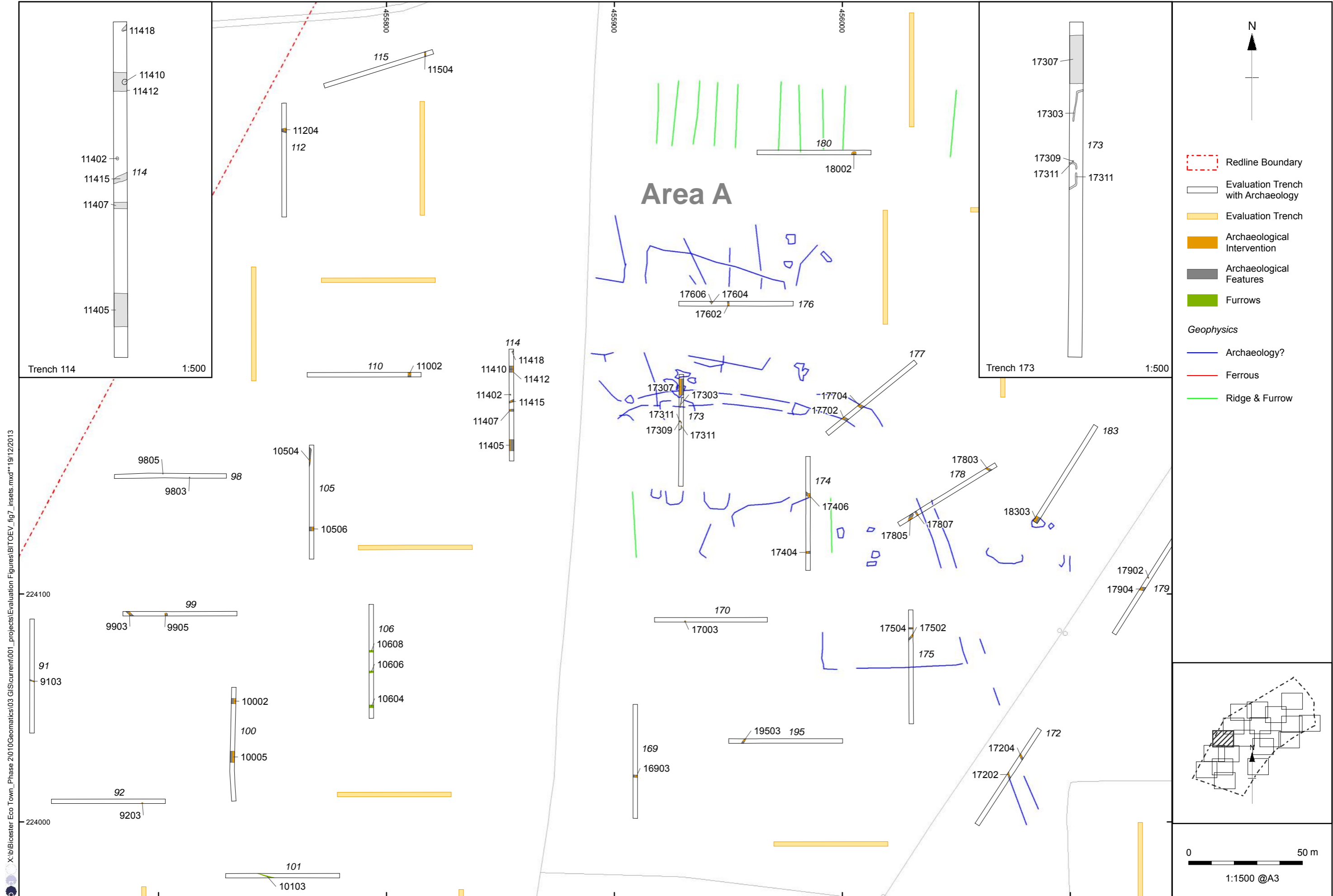
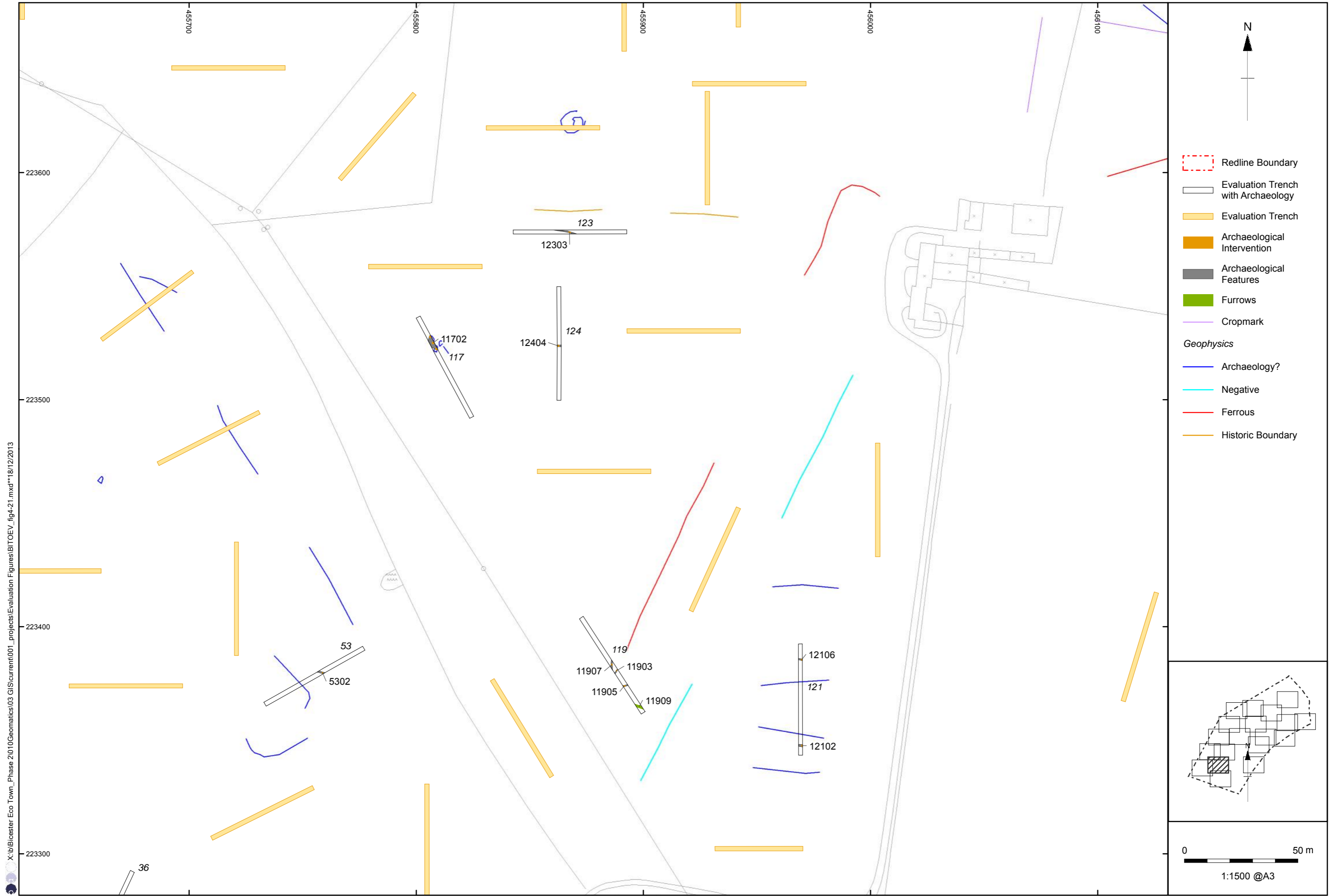


Figure 6: Plan showing features in Trenches 79, 80, 81, 82, 86 and 97



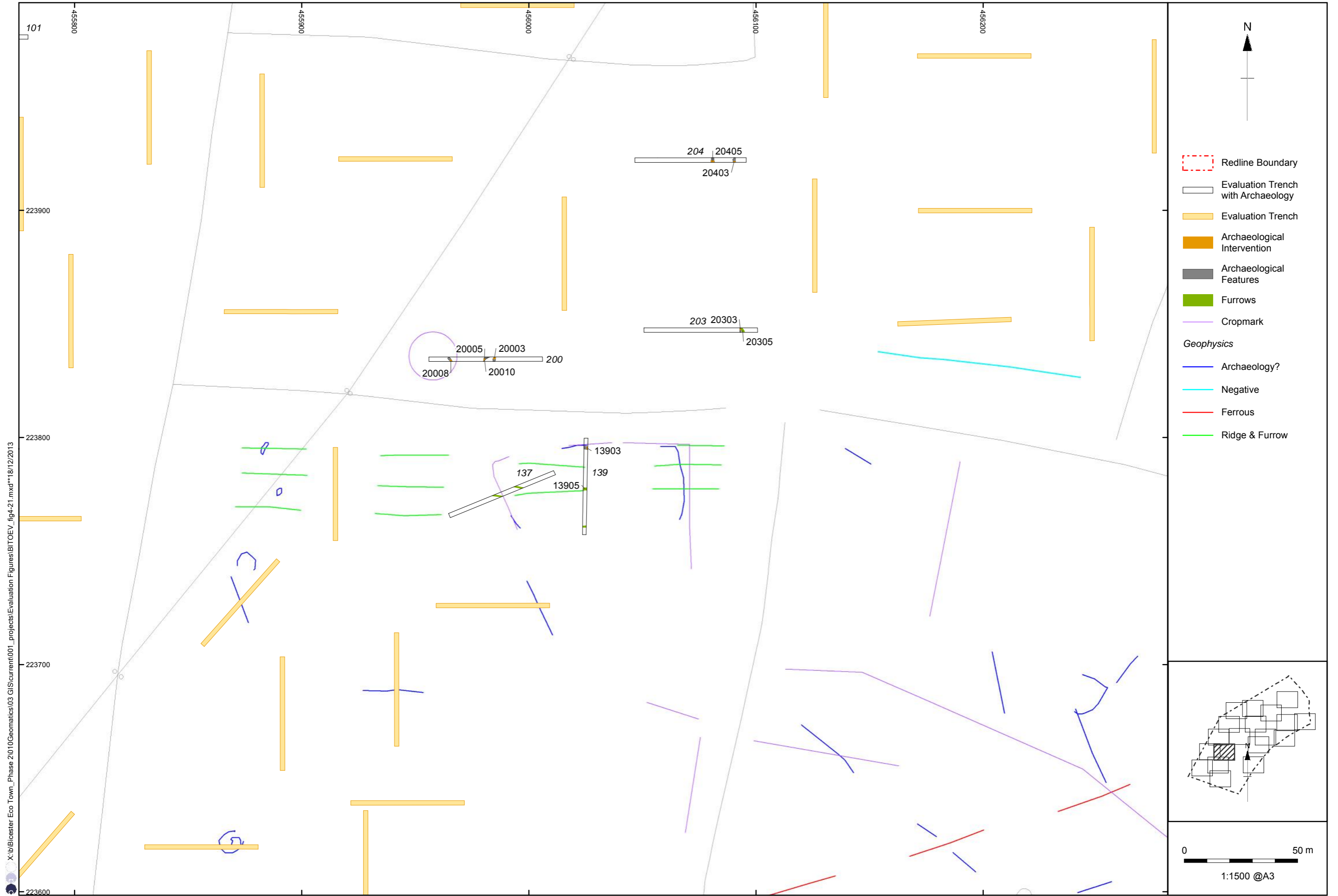
X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig7_insets.mxd**19/12/2013

Figure 7: Plan showing features in Trenches 92, 98-101, 105, 106, 110, 112, 114, 115, 169, 170, 172-180, 183 and 195



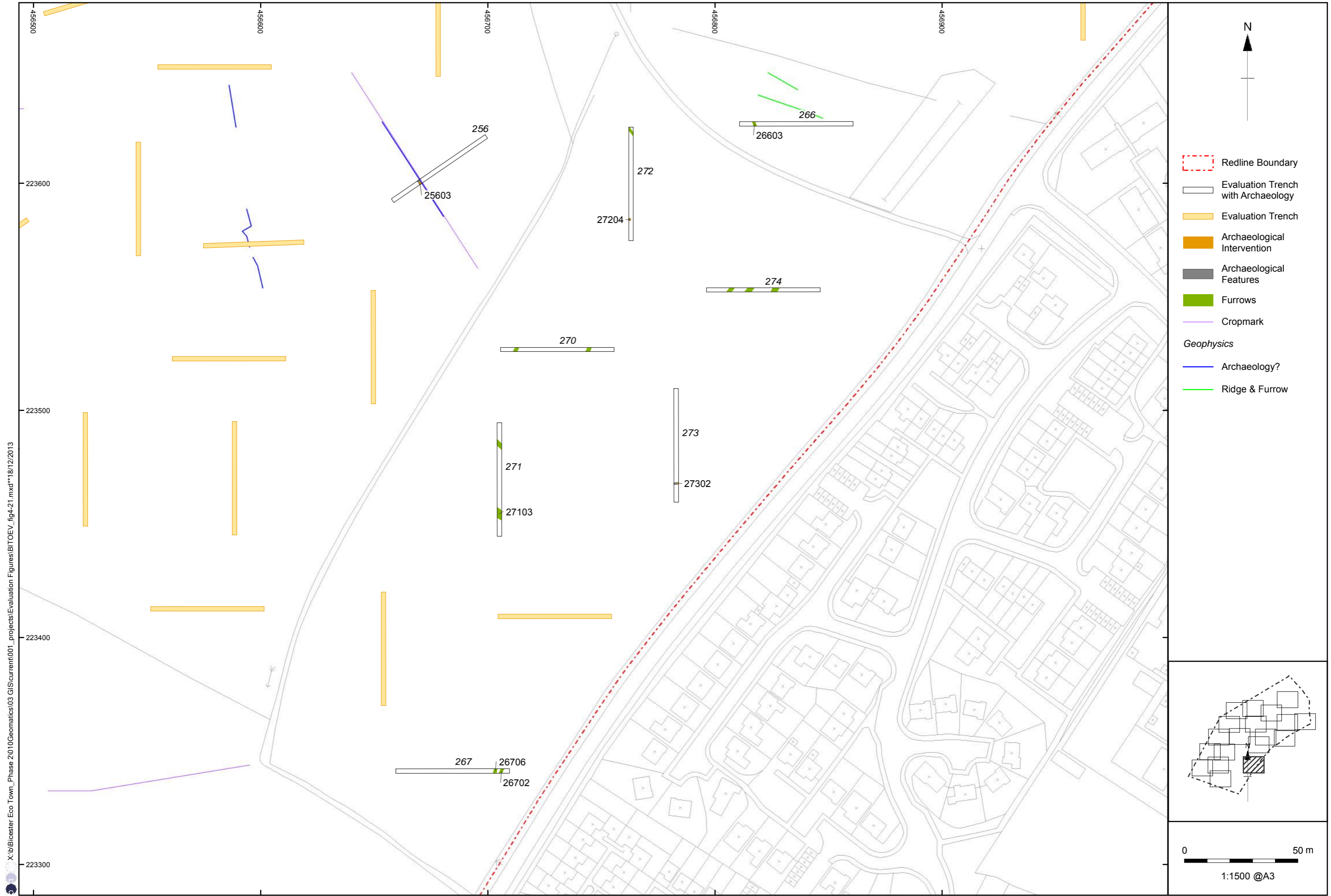
X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 8: Plan showing features in Trenches 117,119, 121, 123 and 124



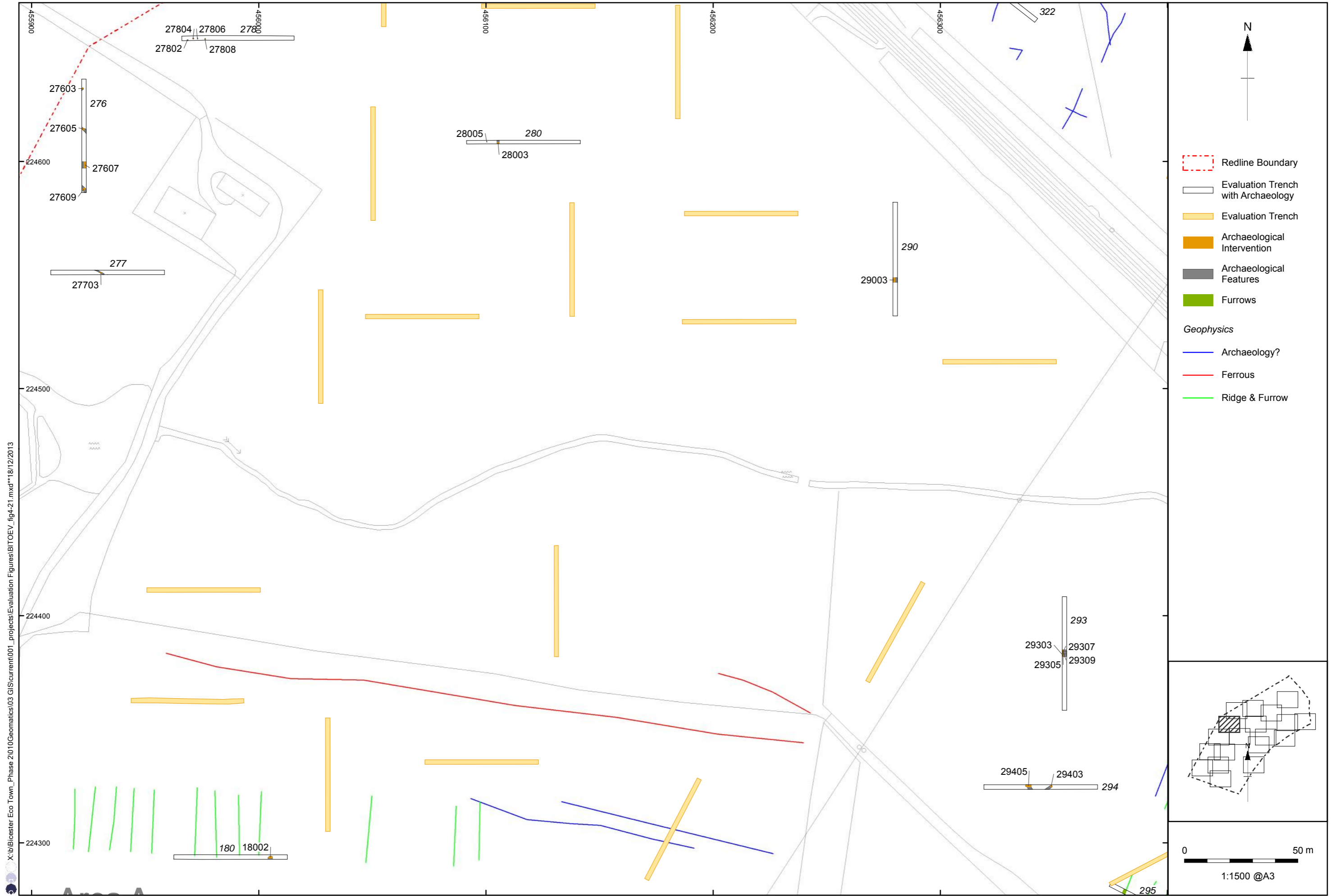
X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 9: Plan showing features in Trenches 137, 139, 200, 203 and 204



X:\b\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 10: Plan showing features in Trenches 256, 266, 267, 270, 271, 272, 273 and 274



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 11: Plan showing features in Trenches 276, 277, 278, 280, 290, 293 and 294



X:\Bicester Eco Town_Phase 2\010\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 12: Plan showing features in Trenches 189, 224, 226, 228, 295, 297, 298, 300 and 302

