

Owmbly Nails Pilot Study: Owmbly, Owmbly-by-Spital, Lincolnshire

Karla Graham & Dylan Cox

Summary

The report focuses on a 10% sample of the iron nails (407 Laboratory numbers) recovered through metal detecting from the Late Iron Age and Roman site of Owmbly, a Scheduled Ancient Monument located in the parish of Owmbly-by-Spital, Lincolnshire. The pilot study for the CfA aimed to deduce the analytical potential of the nail assemblage in terms of Typology and Condition. The report reviews the methodology applied to this type of study.

Keywords

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Author's address

English Heritage Centre for Archaeology, Fort Cumberland, Fort Cumberland Road, Eastney, Portsmouth, PO4 9LD.

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Introduction

Owmbly is a Late Iron Age and Roman settlement, a Scheduled Ancient Monument located in the parish of Owmbly-by-Spital, Lincolnshire (SK 97108648). The site covers 41.3 hectares and is located on arable land. English Heritage (CfA Project Director Fachtna McAvoy) has been measuring and monitoring the effects to the archaeological resource of ongoing agricultural activity (ploughing) and illegal metal detecting on the site (McAvoy 1996). English Heritage is assessing the level of site preservation and the options for long term protection that can be practically instigated at this and similar sites.

This report focuses on a 10% sample of the iron nails (407 Laboratory numbers) recovered from the ploughsoil through controlled metal detecting of transects 301-330 and 491-520 on the site (Appendix 1).

This pilot study aimed to deduce the analytical potential of the nail assemblage in terms of the following factors:

- ▶ Typology (after Manning, 1985)
- ▶ Condition
 - a) completeness
 - b) degree of flaking

Whereas typology is self-explanatory, condition was considered in terms of the effects of the activities (agriculture and metal detecting) upon the archaeological assemblage.

Methodology

The initial stage was to check for existing x-radiographs of the selected nails (circa one third of items had previously been x-radiographed) and to undertake x-radiography of outstanding items. The next stage was to devise a method for recording typology and condition. For this, a table (Table 1) was created which would serve as a guide for incorporating codified data into a spreadsheet.

Typology

The Manning typology for nails (Figure 1: Manning 1985) was selected by Nicola Hembrey (CfA Archaeologist: Project Finds Specialist) and Fachtna McAvoy, since it is considered the most comprehensive nail typology available. Further typological categories were devised by Cox and Graham to describe objects that did not fall within the Manning typologies due to:

- The lack of sufficient features to assign them to a specific Manning typology (termed *Indeterminate*).
- The lack of diagnostic nail features (termed *Not Applicable*).
- The recovery of the material through metal detecting which resulted in modern nails being incorporated into the assemblage (termed *M*).

Condition

The condition of the items was subdivided into Completeness and Degree of Flaking. For items positively identified as nails (comprising Manning categories 1-10, Indeterminate and Modern), two classes were created: Complete (1) and Incomplete (2):

- *Complete* refers to a nail which appears to have sustained no morphological losses.
 - *Incomplete* nails refers to a nail where morphological losses are apparent.
- The completeness was determined by observing the nail in conjunction with the x-radiographs.

Degree of flaking was subdivided into four levels:

- *Level A* referred to an item that had suffered practically no flaking.
- *Level D* was the opposite of *A* in that the item had suffered near complete flaking.
- *Levels B and C* were deemed to have undergone partial flaking, *B* referring to less than 50% of the surface area loss and *C* greater than 50 %.

The number of levels for degree of flaking were kept to a minimum. If levels B and C (partial flaking) were further subdivided, this would potentially increase the margin of error in terms of statistics due to the increased subjectivity.

