

# Streethay, Lichfield

## Assessment of Carbonised Plant Remains

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### 1. METHODOLOGY

Forty bulk soil samples, ranging from 1 to 20 litres in volume, were retained during archaeological investigations at Streethay, Lichfield (see Table 1). A list of the samples is provided in Table 1.

Site location	Sample number	Context number	Fill of	Feature type	Approx. sample vol (litres)
RH1	14	5038	5039	Pit (RH1)	20
	15	5027	5028	Gully (RH1)	20
	16	5071	5073	Pit (nr RH1)	20
RH2	2 (Eval)	2910	2911	Posthole (RH2)	10
	2	5156	5157	Posthole (RH2)	15
	5	5186	5187	Pit (close to RH2)	20
	6	5213	5214	Pit (RH2, entrance)	15
	7	5215	5216	Pit (RH2, entrance)	15
	8	5217	5218	Pit (RH2, entrance)	15
RH3	28	5393	5392	Gully	15
	30	5428	5429	Oven / Kiln	10
	25	5344	5345	Ditch	20
RH4	29	5398	5400	Pit	15
	31	5513	5515	Pit	15
RH5	9	5241	5242	Pit / Posthole (RH5)	15
	10	5243	5244	Gully (RH5)	10
	11	5239	5237	Oven / Kiln Flue (nr RH5)	20
	12	5238	5237	Upper fill of Oven / Kiln (nr RH5)	15
	20	5260	5261	Gully (RH5)	10
	22	5264	5265	Gully	10
RH6	21	5247	5248	Pit	20
	23	5262	5263	Pit	5
	24	5327	5320	Pit	20
Other features	1	5167	5168	Pit (lower fill)	15
	3	5170	5171	Pit (lower fill)	5
	26	5286	5288	Pit	20
	27	5287	5288	Pit	20
	18	5220	5188	Pit	20
	4	5174	5175	Agricultural ditch	20
	17	5186	5250	Agricultural ditch	20
	32	5350	5519	Oven / Kiln	20
	1 (Eval)	2912	2913	Eastern ditch (Southern half)	20
	5 (Eval)	3308	3309	Ditch	20
	6 (Eval)	2304	2305	Ditch	20
	13	5081	5084	Eastern ditch (Northern Side)	40
	19	5227	5229	Eastern ditch	20

	55	5380	5382	Northern ditch	25
	56	5388	5386	Western Ditch	20
	3 (Eval)	2808	2809	Gully	20
	4 (Eval)	3304	3305	Gully	20

**Table 1. Samples Retained for Palaeoenvironmental Analysis**

Each sample was processed through a system of flotation. The floating debris (flot) was collected in a 250 $\mu$ m sieve and the remaining material (retent) in the tank was washed through a 1mm mesh. Both the flot and retent fractions were then air-dried under controlled conditions.

The retents were sorted by eye for small finds (artefacts) and non-buoyant archaeobotanical remains, and scanned with a magnet to pick up ferrous debris. Any archaeological significant material was removed and bagged.

The flots were scanned using a binocular microscope (x10-x100 magnifications) and the presence of any charred plant remains and other archaeologically significant material recorded. Identifications of archaeobotanical material were carried out with reference to seed atlases and in-house reference collection.

This report concentrates on the carbonised plant remains recovered from the samples. The quantity of the plant remains was recorded using a four-point scale (Table 2). The results are summarised in Table 3 (Composition of Carbonised Plant Remains).

Scale	Abundance	Approx. Quantity
+	Rare	1-10 items
++	Occasional	11-50 items
+++	Common	51-100 items
++++	Abundant	101+ items

**Table 2. Four point scale**

A table summarising the presence (✓) or absence of small finds (artefacts) and other archaeological significant material recovered from the retents is provided in Table 4 (Composition of Retents). This material has been submitted to appropriate specialists for detailed analysis (see separate reports) and is not discussed below.

## **2. RESULTS**

### **2.1 Cereal Remains**

Carbonised cereal grains were recovered from 20 of the samples. The grain was much abraded and fragmentary and many could not be identified to species. Where preservation was sufficient to allow identification, small amounts of hulled barley (*Hordum* var *vulgare*), glume wheat (*Triticum diccicum* / *spelta*) and oat (*Avena* sp.) were recorded. None of the oat grains were still enclosed within their hulls (palea/lemma) and it was not possible to distinguish between the wild and cultivated species. The wheat grains were generally abraded and fragmentary making detailed identification difficult; one or two grains did, however, show characteristics of spelt wheat (*Triticum spelta*) suggesting its presence.