X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

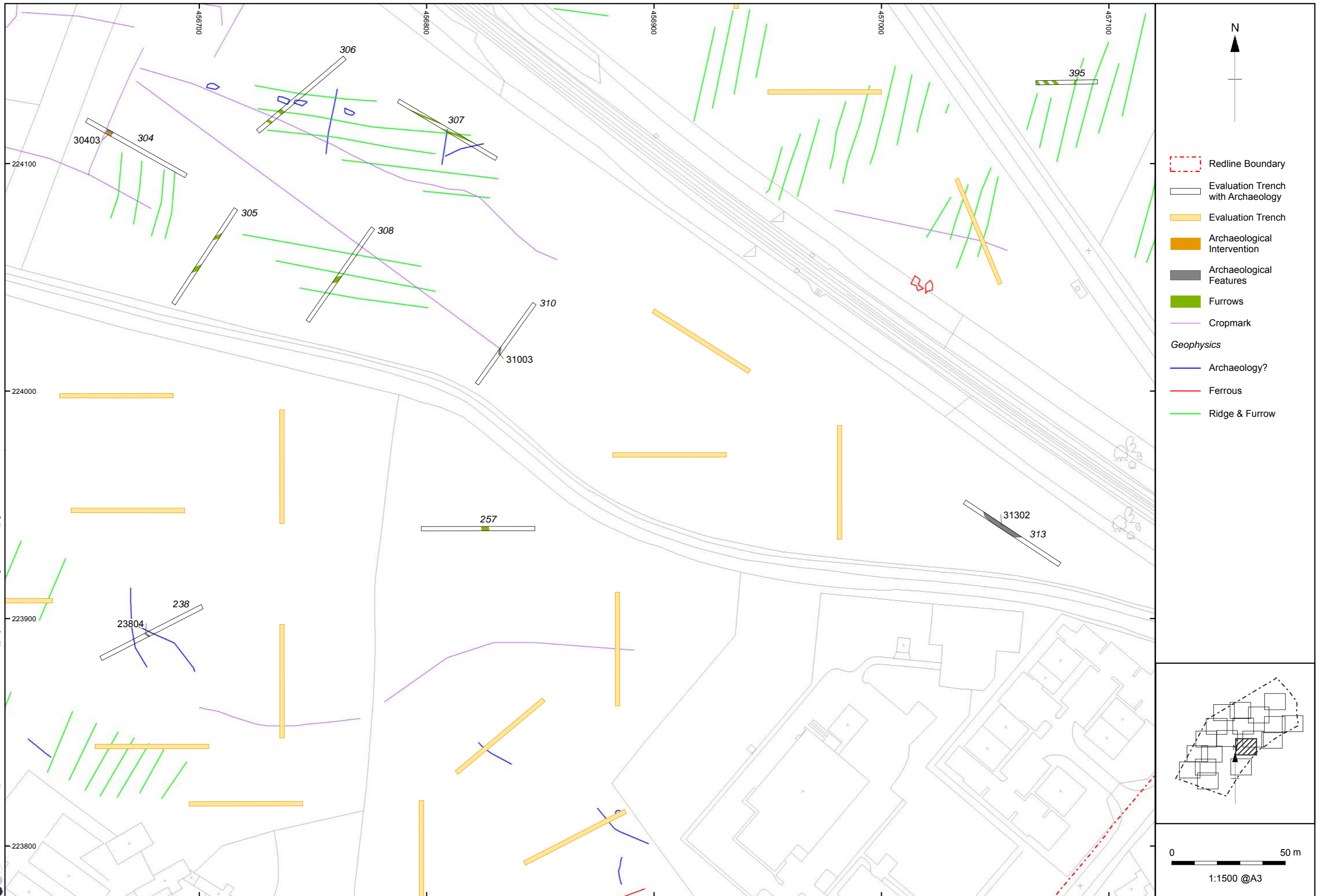
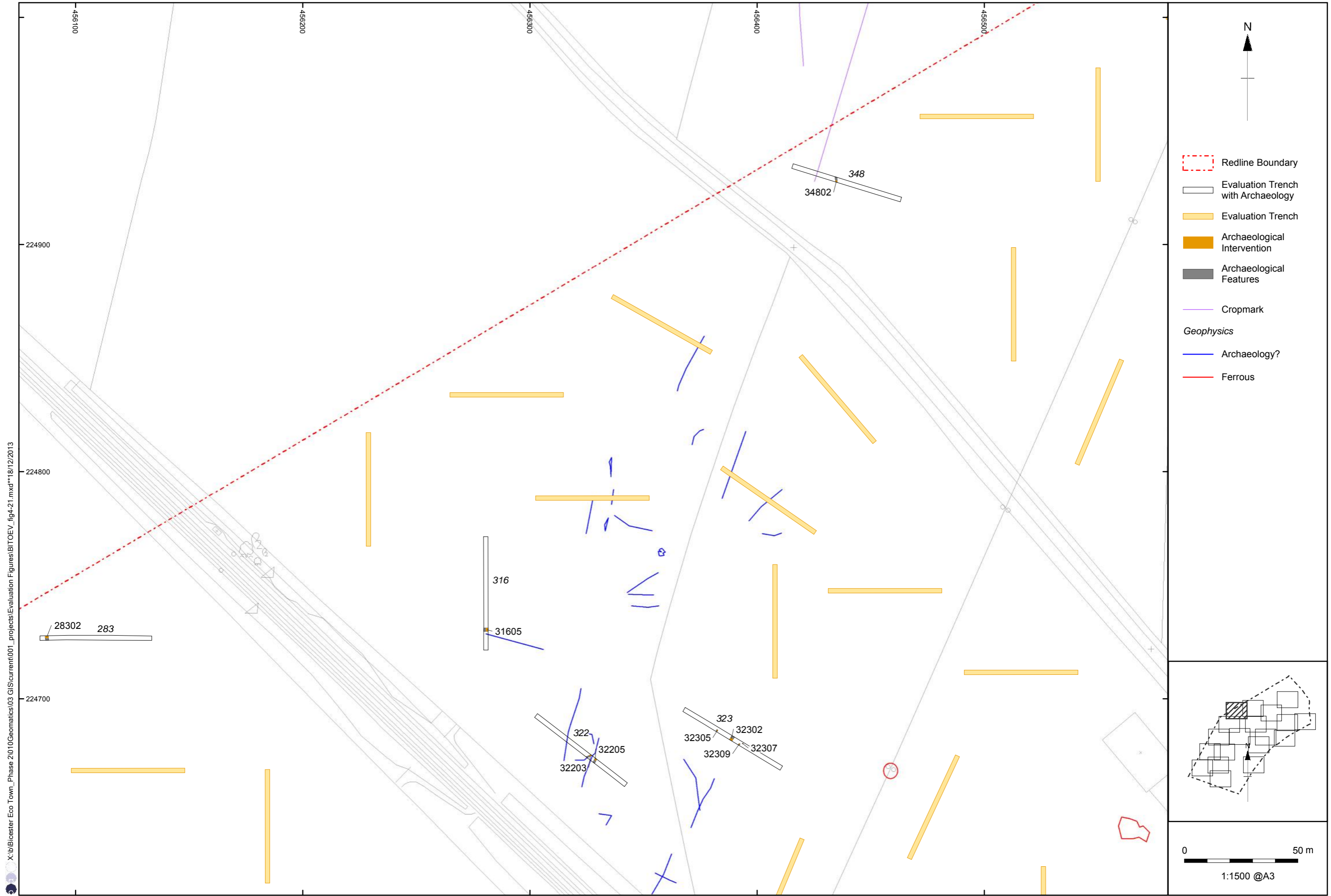
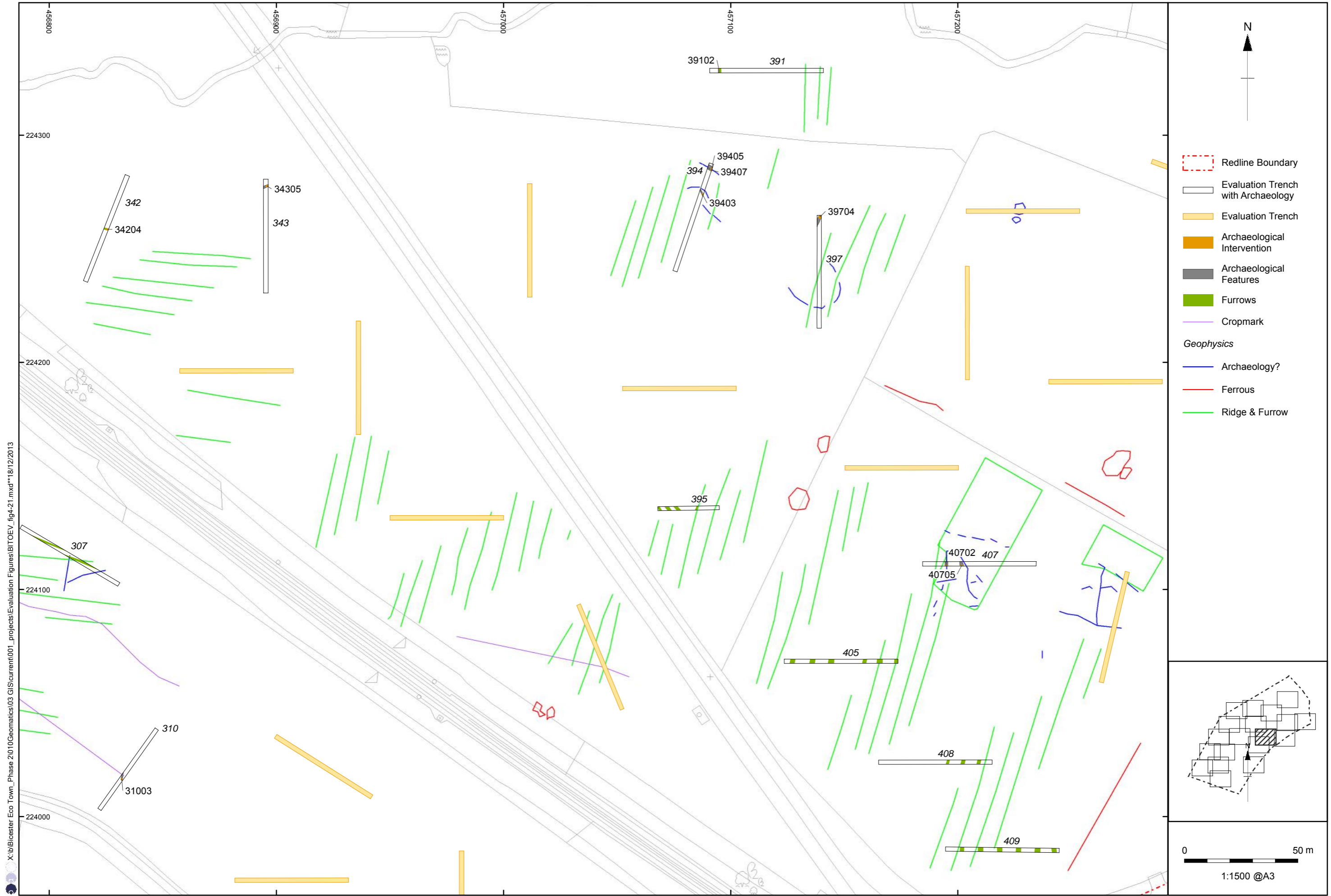


Figure 13: Plan showing features in Trenches 238, 257, 304 - 308, 310 and 313



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 14: Plan showing features in Trenches 283, 316, 322, 323 and 348



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 15: Plan showing features in Trenches 342, 343, 391, 394, 395, 397, 405, 407, 408 and 409



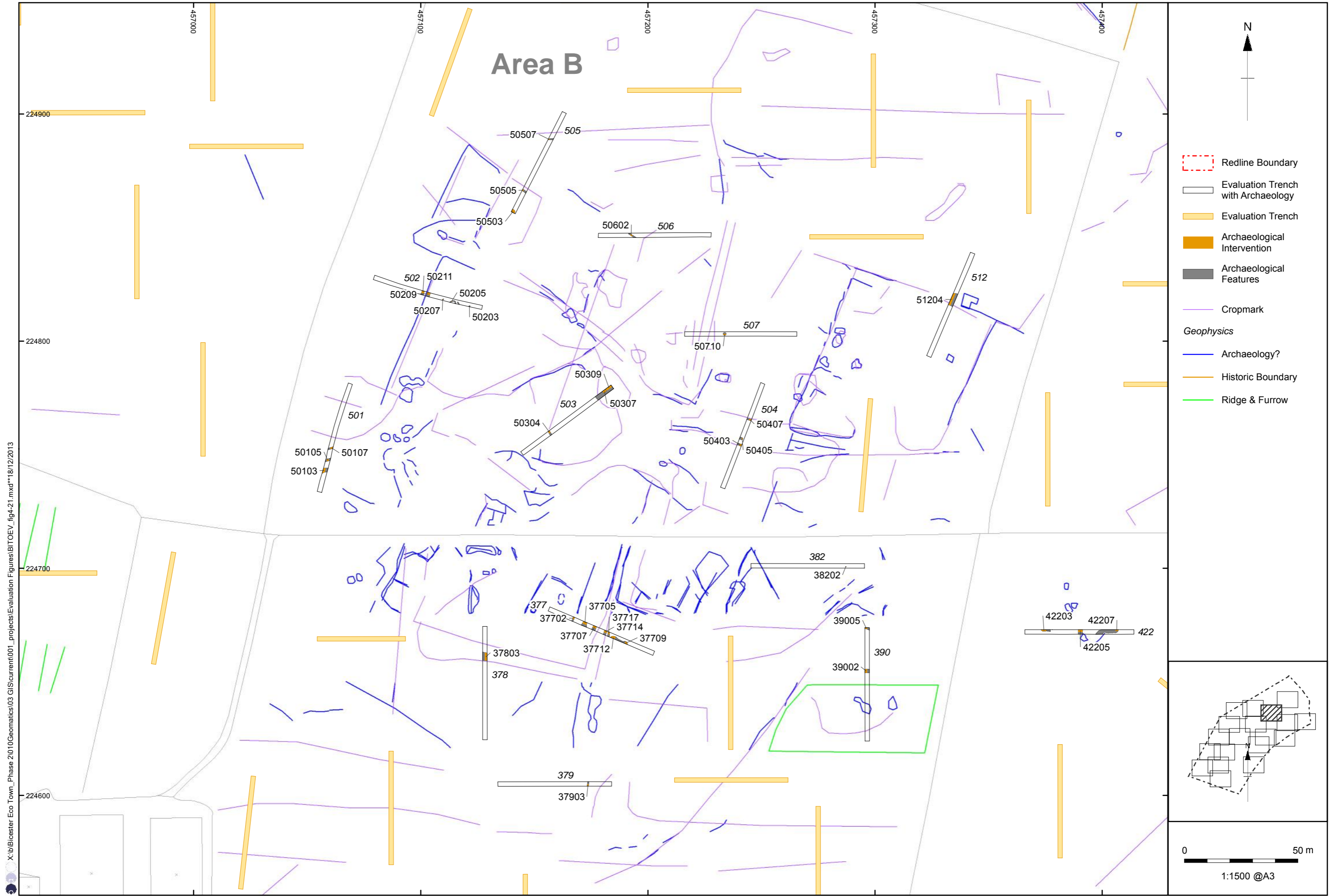
X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 16: Plan showing features in Trench 368

X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013



Figure 17: Plan showing features in Trenches 364 and 471



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\01_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 18: Plan showing features in Trenches 377-379, 382, 390, 422, 501-507 and 512

X:\Bicester Eco Town_Phase 2\10\Geomatics\03_GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

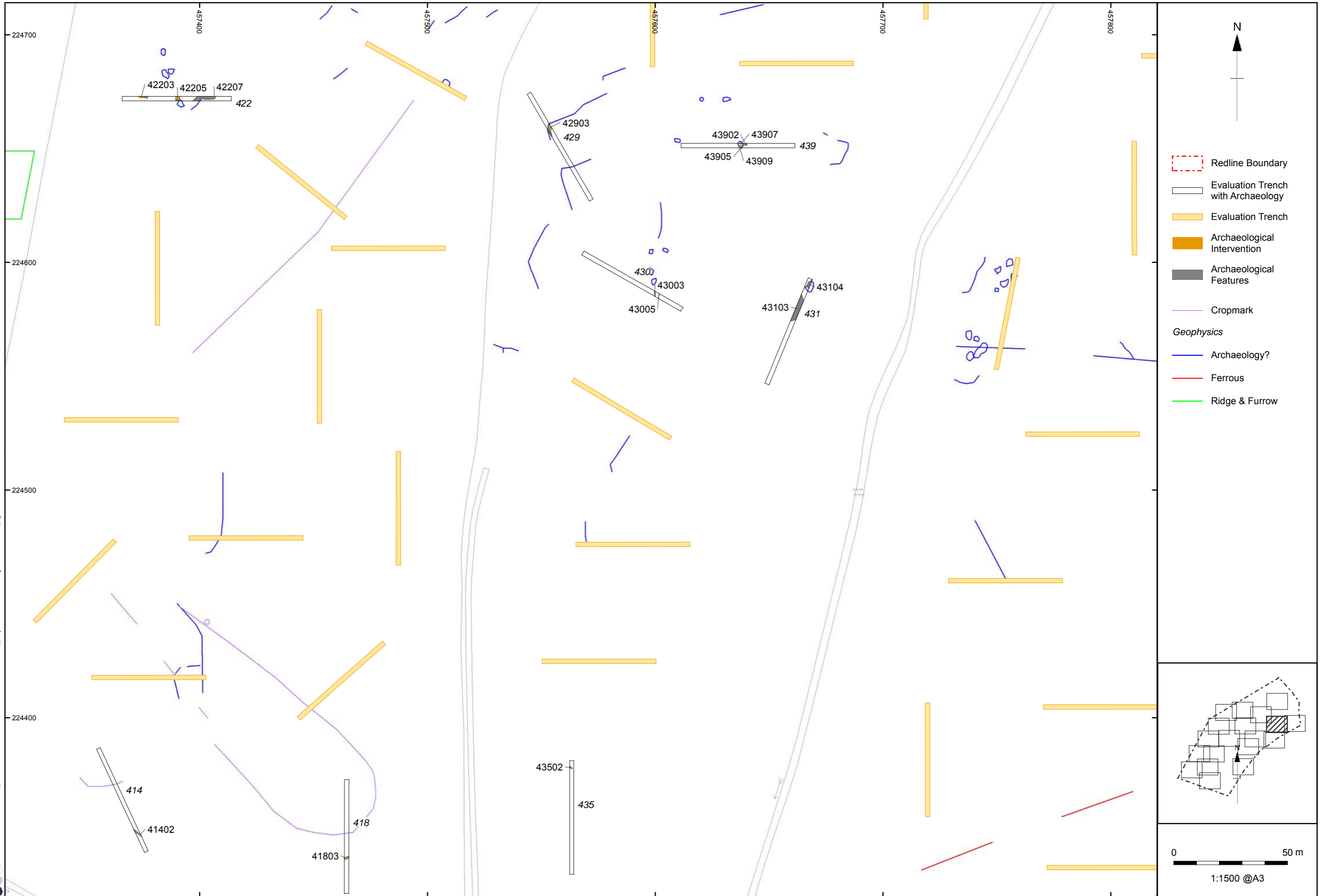
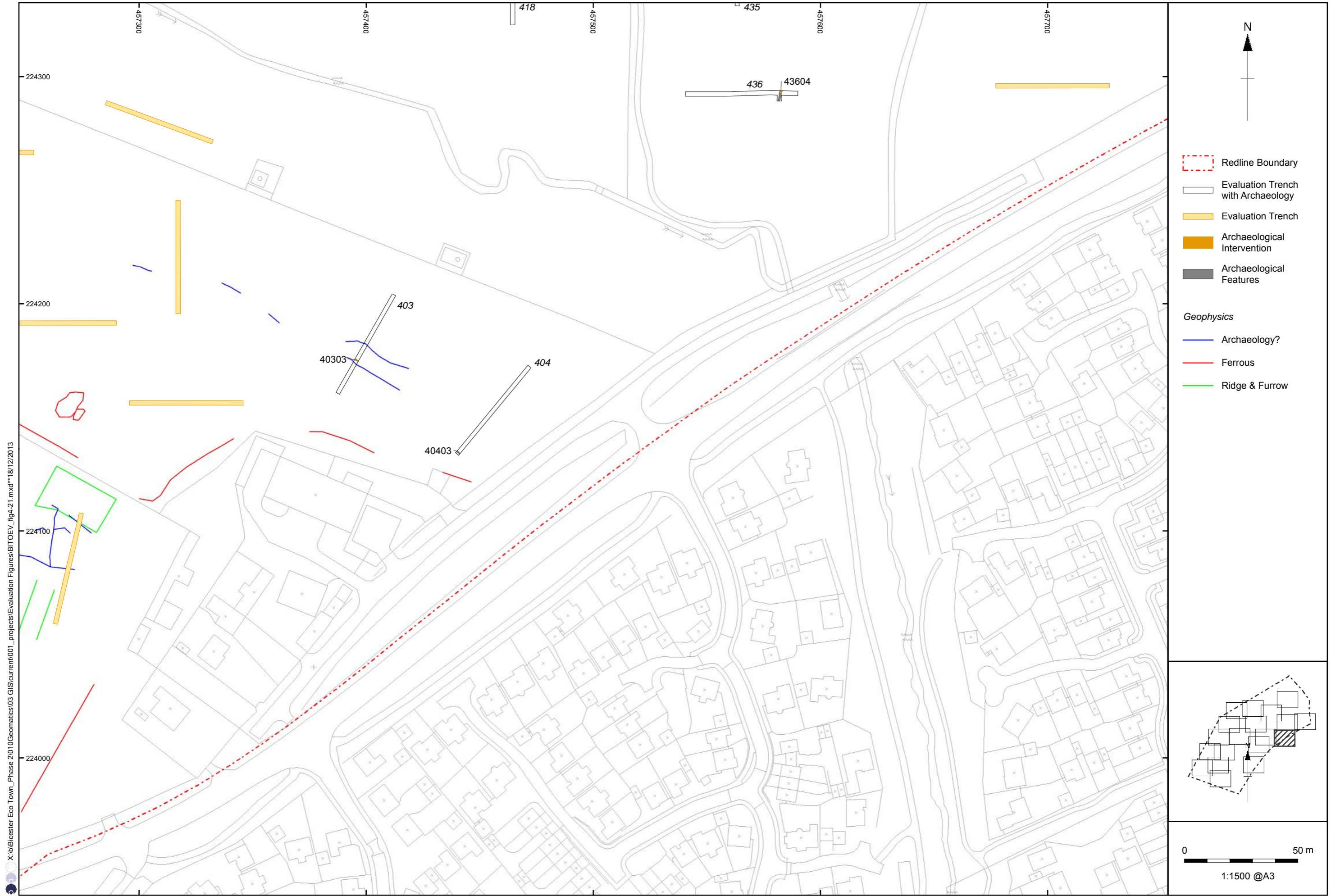