Table 1 Typology and condition assessment

TYOLOGY	COMPLETENESS	DEGREE OF FLAKING
Manning's 10 types (refer to Figure 1)	1: Complete 2: Incomplete	A- No flaking B- Partial flaking (less than ½ surface area) C- Partial flaking (greater than ½ surface area) D- Complete flaking
Indeterminate (ind.): A nail that cannot be assigned a Manning Category.	For this category, 1 and 2 are applicable because the item has sufficient diagnostic features to confidently identify it as a nail.	A. No flaking B- Partial flaking (less than ½ surface area) C- Partial flaking (greater than ½ surface area) D- Complete flaking
N/A: An item which cannot be confidently identified as a nail or part of a nail (i.e. a rod-like fragment that could be a section of a nail shaft, but equally could be a part of another type of object)	1 and 2 cannot be used here because it is not a nail	A- No flaking B- Partial flaking (less than ½ surface area) C- Partial flaking (greater than ½ surface area) D- Complete flaking
Modern (M): A modern nail.	1: Complete 2: Incomplete	A. No flaking B. Partial flaking (less than ½ surface area) C. Partial flaking (greater than ½ surface area) D. Complete flaking

Results

The data has been collected in an Excel 97 spreadsheet. Table 2 and Chart 1 below summarise the Typology results and Chart 2 summarises the Condition results.

There are a number of points that need to be clarified with regards to the data;

- A proportion of Laboratory numbers represented more than one item (407 laboratory numbers represented 719 entries). Separate entries were made for each item and highlighted in bold in the Excel 97 spreadsheet.
- Where the Laboratory number represents multiple objects, the measurements for separate entries were given.
- The Completeness and Degree of Flaking were amalgamated to record condition, i.e. 2B is a complete item with a B level of flaking.
- Where the items have been classified as *Not Applicable* in terms of typology, the degree of flaking is prefixed by 0.

Table 2

Typology		No. of items
Manning's Typology	1b	57
	2	3
	3	7
	4	5
	8	1
	10	72
Indeterminate		207
N/A		355
Modern		12
TOTAL		719