Only one glume base (chaff remain) was recovered from the samples; found in the fill of an oven / kiln [5519]. It was poorly preserved and could not be identified to species. No other chaff remains or staw fragments were recovered.

Generally only small amounts of grain were recovered from each sample (principally 1 to 10 grains per sample). However, one high concentration of charred grain was recovered from the lower fill of an oven / kiln [5519]; with the sample contained over 100 fragmentary grain.

## **2.2 Weed Seeds (Wild Taxa)**

Weed seeds (or seeds from wild taxa) were present in six samples; the largest amount, albeit only 12 seeds, being recovered from the fill of an oven / kiln [5519]. The taxa present are commonly associated with arable land or waste places, including knotgrass (*Polygonum aviculare*), persicaria/pale persicaria (*Polygonum persicaria* / *lapathifolium*), thistle (*Cirsium* sp.), brome-grass / rye-grass (*Bromus* / *Lolium* sp.), vetch (*Vicia* / *Lathyrus* spp.) and cleavers (*Galium* sp.). There are numerous sources for the weed seeds, including being brought onto the site with thatching, bedding, firewood, turves, etc. Given the increased number of seeds found in samples containing higher concentration of cereal grains, it would suggest that at least some of the seeds were being brought to the site as part of the harvested cereal crops; the seeds growing as weeds of the cultivated crops.

## **2.3 Nutshell**

Small fragments (principally less than 5mm in diameter) were recovered from six samples: five pits [5039, 5073, 5187, 5215 & 5288] and an oven / kiln (5519). Given the small amount of nutshell recovered, and the size of each fragment it is not possible to identify whether the nutshell represents nuts deliberately collected for human consumption or stray fragments of shell brought to the site along with firewood.

## **2.4 Charcoal**

The bulk of the carbonised plant remains recovered from the site was wood charcoal. Each sample contained wood charcoal; with large amounts being present in eight features: five pits [5039], [5073], [5168], [5171] & [5248]; a gully [5028]; and three ovens / kilns [5237, 5429 & 5519]. Large round wood fragments were recovered particularly from the fills of ovens / kilns [5429 & 5237] and pit [5171]. Initial scanning of the charcoal suggests that the bulk of the wood from these three features comprises oak (*Quercus* sp.) although large diameter round wood fragments of birch / hazel (*Betula* / *Corylus* sp.) also appear to be present.

Occasional fragments of heather charcoal were also noted within pit [5215] and oven / kiln [5519]. Heather could have been brought to the site along with turves used to dampen fires or used in thatching, bedding or even packing material.

## **3. DISCUSSION**

A general low-level spread of carbonised plant remains, particularly charred cereal grain, was found to be present across the site and recovered from numerous different unassociated features, such as pits, postholes and ditch fills. No distinct spatial distribution was recorded,

although carbonised plant remains were recovered particularly with features associated with 'roundhouse or enclosure' features (including roundhouse 1, 2 and 5).

This general spread of burnt plant remains is a common feature on settlement sites where small scale crop processing and/or food preparation is being carried out. Much of the plant debris was poorly preserved and abraded suggesting that it had undergone much movement prior to being buried and in most cases is unlikely to be directly associated with the features from which it was recovered.

One feature, an oven / kiln [5519] stood out due to the high concentration of cereal grains recovered from its fill. Given the quantity of grain recovered from the lower fill of this feature it suggests that it may possible be the remains of a corn drying kiln. The charred grain remnants of grain accidentally burnt during the drying process and becoming trapped in the bowl of the kiln. It is possible that the majority of cereal grains spread across the site may have originally come from the high concentration recovered from oven / kiln [5519], the charred grain spread into unrelated features through such activities as or through later ploughed

#### **4. RECOMMENDATIONS**

- Sufficient large enough fragments of wood charcoal were recovered from the excavated area for AMS dating. Samples containing large amounts of charcoal, (those highlighted with +++ and ++++ in the quantity column in Table 3 would be the most suitable). Initial assessment of the wood charcoal indicates that well-preserved round wood is present in Samples 3, 14 and 30. Identification of the wood species present would be required prior to submission for dating.
- Given the fragmentary and much abraded nature of the cereal grains and hazelnut shell, none would be suitable for AMS dating.
- Further detailed analysis of the carbonised plant remains would add little to that provided above.