Figure 19: Plan showing features in Trenches 414, 418, 429, 431, 435 and 439



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 20: Plan showing features in Trenches 403, 404 and 436

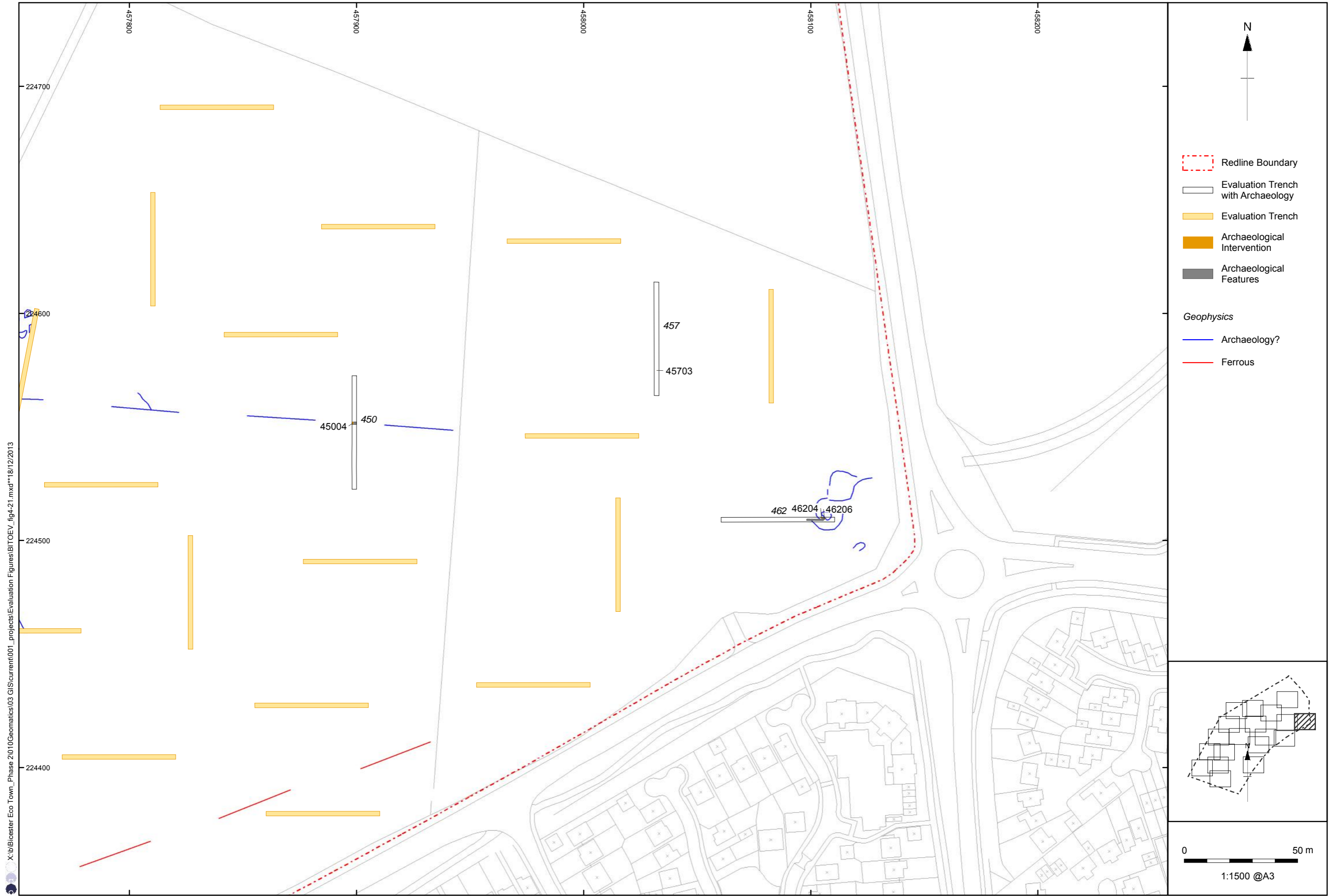
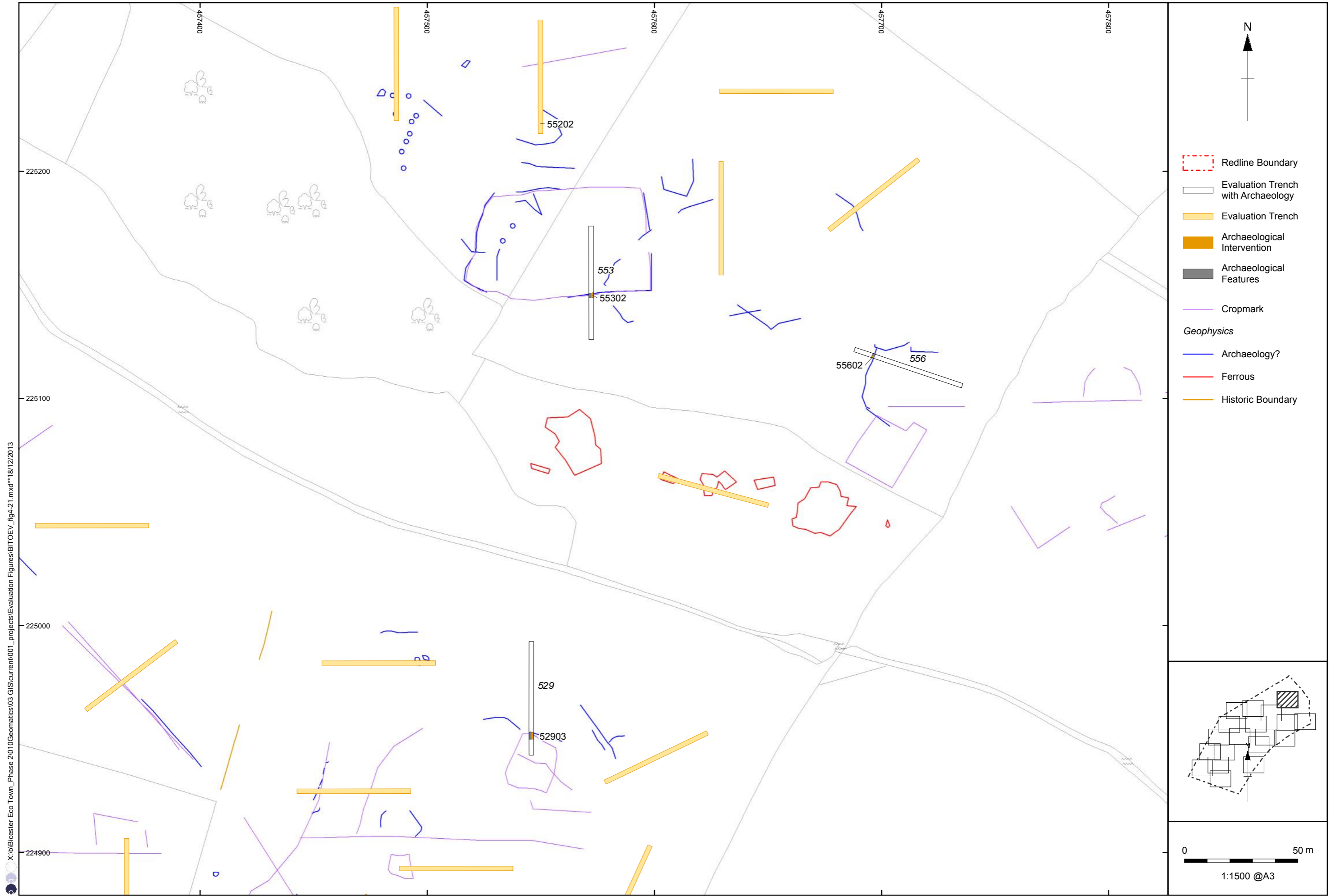


Figure 21: Plan showing features in Trenches 450, 457 and 462



X:\Bicester Eco Town_Phase 2\10\Geomatics\03 GIS\current\001_projects\Evaluation Figures\BITOEV_fig4-21.mxd**18/12/2013

Figure 22: Plan showing features in Trenches 529, 553 and 556

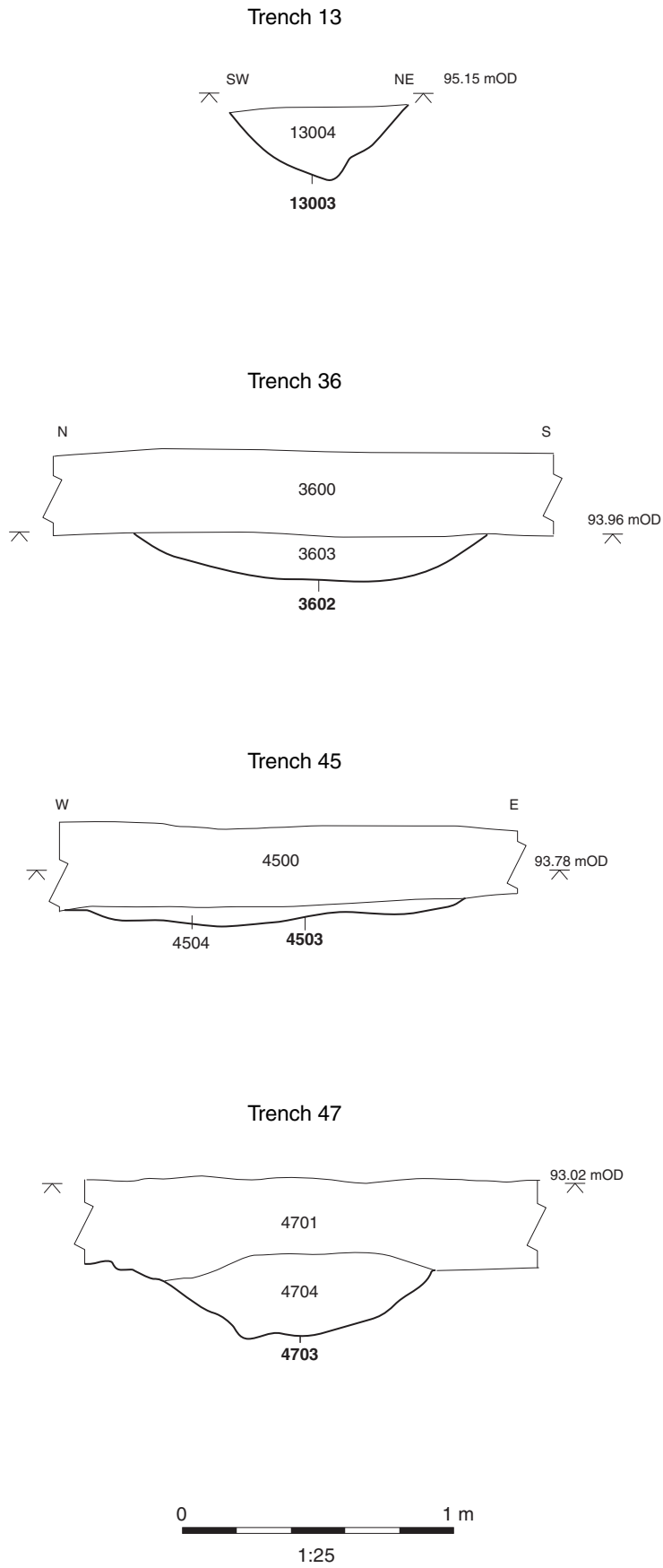
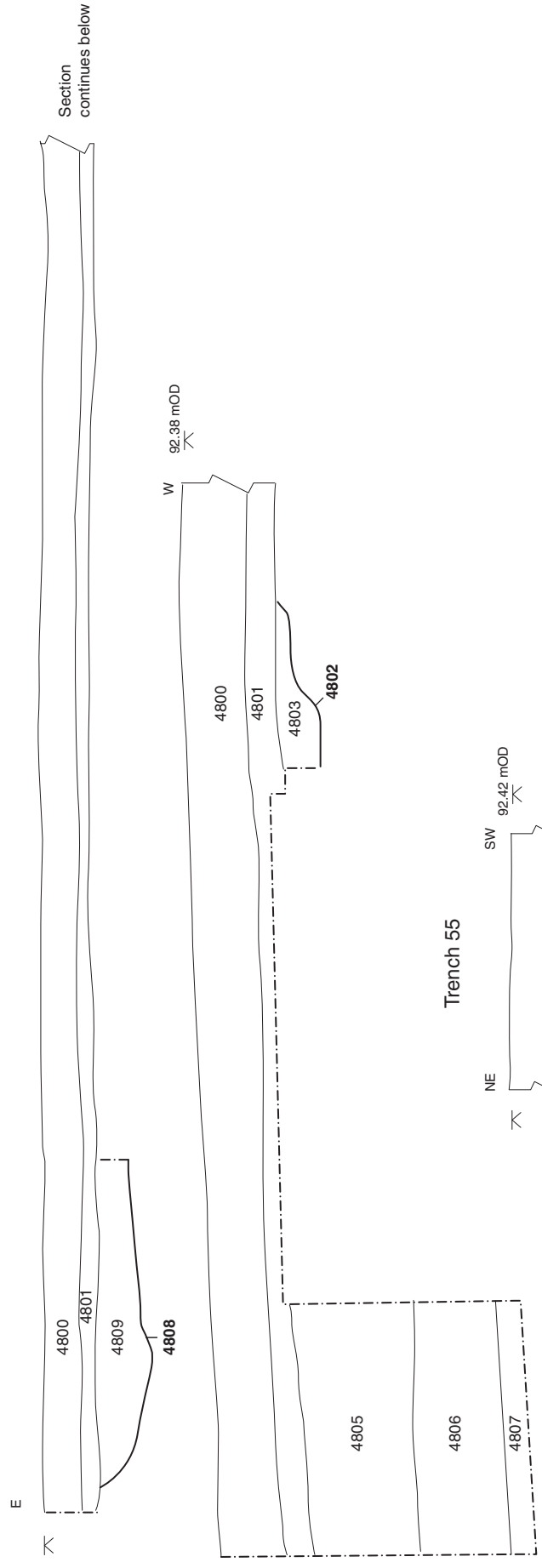
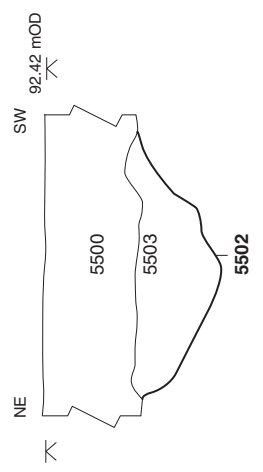


Figure 23: Trenches 13, 36, 45 and 47: sections

Trench 48



Trench 55



Trench 69

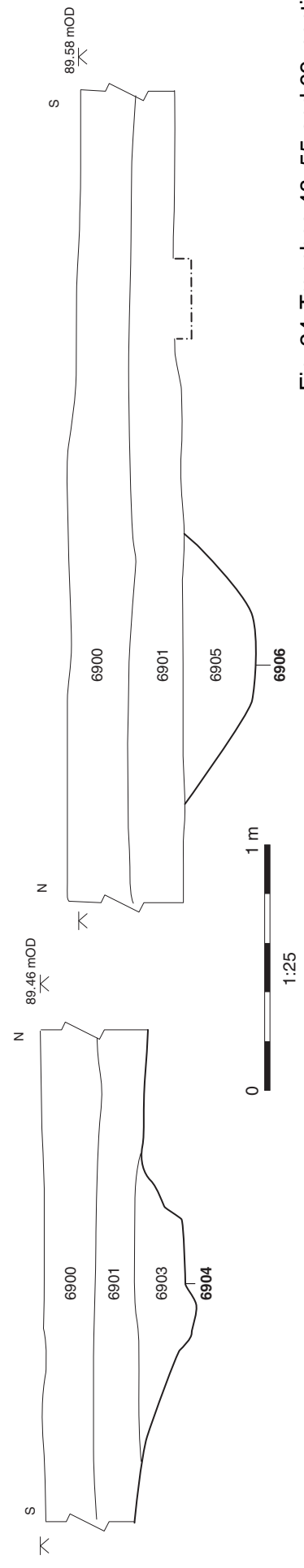
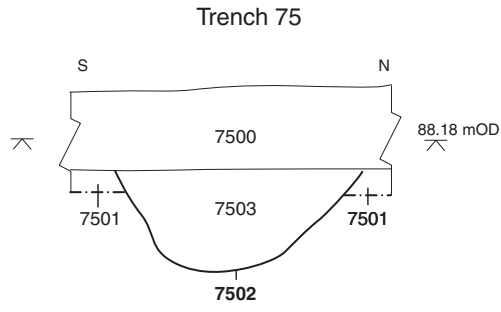
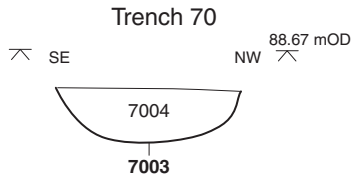
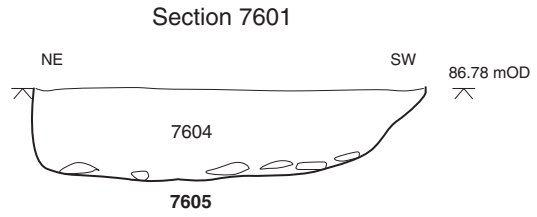
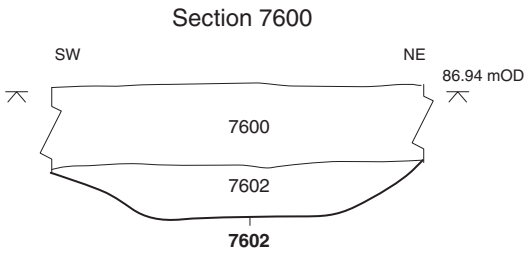