Chart 1: Typology

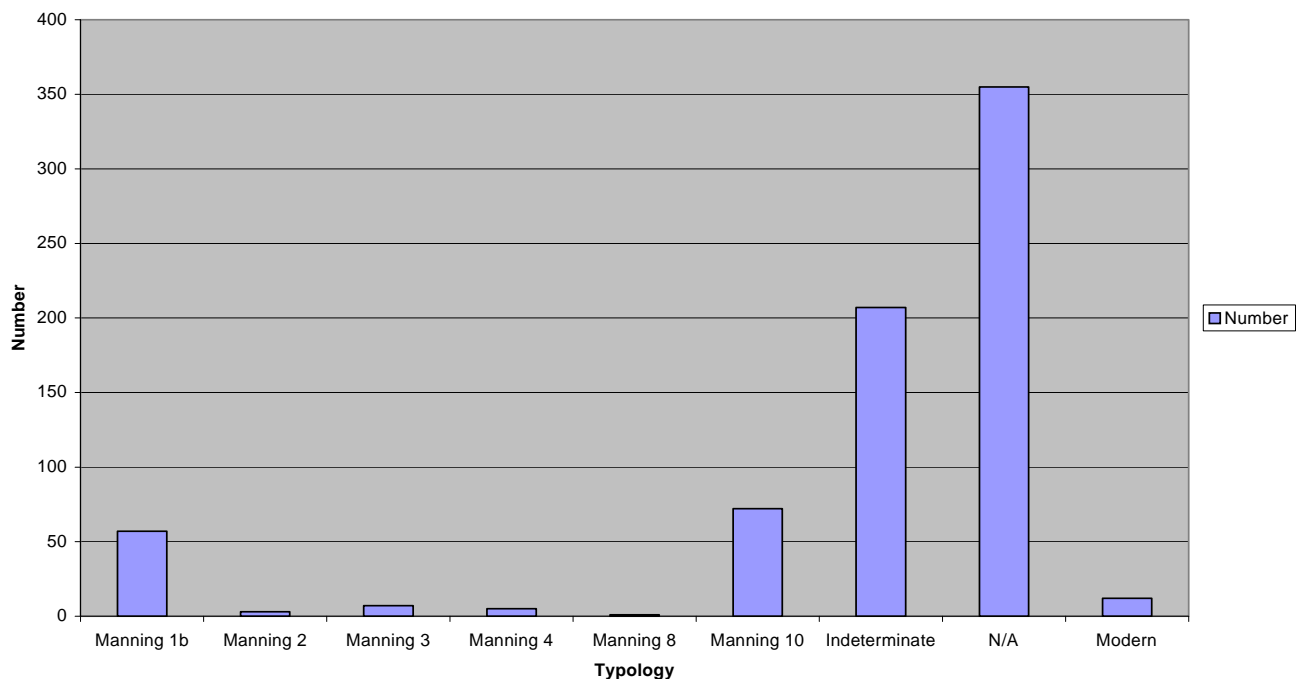
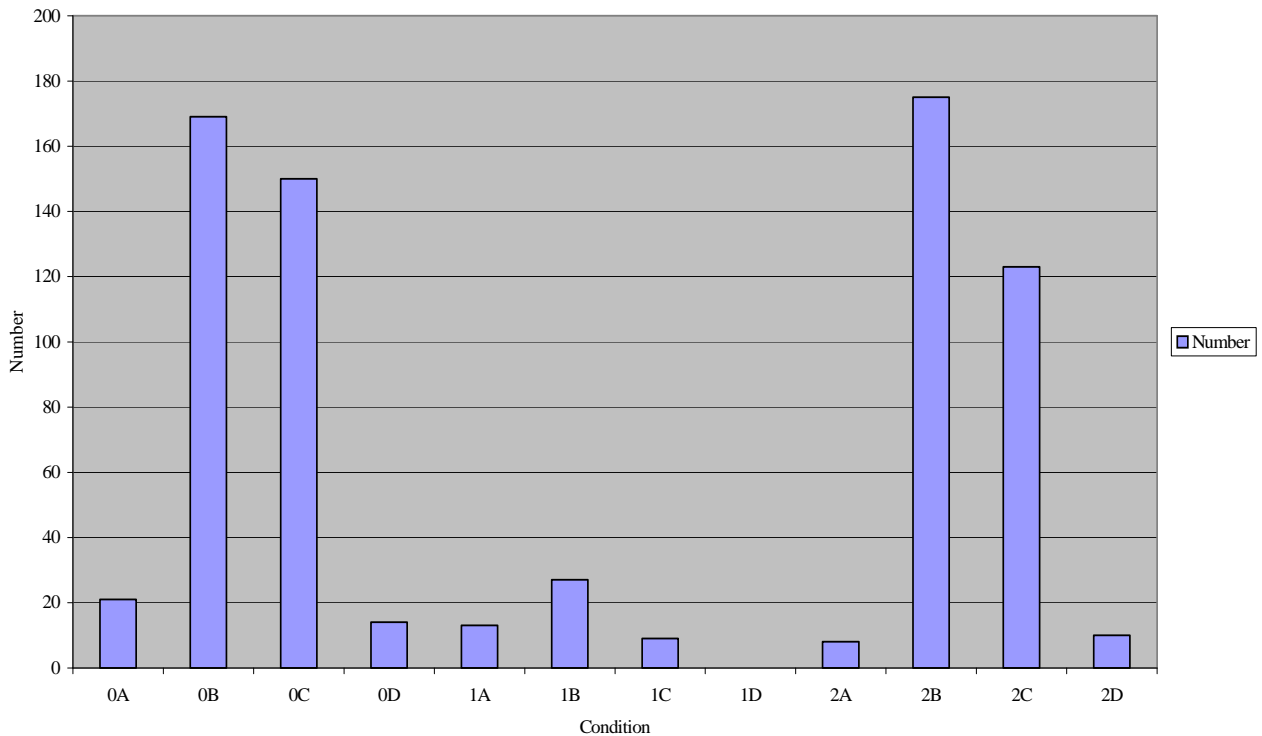


Chart 2: Condition



Other Observations

A number of issues arose through the process of undertaking this pilot study.