Fig. 24: Trenches 48, 55 and 69: sections



Trench 76



Trench 79

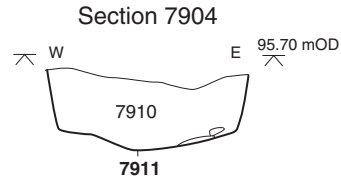
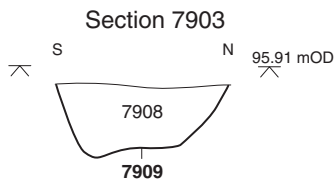
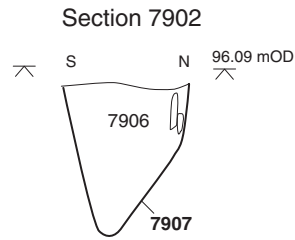
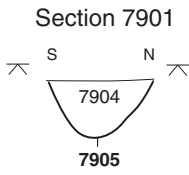


Fig. 25: Trenches 70, 75, 76 and 79: sections

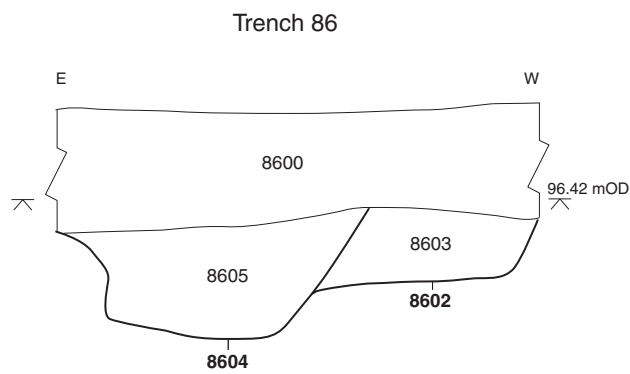
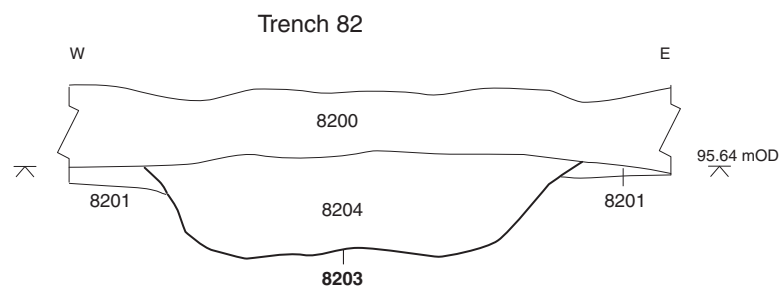
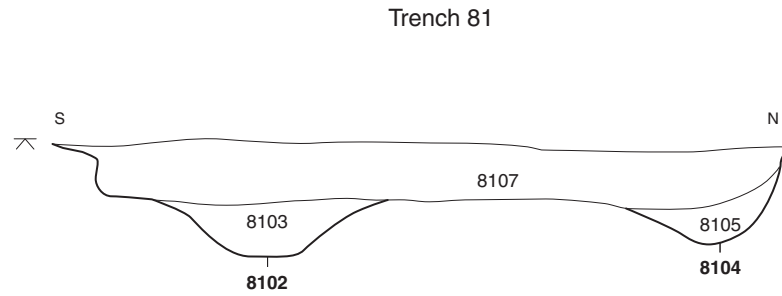
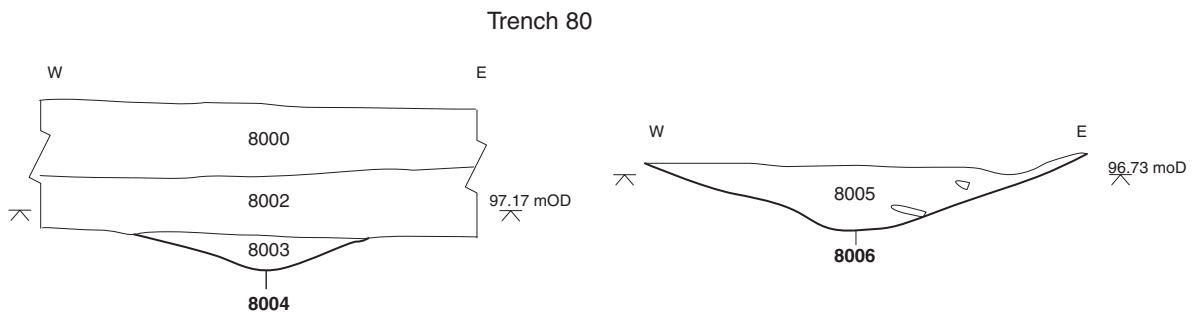


Fig. 26: Trenches 80, 81, 82 and 86: sections

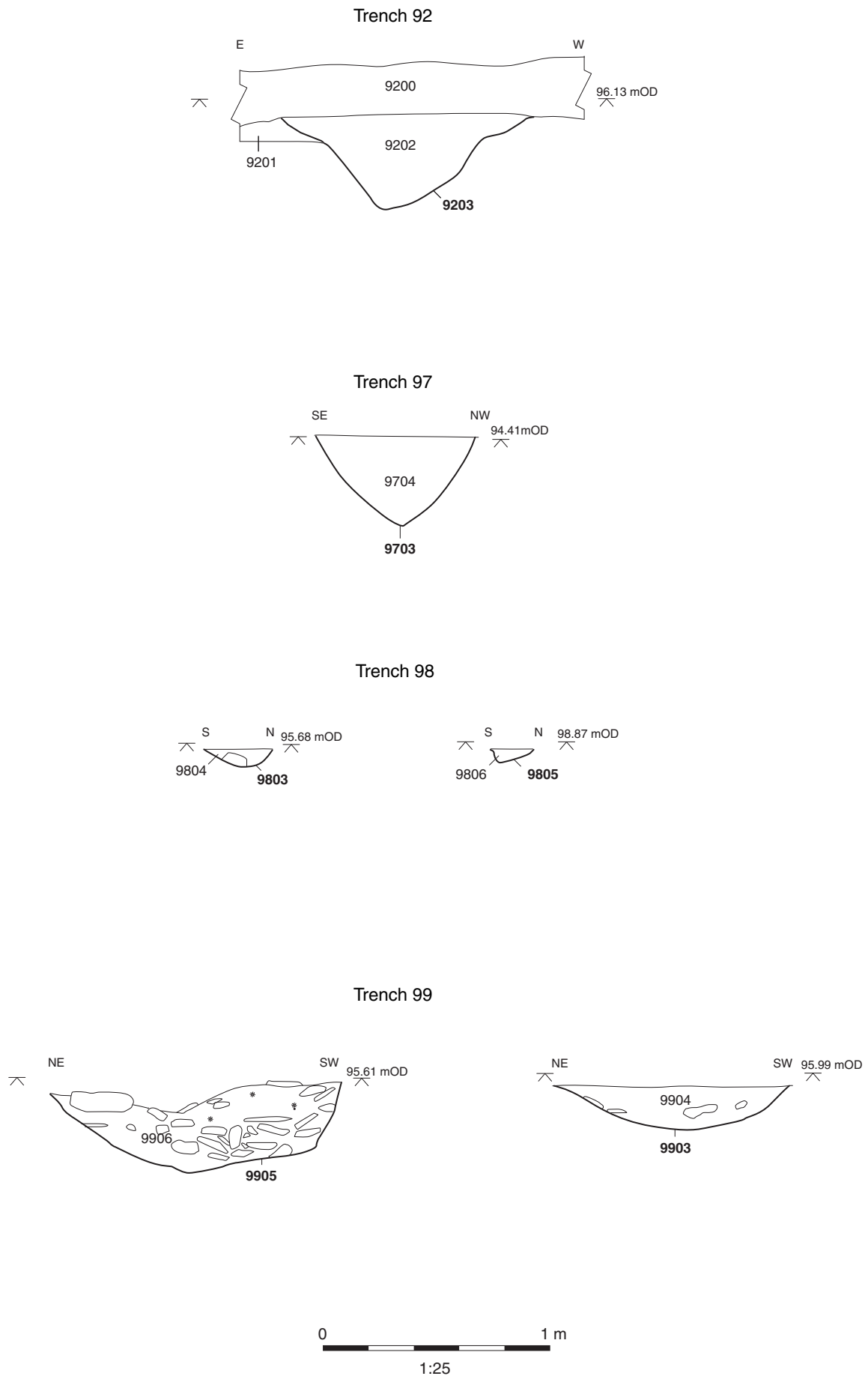


Fig. 27: Trenches 92, 97, 98 and 99: sections

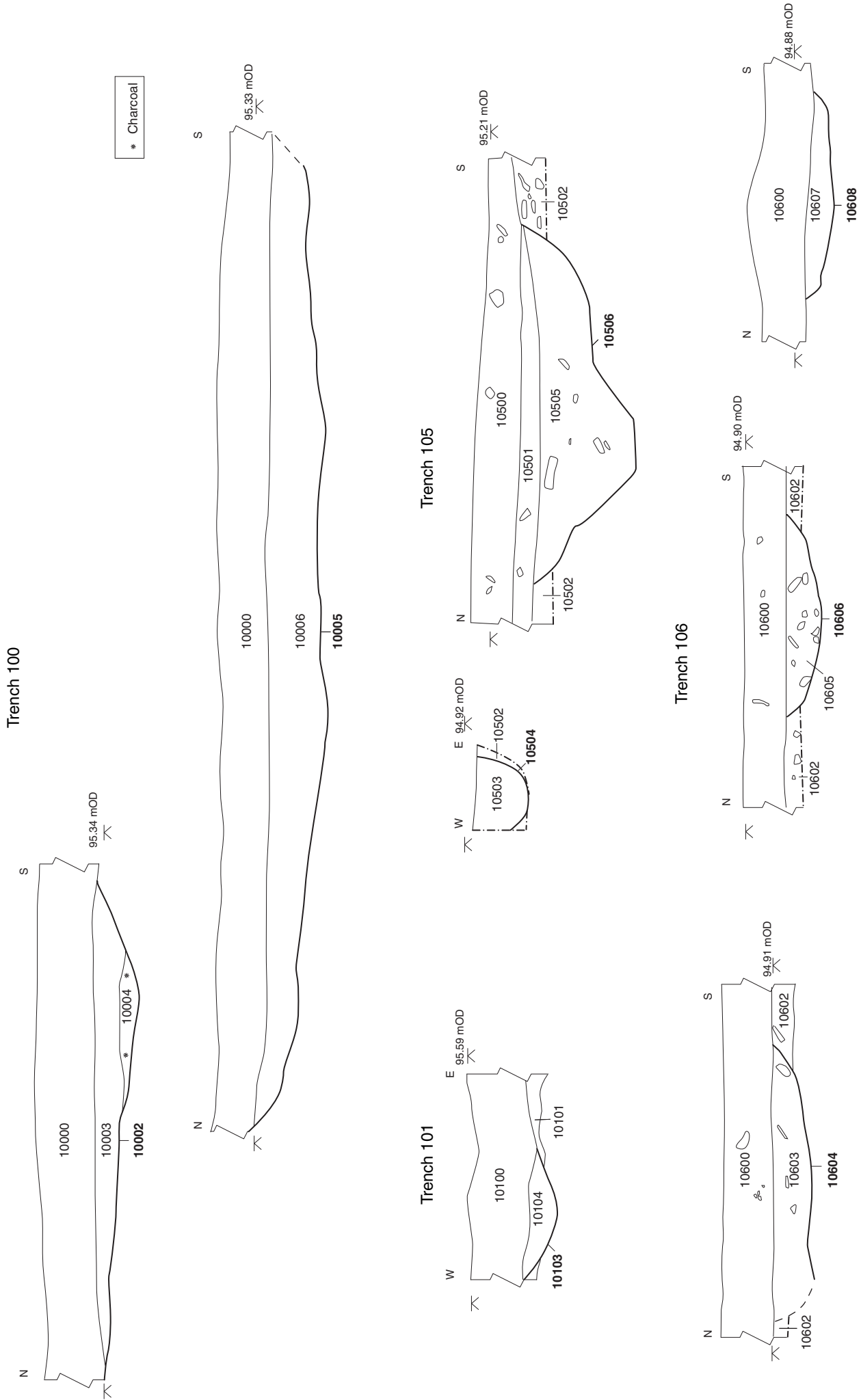
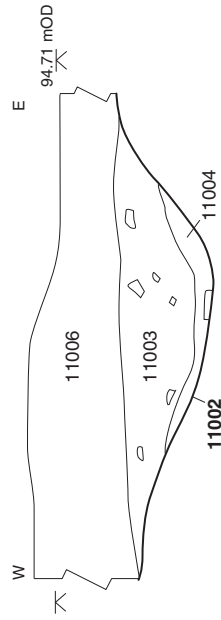
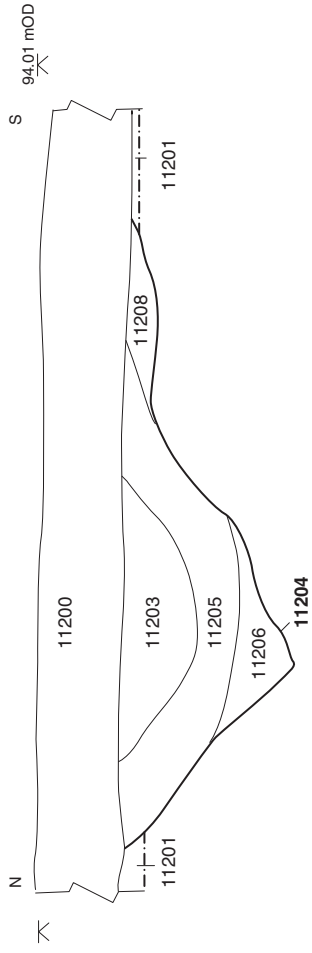


Fig. 28: Trenches 100, 101, 105 and 106: sections

Trench 110



Trench 112



Trench 114

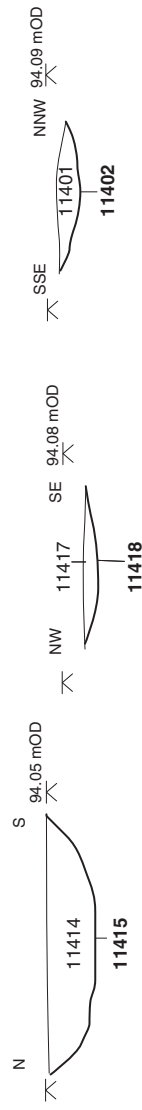
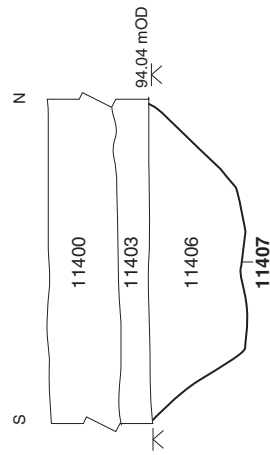
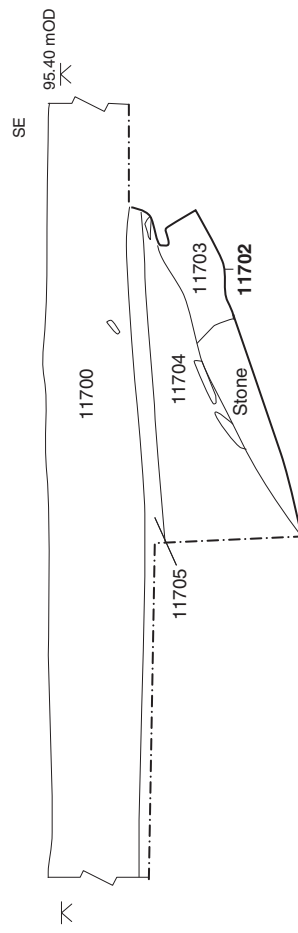
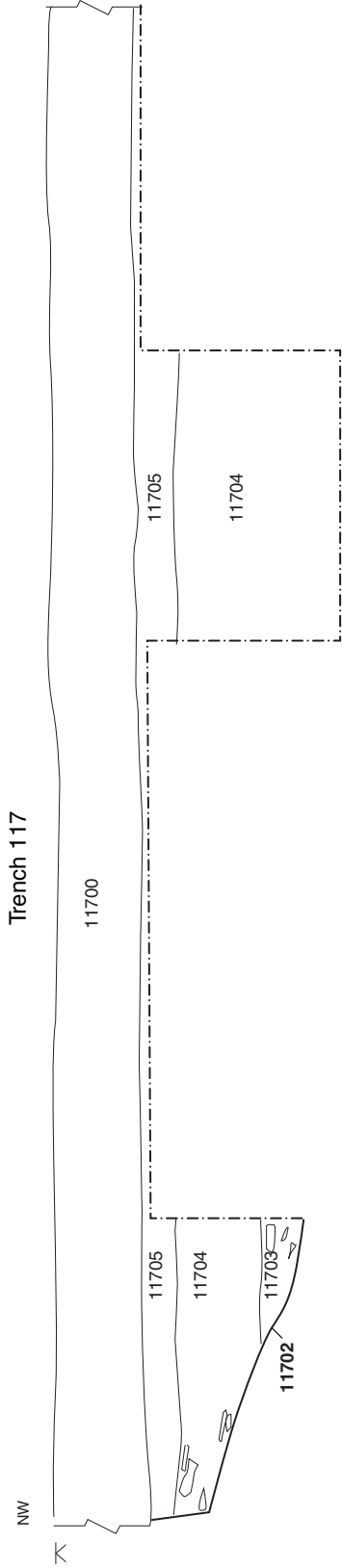
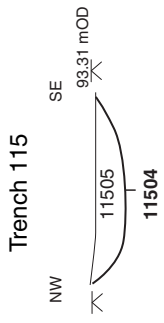
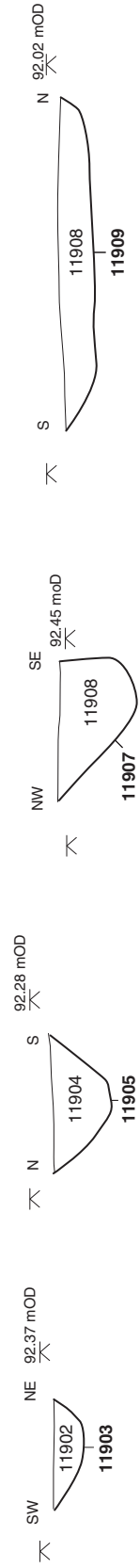


Fig. 29: Trenches 110, 112 and 114: sections



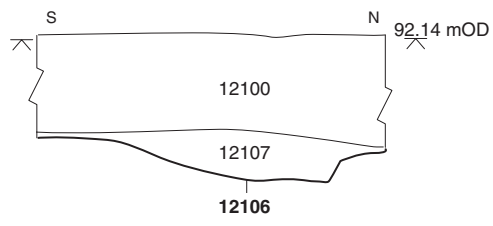
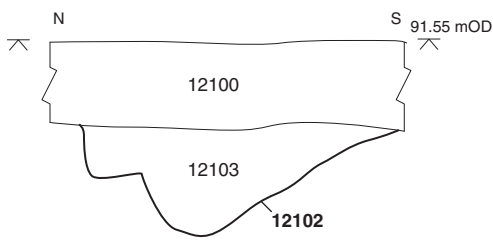
Trench 119



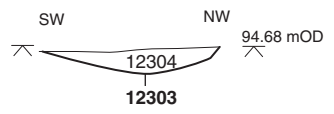
1:25

Fig. 30: Trenches 115, 117 and 119: sections

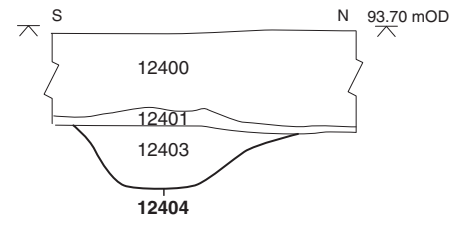
Trench 121



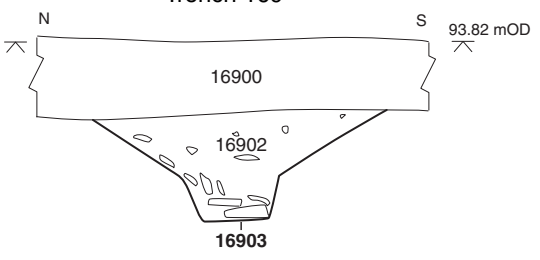
Trench 123



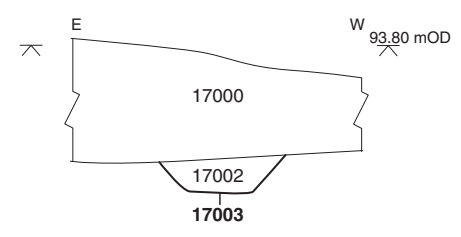
Trench 124



Trench 169



Trench 170



Trench 172

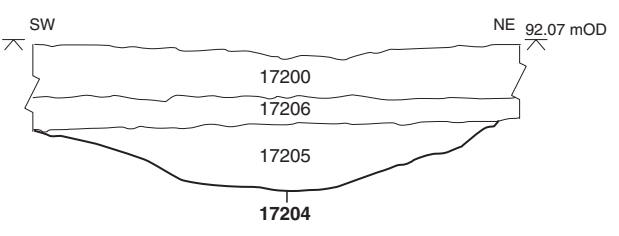
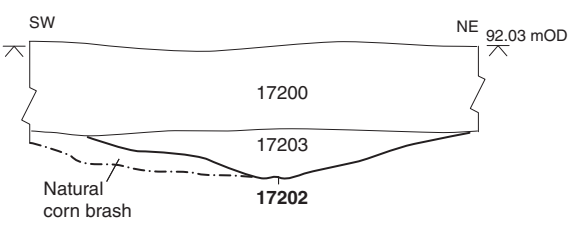


Fig. 31: Trenches 121, 123, 124, 169, 170 and 172: sections

Trench 173

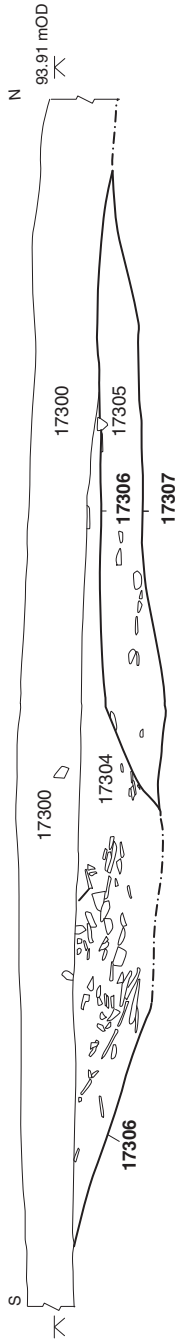
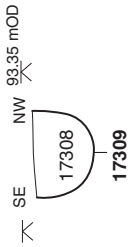
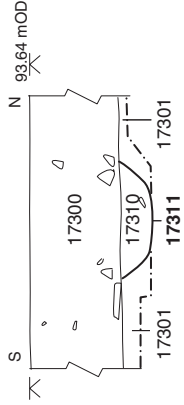
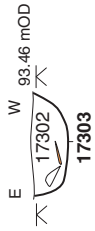
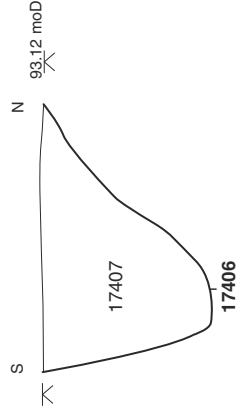
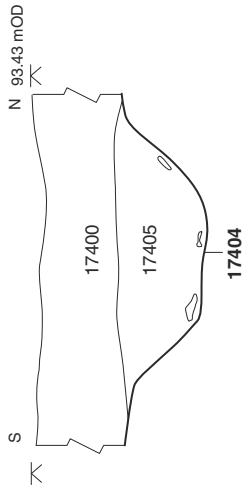


Fig. 32: Trench 173: sections

Trench 174



Trench 175

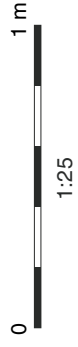
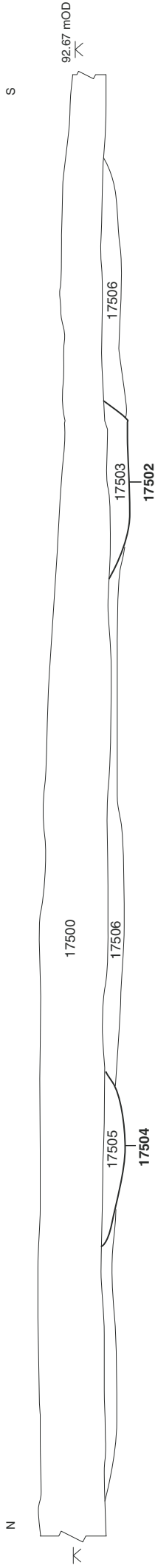
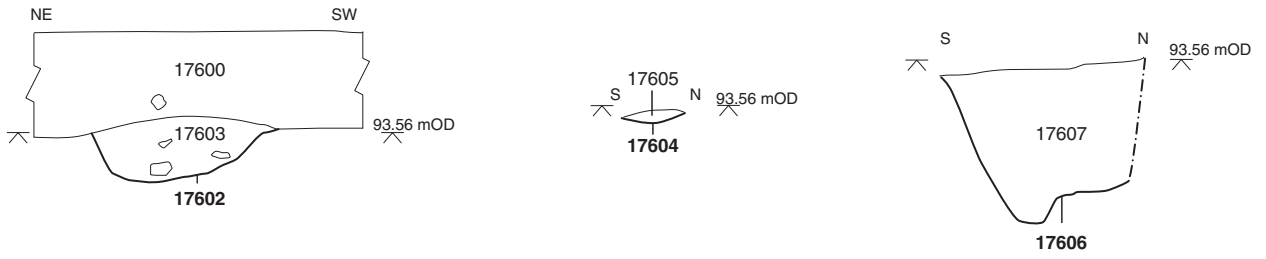
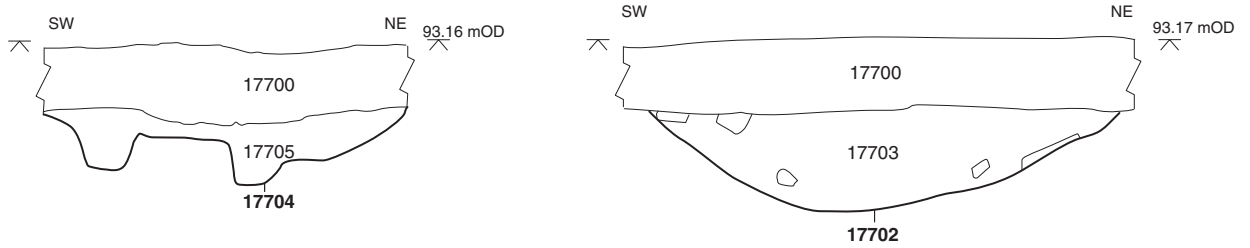


Figure 33: Trenches 174 and 175: sections

Trench 176



Trench 177



Trench 178

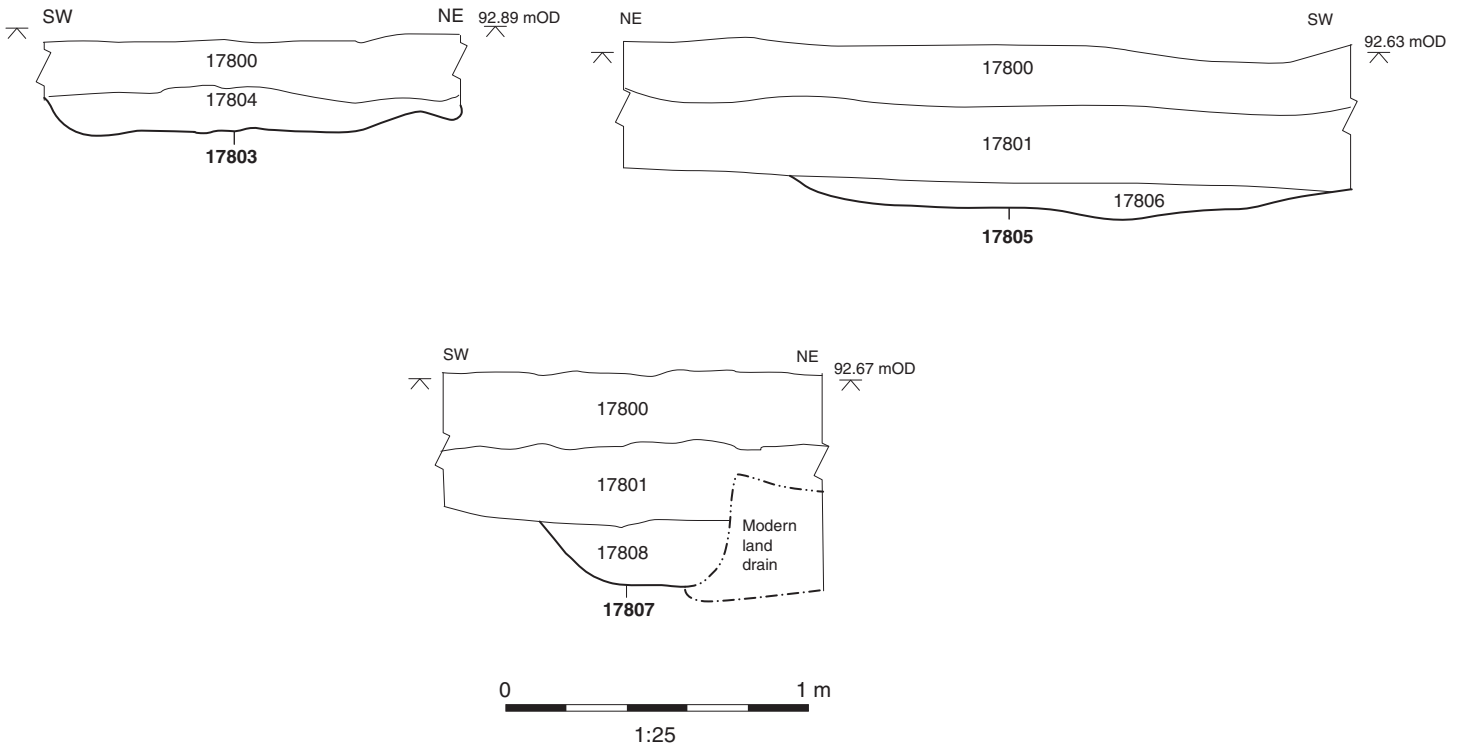


Figure 34: Trenches 176, 177 and 178: sections

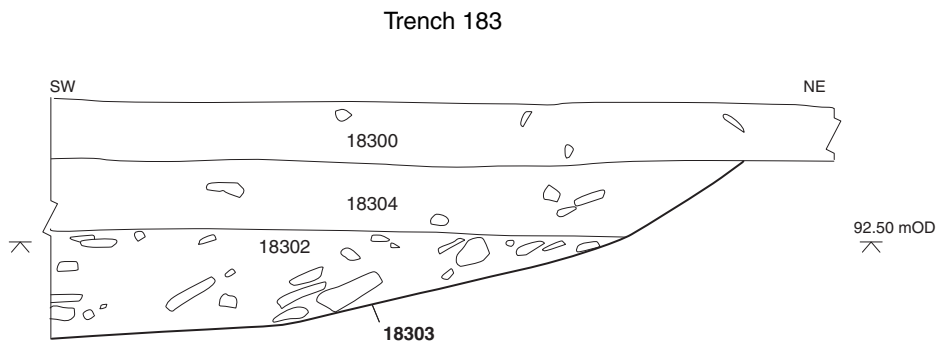
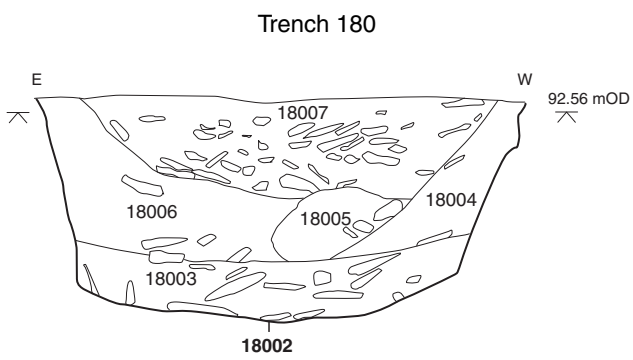
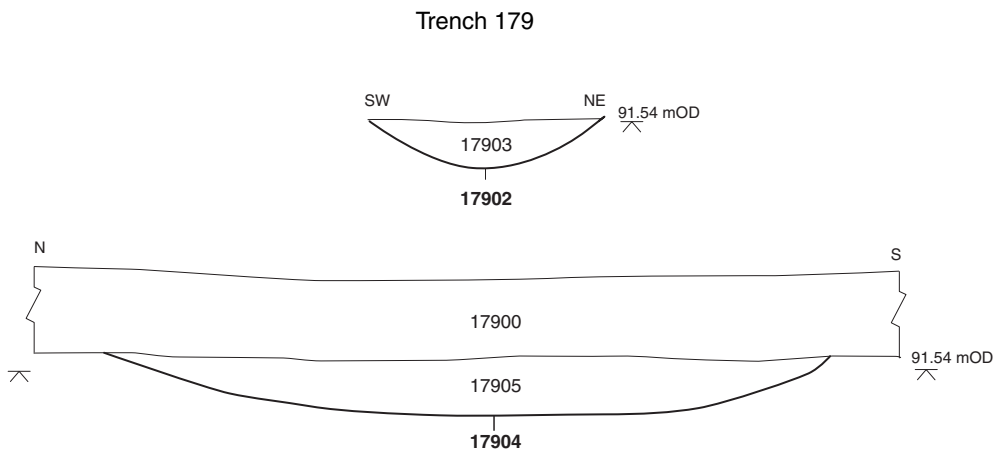


Fig. 35: Trenches 179, 180 and 183: sections

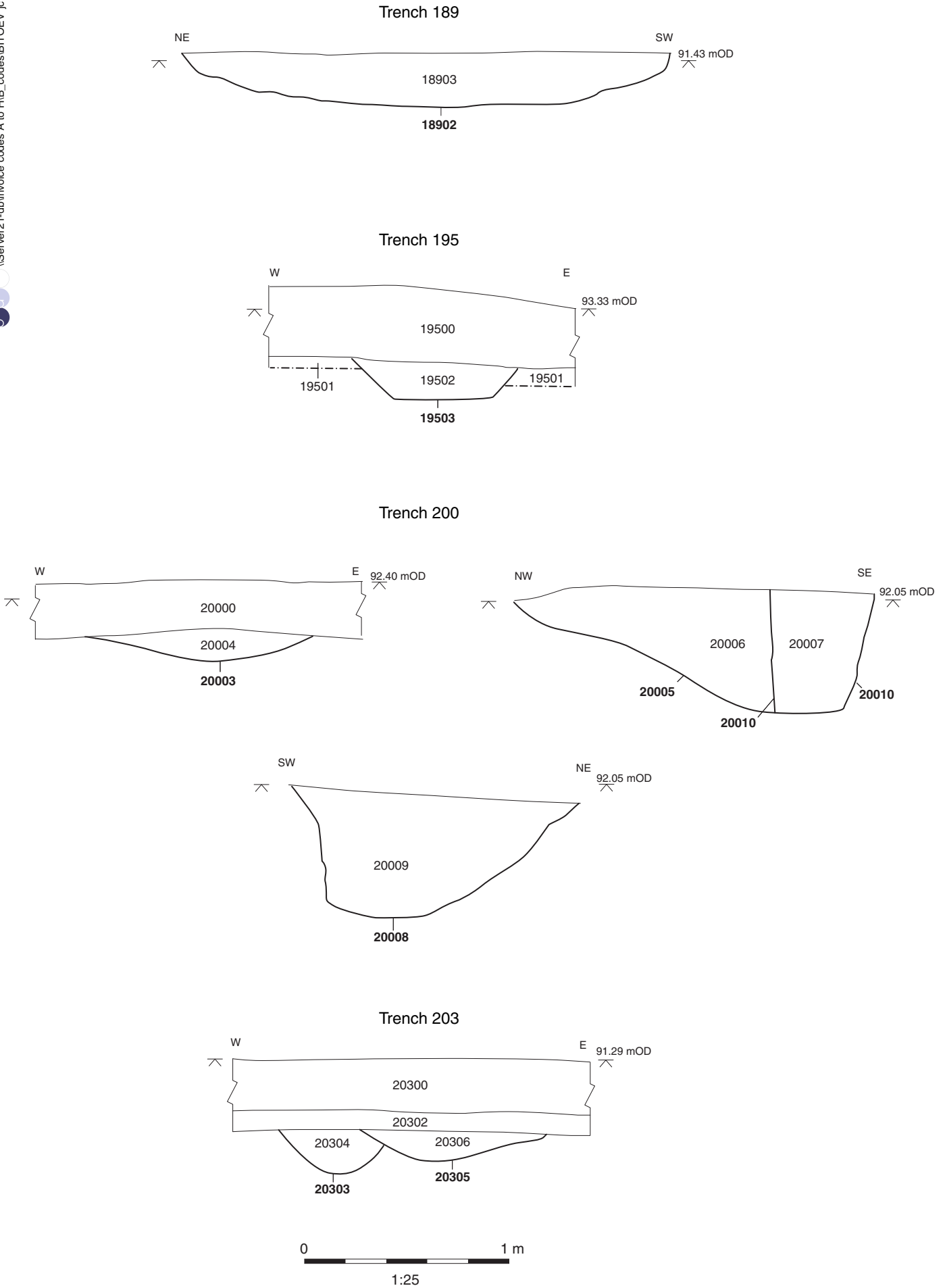
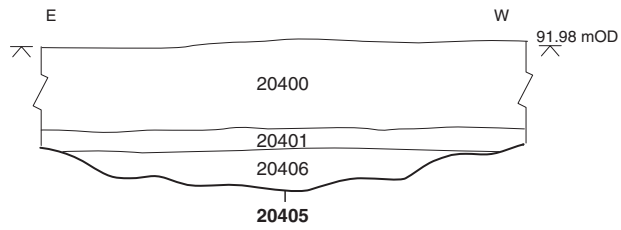
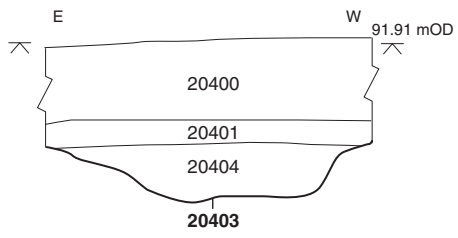
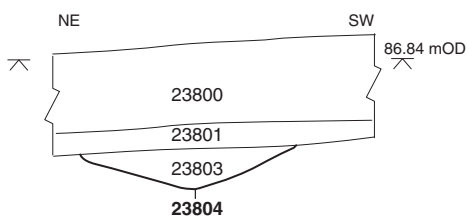