- (1) Initially during the assessment process the category defined as Not Applicable had not been created. However, the occurrence of items which did not display sufficient diagnostic features to confidently classify them as nails meant that a further category was required for these items (N/A). For example, numerous rod-like fragments had been classified as nails. However, visual examination combined with reference to the x-radiograph did not provide sufficient evidence for this classification. Other examples include an instance where a rod-like fragment classified as a nail was evidently a section of barbed wire (confirmed by x-radiography).
- (2) During the assessment it was noted that there was a pattern of damage displayed by a number of nails comprising the loss of two opposing faces on the shaft resulting in a thin, sheet-like shaft. This could be a possible physical indication of plough damage (this has been noted in the Comments field of Appendix 1 as PD?), although further investigation would be required to confirm this observation.
- (3) With respect to this particular pilot study and the methodology used, visual examination of items was able to confirm the typology in the majority of cases. Whilst x-radiographs were essential for the identification of a certain number of items, it did not provide further information (other than condition, which is clearly very important in other types of assemblages) in cases where typology had already been identified visually. In many cases the x-radiograph did not show the most informative plane.

These observations have led us to propose for future reference a slightly different approach to similar types of large assemblage assessments. This is particularly relevant to cases such as Owmbly where:

- Collection by metal detecting has resulted in modern items being included in the assemblage.
- Low levels of obscuring corrosion products allowed for typology to be ascertained visually.

This proposed methodology would not involve drastic changes to accepted practices in large scale assessments. As opposed to x-radiographing all the items, a more realistic approach would be to implement a selective strategy that still achieved the same result in a more time and cost efficient framework.

Some of the options proposed for development are:

- Selected items are scanned with Real Time x-radiography to establish most informative planes. Items are then x-radiographed on film (conventional method).
- Selected items are examined with Real Time x-radiography. Images are saved digitally.

References

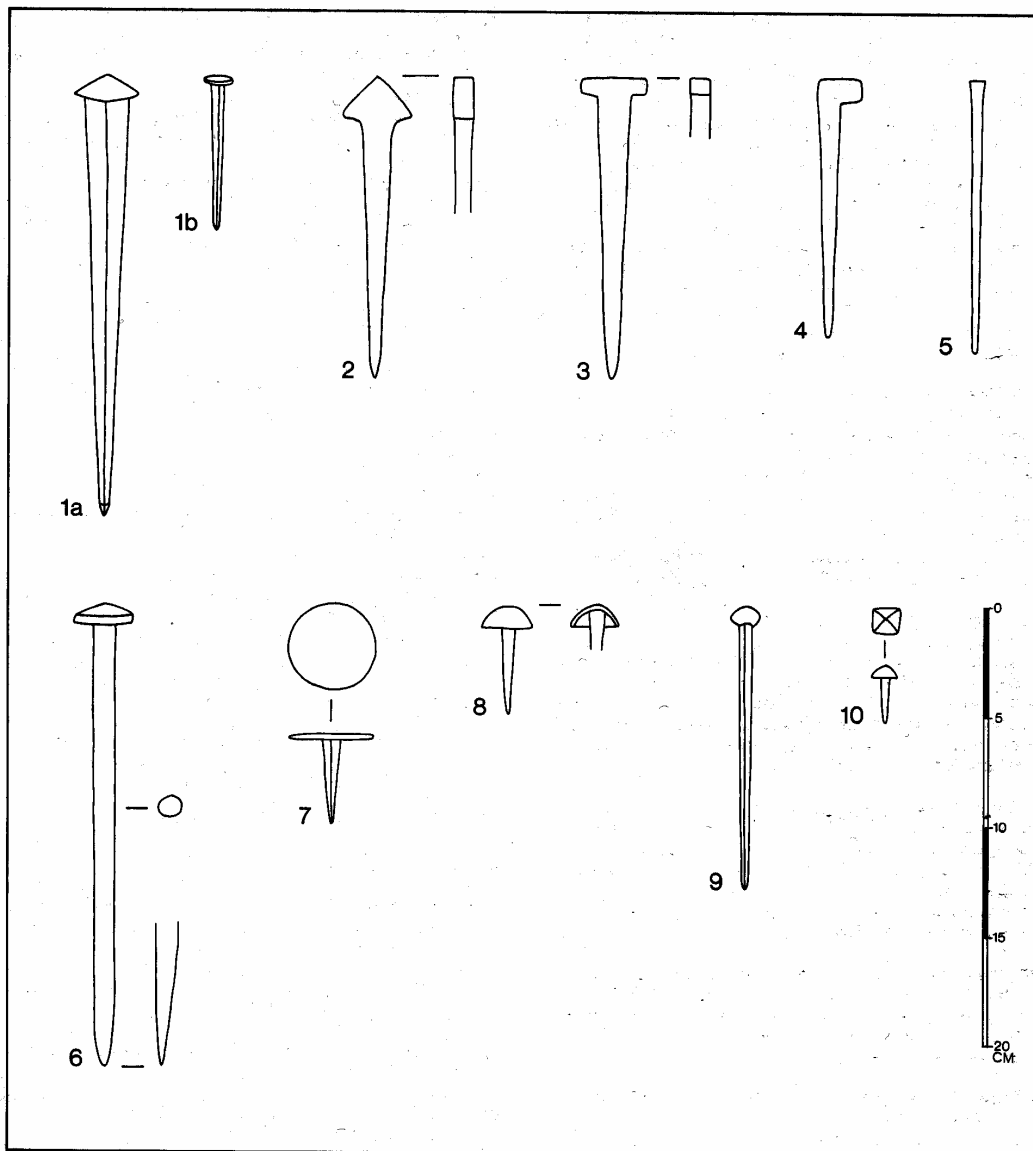
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Figure 1: Manning Nail Typology (from Manning, 1985 pp133)