Fig. 36: Trenches 189, 195, 200 and 203: sections

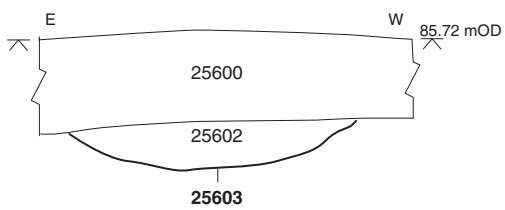
Trench 204



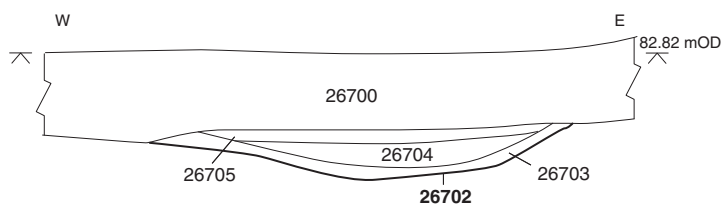
Trench 238



Trench 256



Trench 267



Trench 273

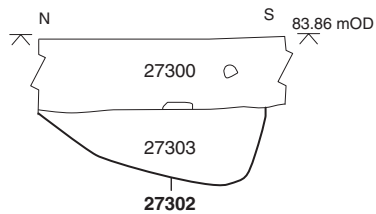


Figure 37: Trenches 204, 238, 256, 267 and 273: sections

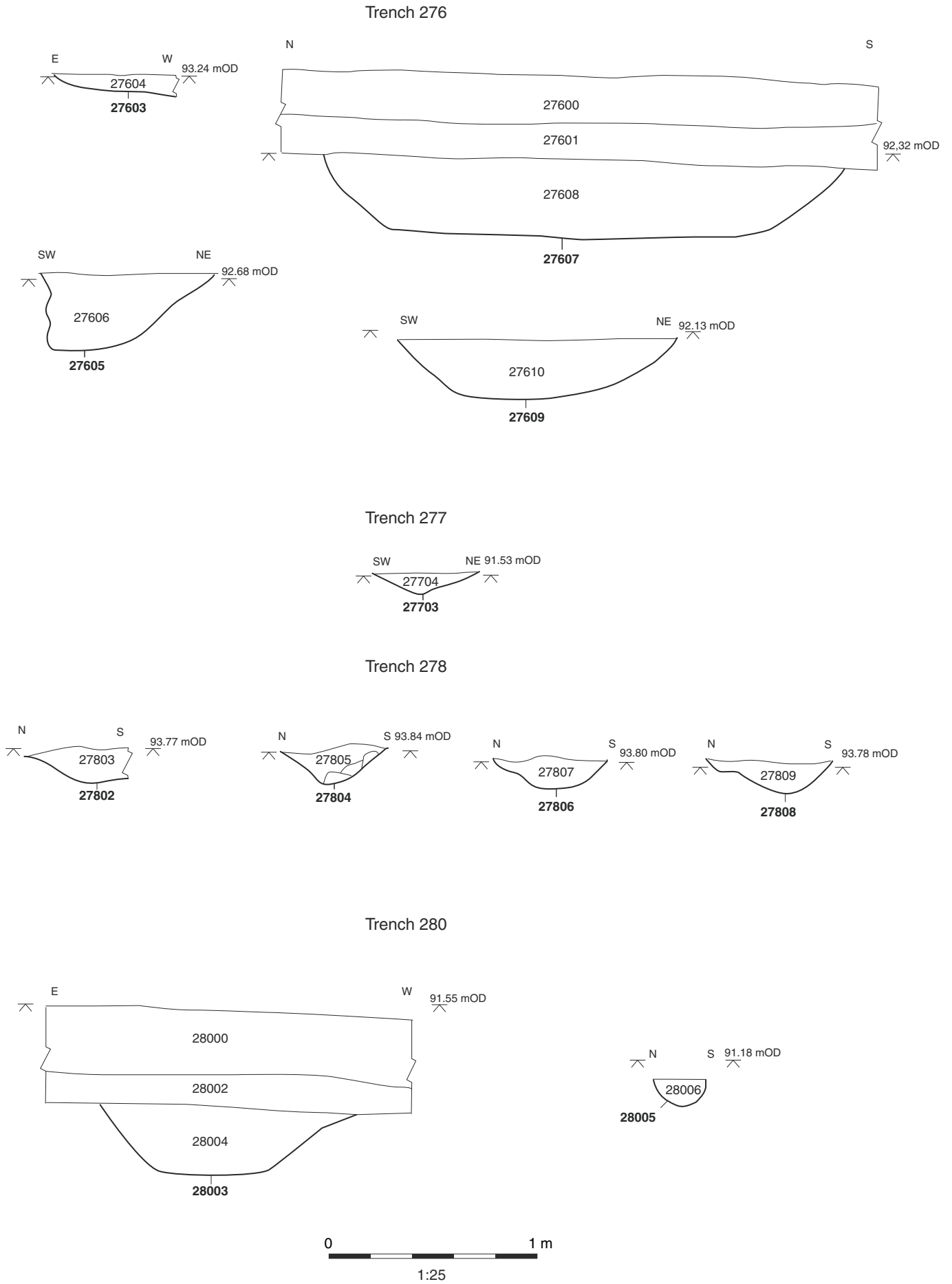


Figure 38: Trenches 276, 277, 278 and 280: sections

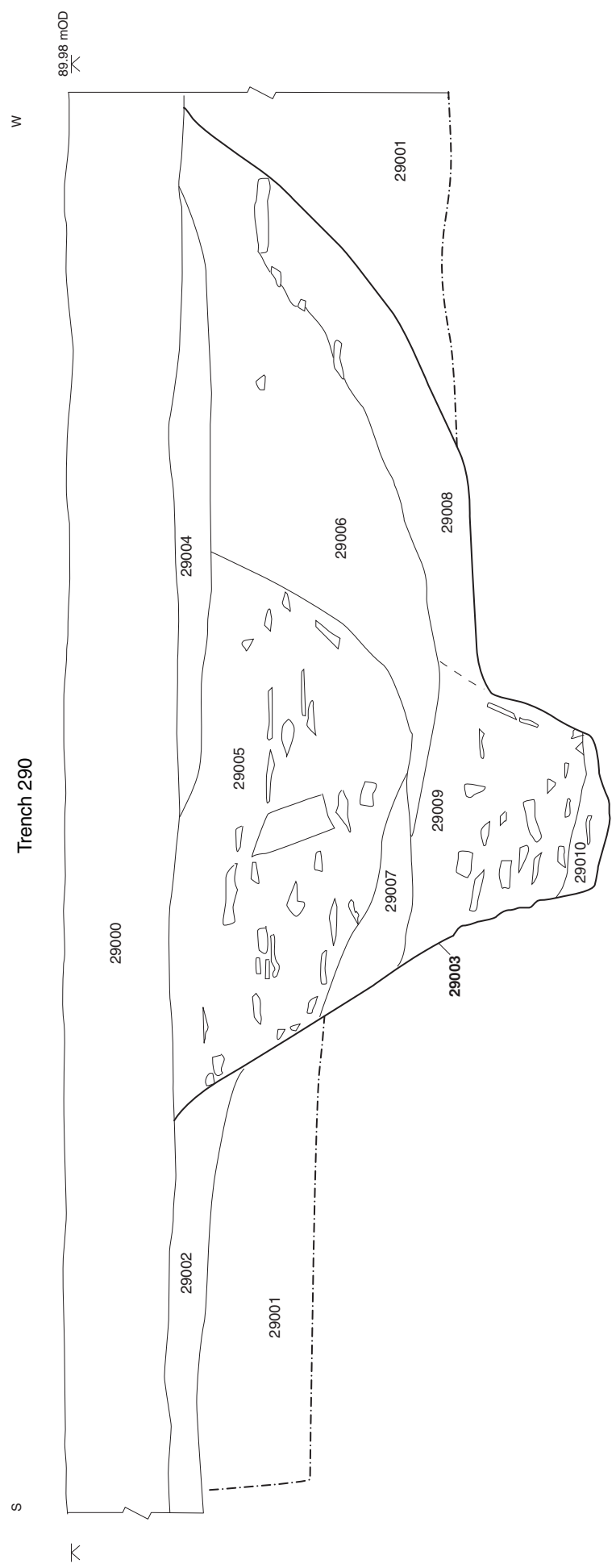
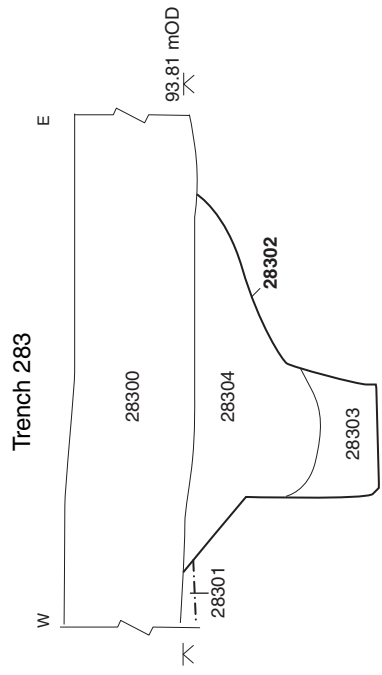


Fig. 39: Trenches 283 and 290: sections

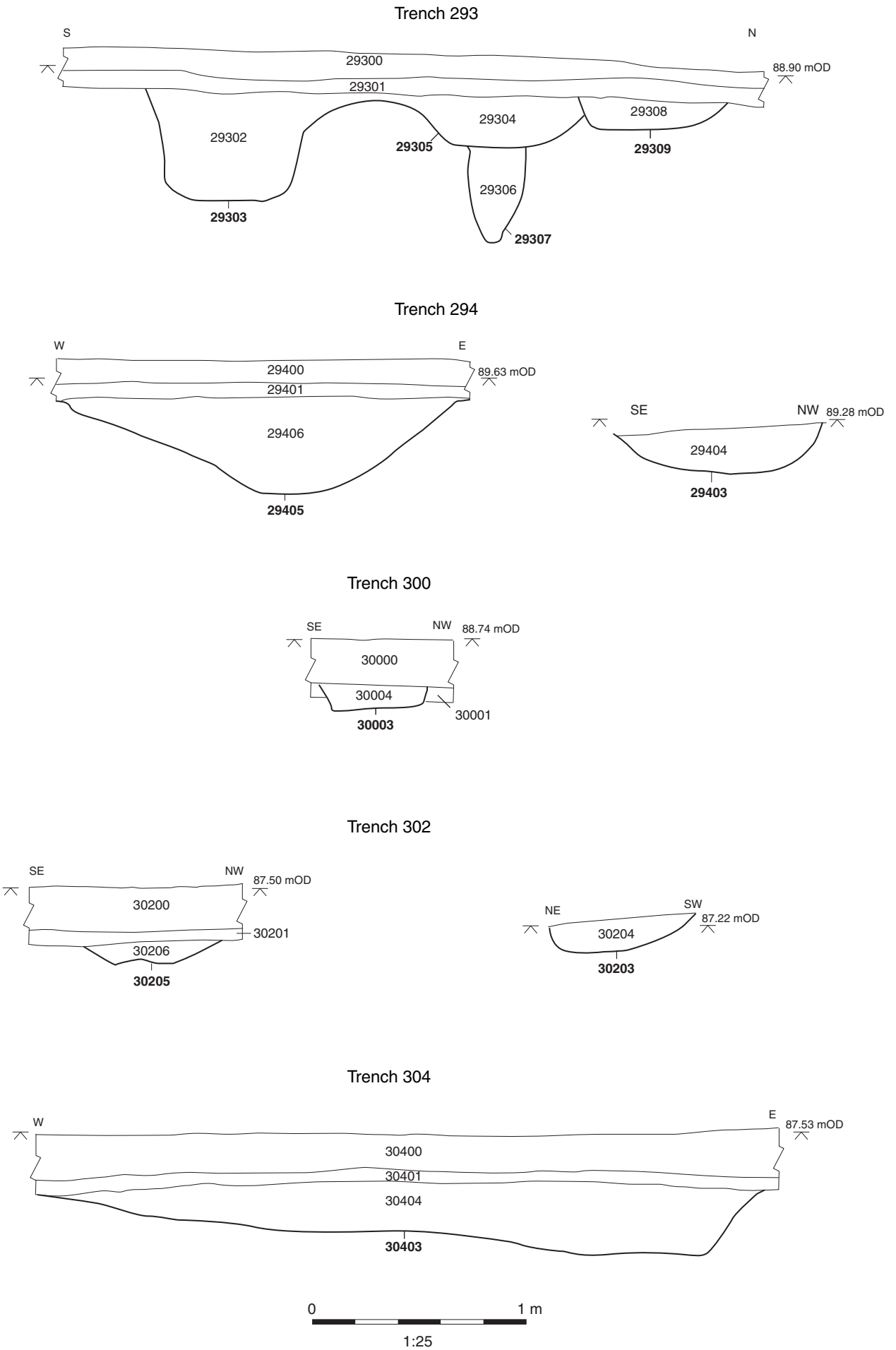
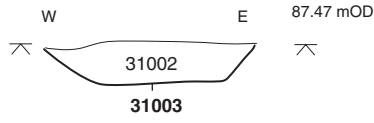
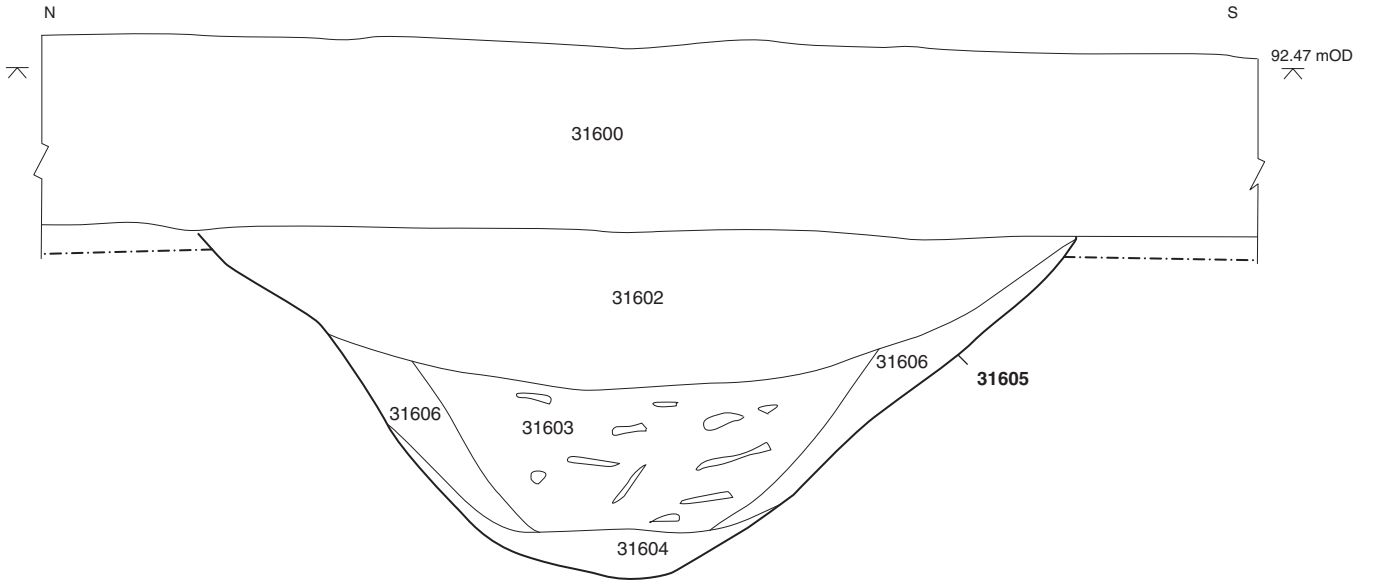