Appendix 1

Lab No.	Transect	Lab No.	Transect	Lab No.	Transect
9520325	301/15	9521005	503/25	9521854	321/30
9520326	301/25	9521006	503/30	9521855	321/40
9520327	301/25	9521007	503/35	9521857	322/15
9520329	301/50	9521008	503/40	9521858	322/20
9520388	307/20	9521096	501/35	9521859	322/30
9520391	307/45	9521097	501/35	9521861	322/50
9520393	306/40	9521115	507/5	9521862	325/15
9520394	306/50	9521179	497/10	9521863	325/30
9520395	304/25	9521195	308/45	9521864	325/35
9520397	304/45	9521196	308/50	9521865	325/40
9520398	305/10	9521197	326/10	9521866	325/45
9520399	305/20	9521198	308/40	9521867	323/5
9520502	329/5	9521199	308/35	9521869	323/20
9520504	329/10	9521200	308/30	9521870	323/35
9520517	501/10	9521201	308/20	9521873	323/35
9520518	501/15	9521202	308/10	9521875	323/50
9520519	501/40	9521203	327/45	9521905	507/10
9520520	503/25	9521204	327/40	9521906	507/15
9520562	502/30	9521205	327/35	9521907	507/20
9520572	308/15	9521206	327/30	9521908	507/25
9520600	307/20	9521207	327/25	9521909	507/45
9520690	301/5	9521208	327/20	9521910	507/50
9520692	301/15	9521209	327/15	9521911	508/5
9520693	301/25	9521210	327/5	9521912	508/10
9520694	301/40	9521218	326/15	9521913	508/15
9520695	301/50	9521219	326/25	9521914	508/25
9520744	324/20	9521220	326/30	9521915	508/30
9520757	321/25	9521221	326/35	9521918	508/35
9520758	321/45	9521222	326/40	9521919	508/40
9520759	325/5	9521223	326/45	9521920	508/45
9520760	325/10	9521225	326/50	9521921	508/50
9520761	325/25	9521281	506/15	9521972	518/5
9520765	507/35	9521282	506/30	9521973	518/10
9520910	309/10	9521283	506/40	9521974	518/15
9520911	309/15	9521284	506/10	9521975	518/20
9520931	307/10	9521285	506/20	9521976	518/25
9520932	307/15	9521286	506/45	9521977	518/30
9520933	307/15	9521287	506/25	9521978	518/35
9520934	307/20	9521288	506/50	9521979	518/40
9520935	307/25	9521289	506/35	9521980	518/45
9520937	307/40	9521290	504/10	9521981	518/50
9520938	307/45	9521291	504/20	9521982	519/5
9520940	307/35	9521292	504/5	9521983	519/10
9520941	306/5	9521293	504/50	9521984	519/15
9520942	306/25	9521294	504/40	9521985	519/20
9520943	306/30	9521295	504/45	9521987	519/25
9520945	306/40	9521296	504/35	9521988	499/5
9520946	306/45	9521297	505/45	9521989	499/10
9520949	304/15	9521298	505/40	9521990	499/15
9520950	304/15	9521299	505/30	9521991	499/20
9520952	304/35	9521300	505/35	9522005	516/5
9520953	304/40	9521372	328/5	9522006	516/10
9520954	304/45	9521373	328/10	9522007	516/15
9520955	304/50	9521374	328/15	9522008	516/25
9520956	303/5	9521375	328/20	9522009	516/30
9520958	303/40	9521377	328/30	9522010	516/35
9520959	303/45	9521379	328/40	9522011	516/40
9520960	303/50	9521382	328/50	9522012	516/45
9520961	305/5	9521383	502/25	9522013	516/50
9520962	305/5	9521385	502/45	9522032	311/5
9520963	305/10	9521386	502/50	9522038	518/15
9520964	305/15	9521387	502/50	9522040	311/25
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9520966	305/20	9521776	324/15	9522089	311/10
9520967	305/30	9521777	324/20	9522090	518/20
9520968	305/30	9521778	324/25	9522099	516/20
9520970	305/35	9521779	324/30	9522112	311/15
9520971	305/40	9521780	324/35	9522143	311/40
9520972	305/40	9521781	324/40	9522227	313/50
9520973	305/50	9521782	324/45	9522229	313/35
9520978	329/5	9521825	509/5	9522235	314/25
9520979	329/10	9521827	509/10	9522236	314/15
9520980	329/15	9521828	509/10	9522237	314/10
9520981	329/15	9521829	509/15	9522394	496/10
9520998	501/15	9521830	509/20	9522453	312/5
9520999	501/20	9521850	321/5	9522454	312/10
9521000	501/25	9521852	321/15	9522455	312/25

Lab No.	Transect	Lab No.	Transect	Lab No.	Transect
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9522458	312/45	9524515	305S/20	9525212	514/35
9522465	317/5	9524516	305S/10	9525213	514/40
9522466	317/10	9524561	506S/5	9525262	514/15
9522467	317/15	9524562	506S/15	9525263	514/25
9522468	317/20	9524563	506S/10	9525298	517/5
9522469	317/30	9524564	506S/20	9525299	517/10
9522470	317/35	9524634	304S/20	9525300	517/15
9522517	319/5	9524647	324S/5	9525301	517/20
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9522558	318/5	9524665	325S/20	9525303	517/30
9522559	318/10	9524710	505S/5	9525304	517/35
9522560	318/15	9524711	505S/10	9525305	517/40
9522561	318/20	9524712	505S/20	9525306	517/45
9522562	318/25	9524713	505S/15	9525307	517/50
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9523093	496/5	9524843	497/50		
9523095	496/15	9524854	515/25		
9523096	496/20	9524855	515/30		
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9523099	496/45	9524904	515/5		
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9523130	498/50	9524907	515/15		
9523131	498/40	9524909	515/35		
9523132	498/20	9524910	515/40		
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