Figure 40: Trenches 293, 294, 300, 302 and 304: sections

Trench 310



Trench 316

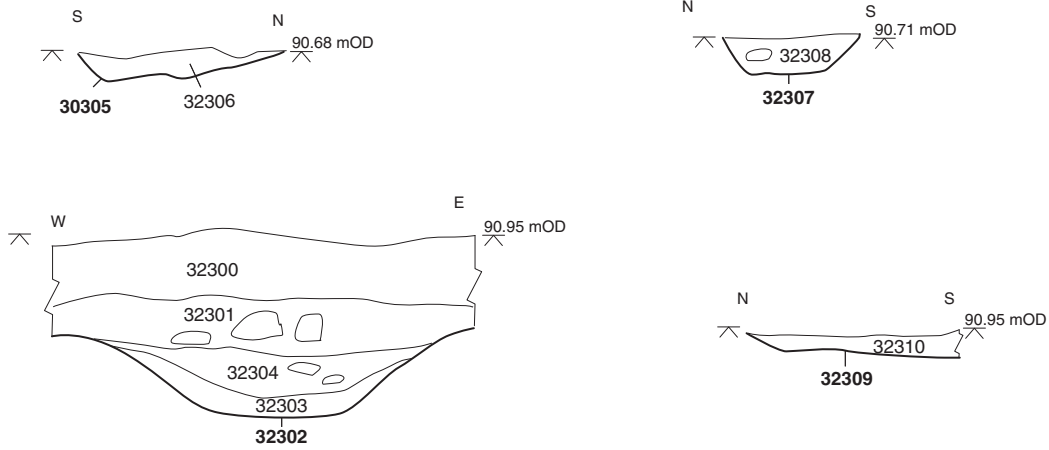


Trench 322



Fig. 41: Trenches 310, 316 and 322: sections

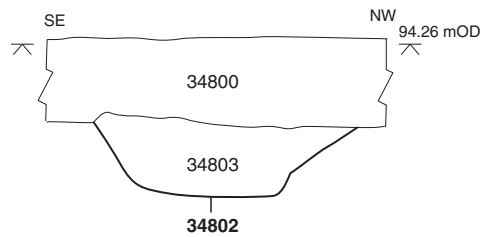
Trench 323



Trench 343



Trench 348



Trench 377

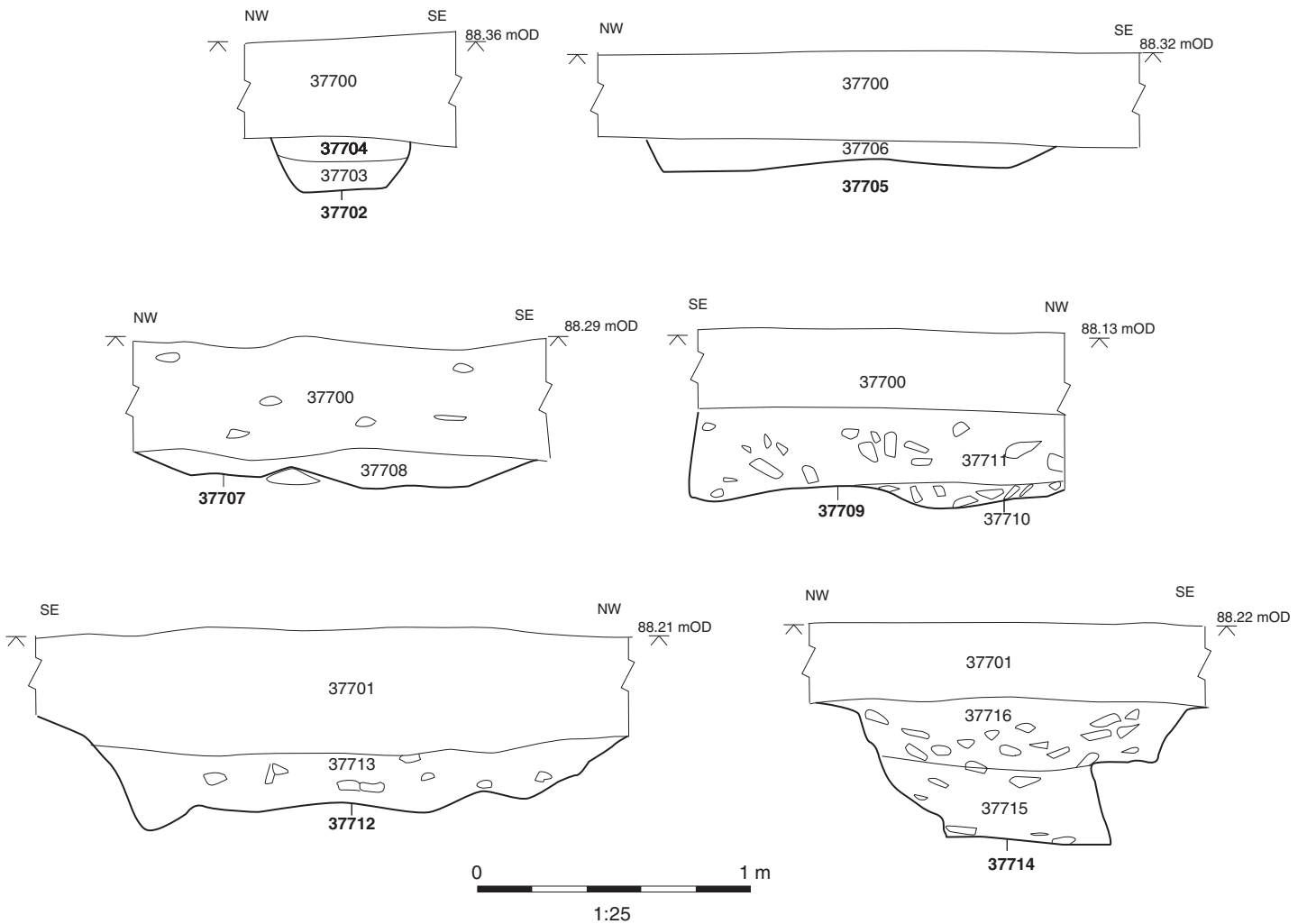


Fig. 42: Trenches 323, 343, 348 and 377: sections

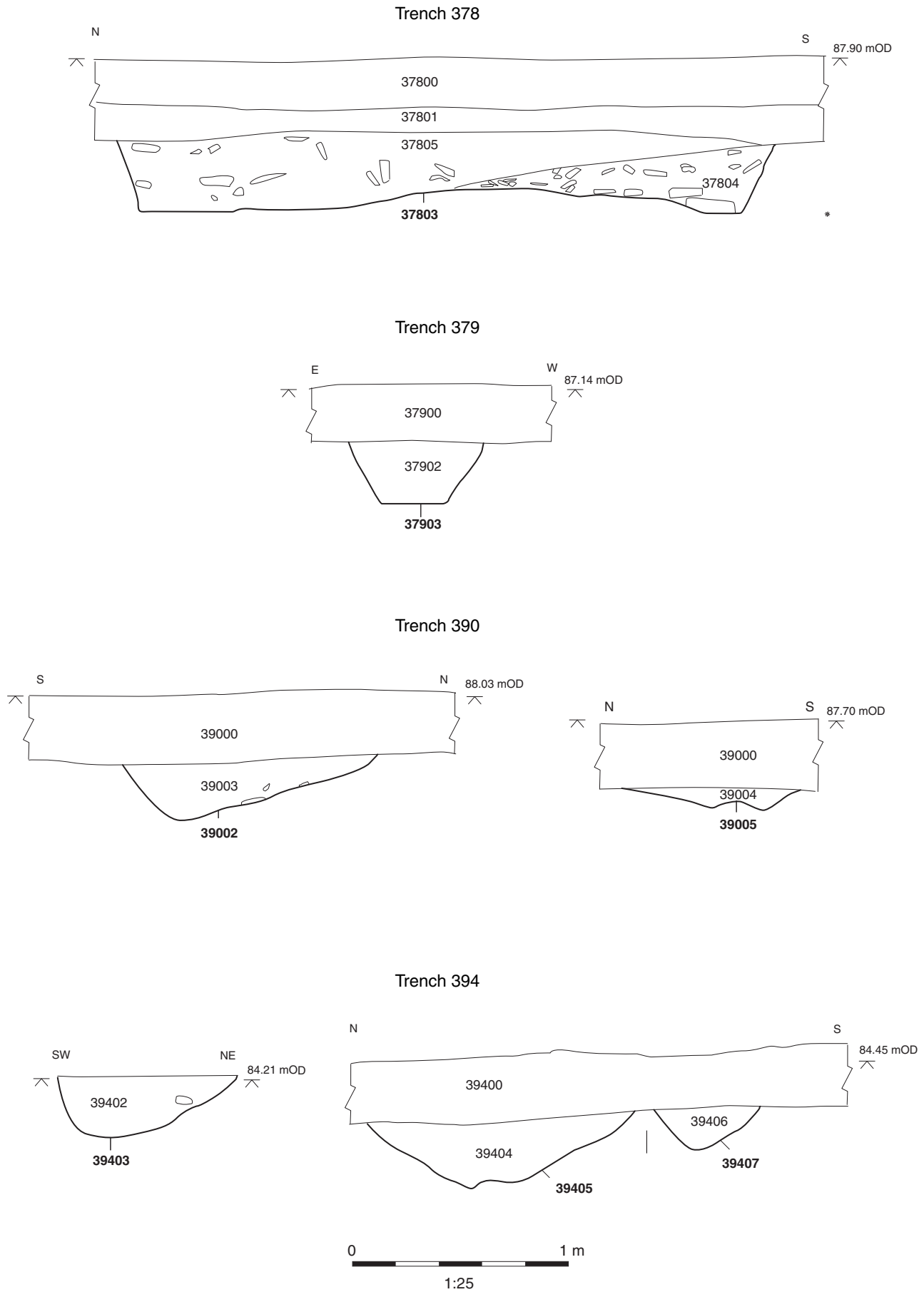


Fig. 43: Trenches 378, 379, 390 and 394: sections

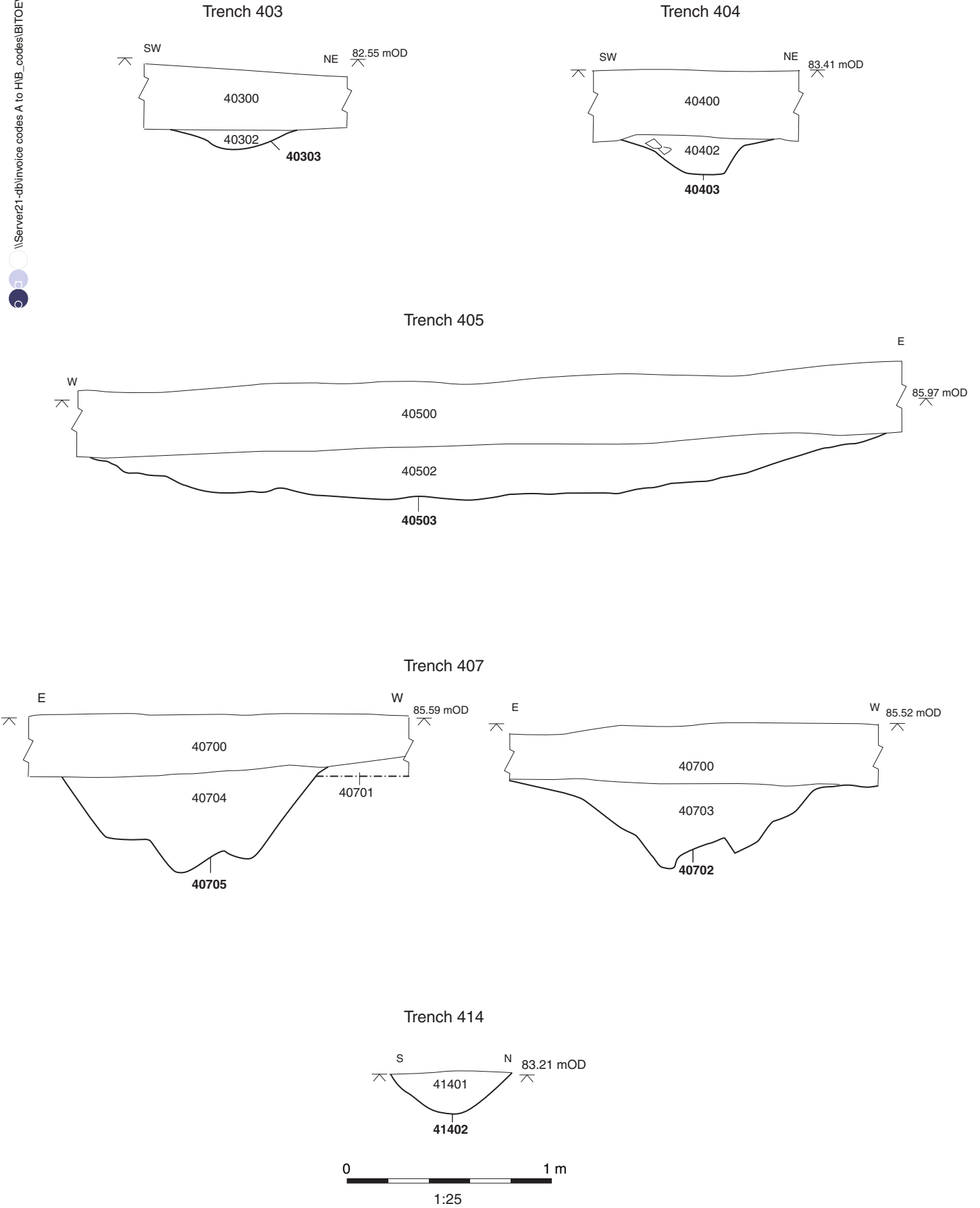


Figure 44: Trenches 403, 404, 405, 407 and 414: sections

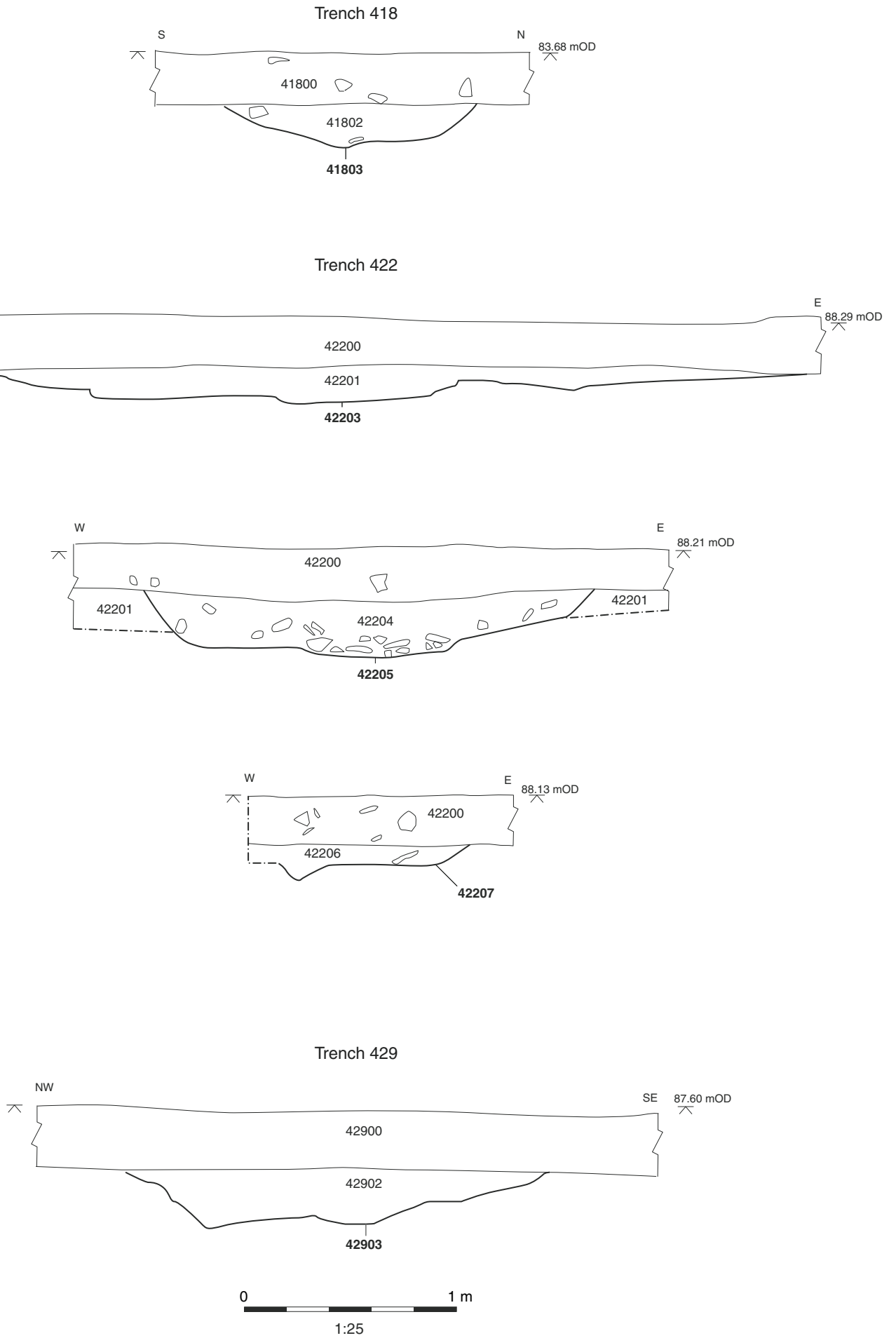


Figure 45: Trenches 418, 422 and 429: sections

Trench 431

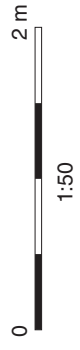
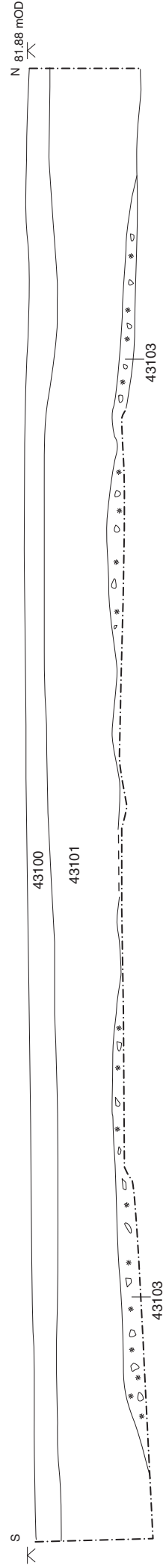
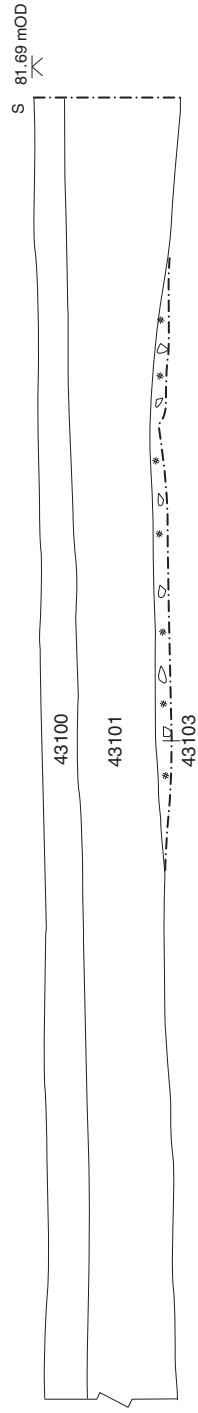
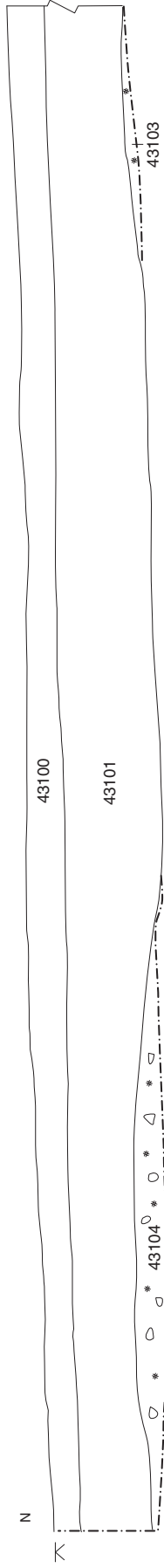
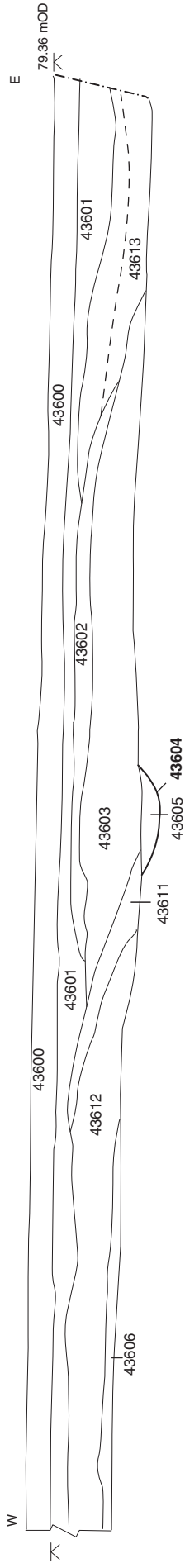


Fig. 46: Trench 431 : sections

Trench 435



Trench 436



Trench 439

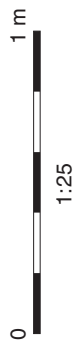
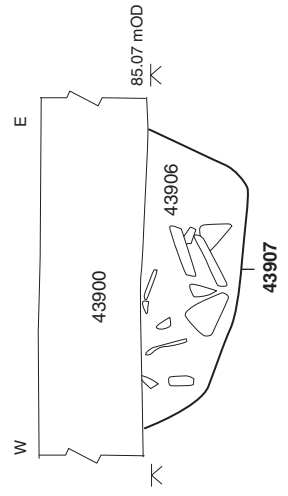
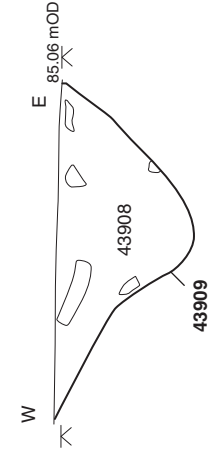
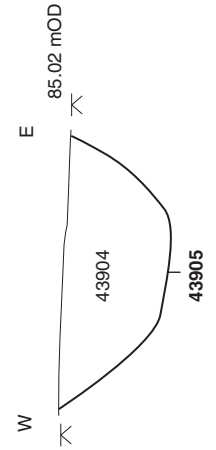
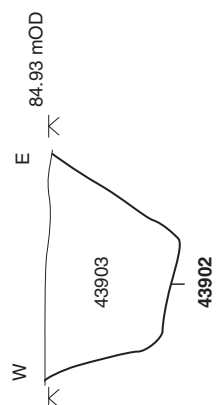
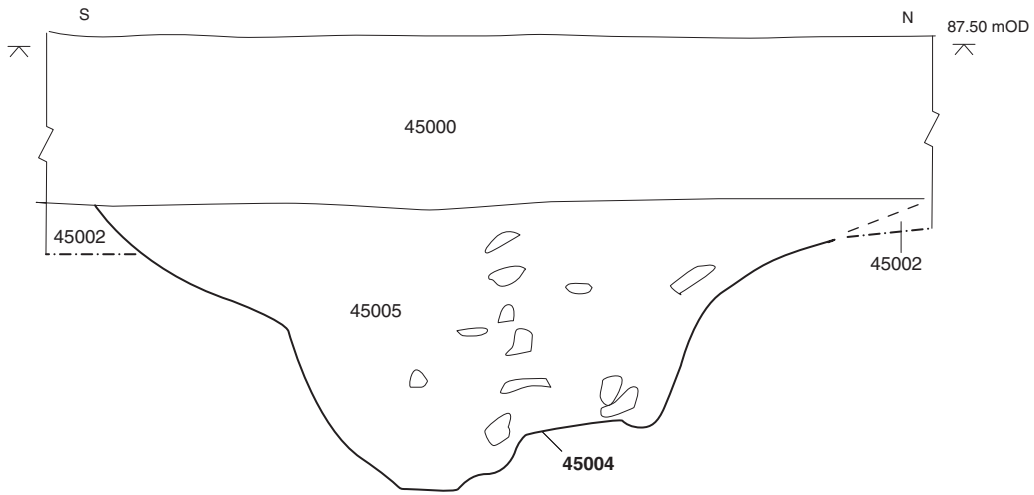
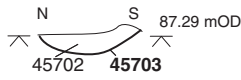


Fig. 47: Trenches 435, 436 and 439: sections

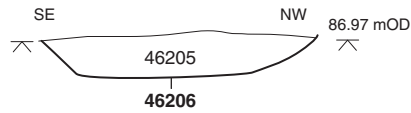
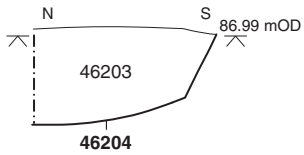
Trench 450



Trench 457



Trench 462



Trench 471

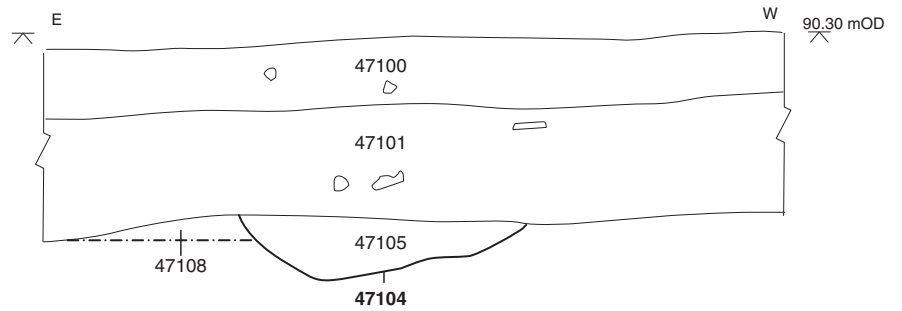
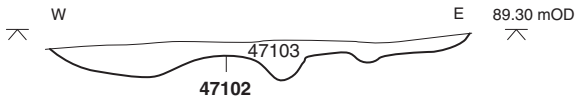
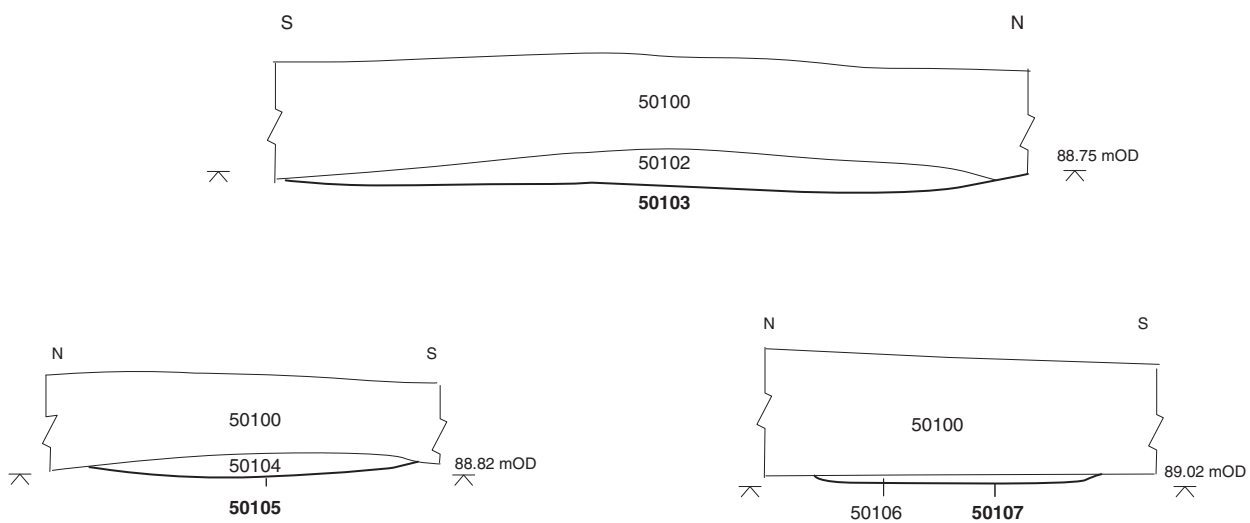


Fig. 48: Trenches 450, 457, 462 and 471: sections

Trench 501



Trench 502

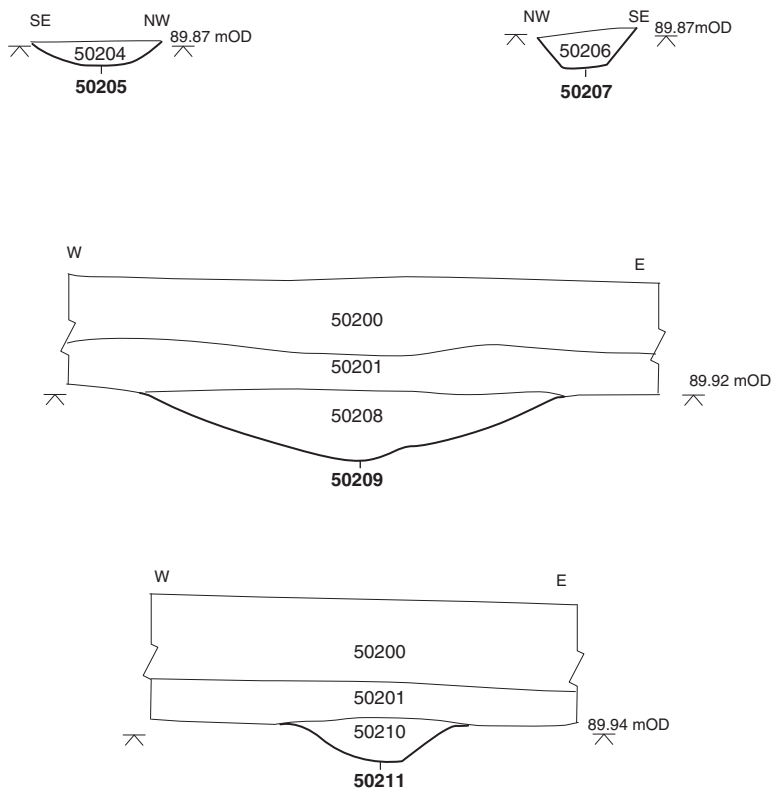


Figure 49: Trenches 501 and 502: sections

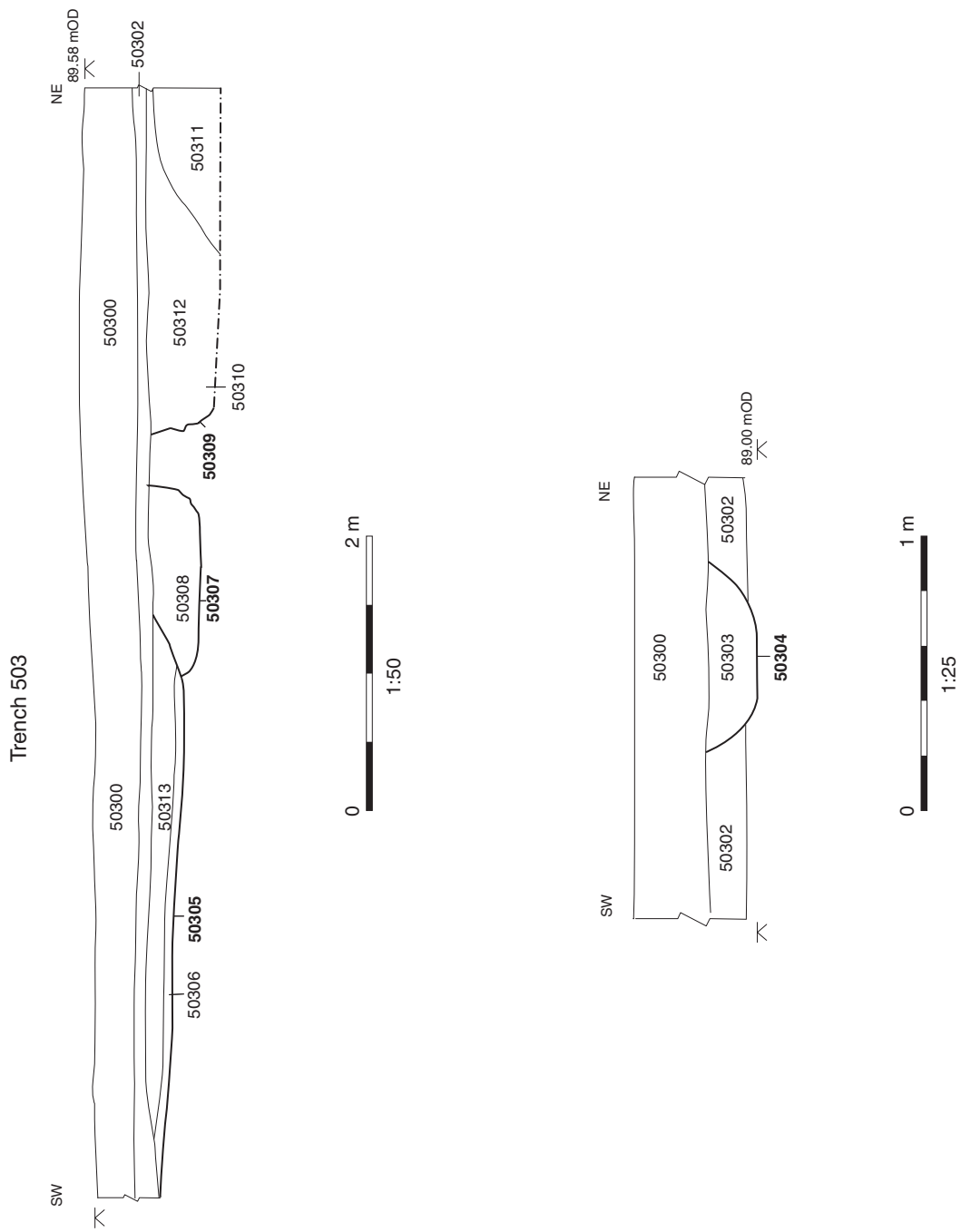


Figure 50: Trench 503: sections

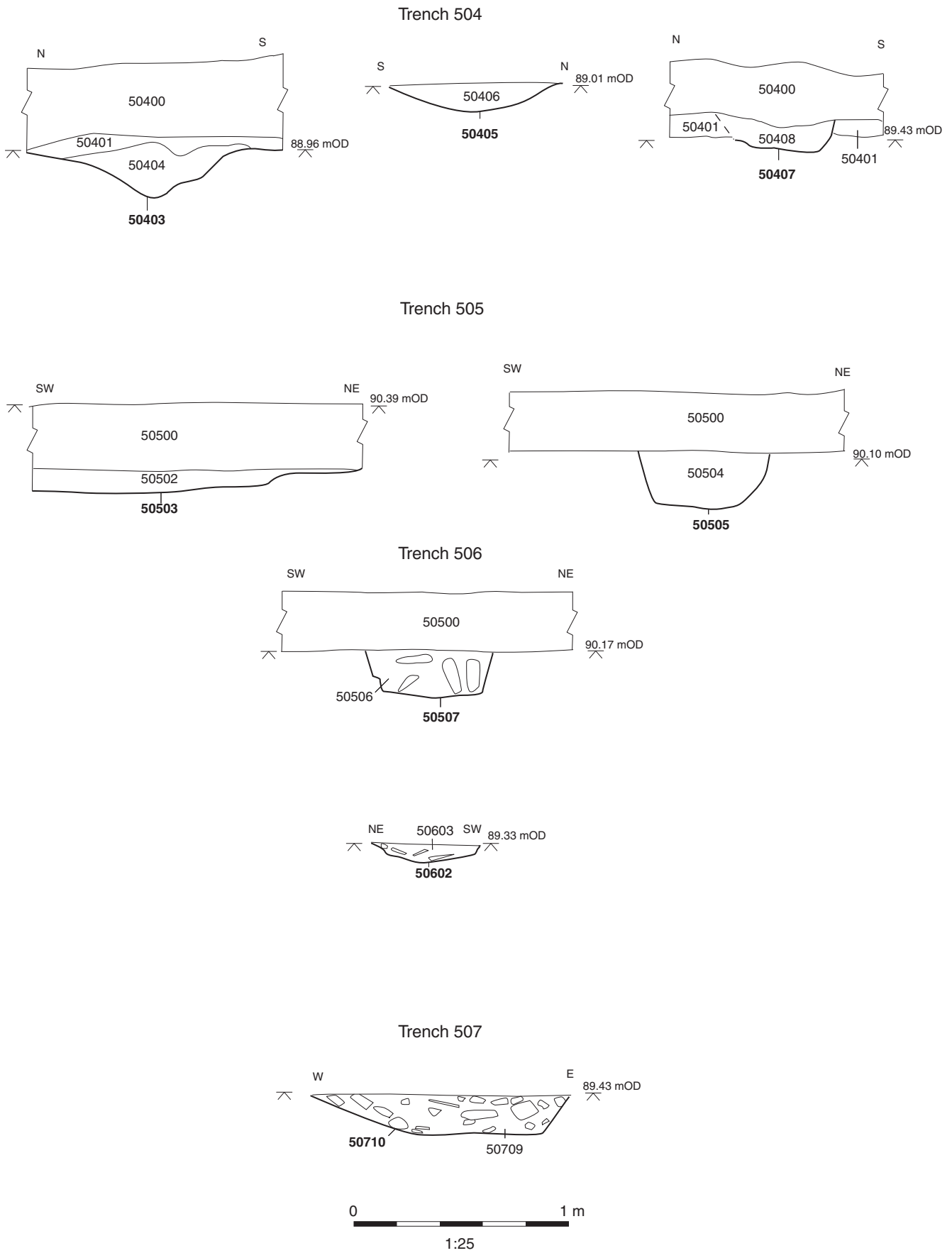


Fig. 51: Trenches 504, 505, 506 and 507: sections

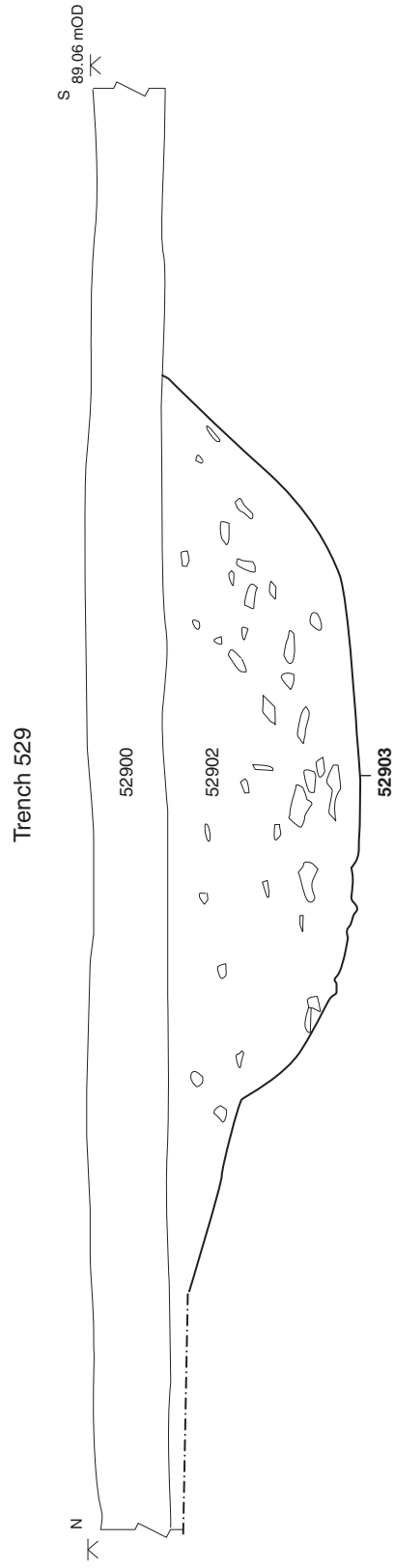
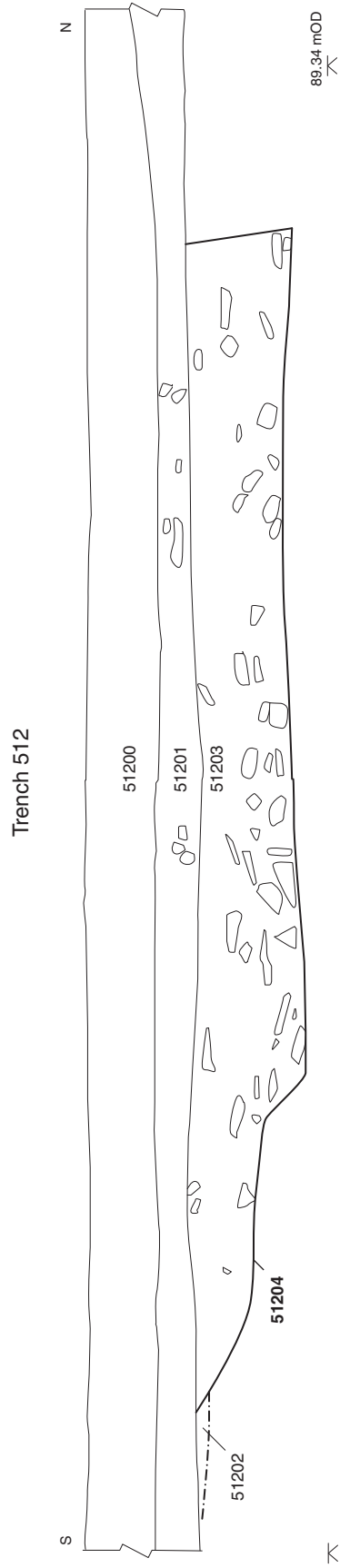


Figure 52: Trenches 512 and 529: sections

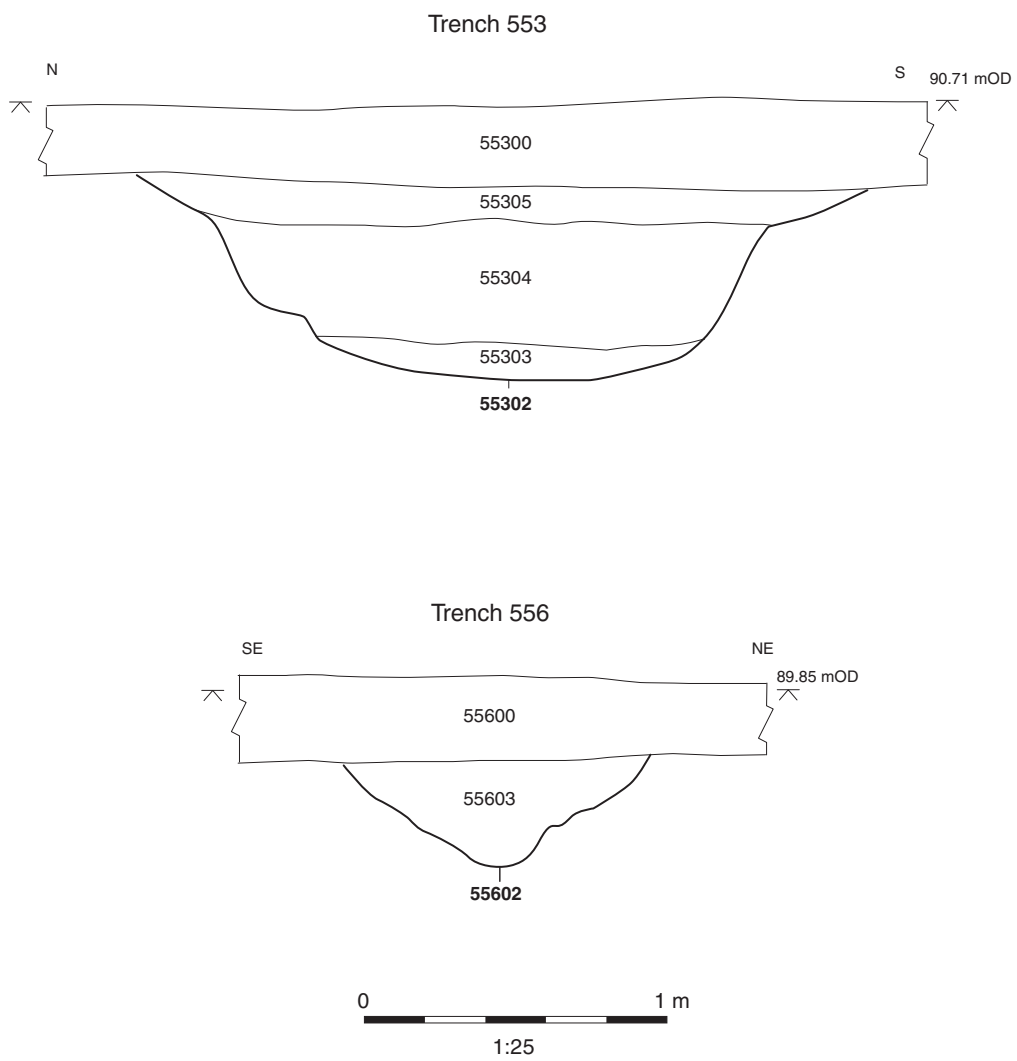


Figure 53: Trenches 553 and 556: sections