Site location	Sample no	Context no	Fill of	Feature type	Approx. Flot vol (ml)	Cereal Indet			Weed seed		Nutshell	Rhizome	Heather charcoal	Wood charcoal
						Qty.	Pres.	Id.	Qty.	Id.				
	26	5286	5288	PIT	20	+	f	cereal indet			+ sf			+ vsf
	27	5287	5288	PIT	10									+ vs
	18	5220	5188	PIT	10									
	4	5174	5175	DIT	50	+	ma, f	hulled barley cereal indet	+	indeterminate				++
	17	5186	5250	DIT	20	++	ma	barley						+
	32	5350	5519	O/K	50	+++	ma, f	hulled barley spelt wheat	++	<i>P. pers./lap.</i> <i>P. aviculare</i> <i>Galium</i> sp. Gramineae indet (small-grained)	+ sf		+	++++ sf
	1 (Eval)	2912	2913	DIT	20									+ vsf
	5 (Eval)	3308	3309	DIT	10									+ vsf
	6 (Eval)	2304	2305	DIT	10									+ vsf
	13	5081	5084	DIT	20									++
	19	5227	5229	DIT	30	+	ma, f	barley oat cereal indet						++
	55	5380	5382	DIT	10	+	ma	wheat						+
	56	5388	5386	DIT	10									+
	3 (Eval)	2808	2809	GUL	20									+ vsf
	4 (Eval)	3304	3305	GUL	30	+	ma	cereal indet						+ vsf

Key: + = rare (1-10 items), ++ = occasional (11-50 items), +++ = common (51-100 items) and ++++ = abundant (101+ items)  
eval = samples retained during evaluation, sf = small fragments (<5mm in dia.), vsf = very small fragments (<2mm in dia.)  
ma = much abraded, a = abraded, f = fragmentary  
DIT = ditch, GUL = gully, PH = posthole, O/K = Oven / Kiln, PIT = pit

**Table 4. Composition of Retents**

Site location	Sample no	Context no	Fill of	Feature type	Pottery	Daub / Fired clay	Flint	Glass	Bone		Magnetic Residue
									Unburnt	Burnt	
RH1	14	5038	5039	PIT							√
	15	5027	5028	GUL	√	√			√		√
	16	5071	5073	PIT	√				√		√
RH2	2 (Eval)	2912	2913	PH	√	√			√	√	√
	2	5156	-	PH	√					√	√
	5	5186	5187	PIT	√	√				√	√
	6	5213	-	PIT	√		√		√	√	√
	7	5215	-	PIT	√				√	√	√
	8	5217	-	PIT	√				√	√	√
RH3	28	5393	5392	GUL	√	√			√	√	√
	30	5428	5429	O/K	√	√				√	√
	25	5344	5345	DIT	√	√			√	√	√
RH4	29	5398	5400	PIT		√	√	√		√	√
	31	5513	5515	PIT	√	√			√	√	√
RH5	9	5241	5242	PIT/PH		√			√		√
	10	5243	5244	GUL	√	√				√	√
	11	5239	5237	O/K	√					√	√
	12	5238	5237	O/K		√				√	√
	20	5260	5261	GUL						√	√
	22	5264	5265	GUL	√					√	√
RH6	21	5247	5248	PIT					√		√
	23	5262	5263	PIT						√	√
	24	5327	5320	PIT	√	√			√	√	√
Other features	1	5167	5168	PIT							√
	3	5170	5171	PIT							
	26	5286	5288	PIT		√					√
	27	5287	5288	PIT	√	√			√	√	√
	18	5220	5188	PIT	√	√					√
	4	5174	5175	DIT	√	√			√	√	√
	17	5186	5250	DIT	√					√	√
	32	5350	5519	O/K	√	√					√

Site location	Sample no	Context no	Fill of	Feature type	Pottery	Daub / Fired clay	Flint	Glass	Bone		Magnetic Residue
	1 (Eval)	2912	2913	DIT		√	√		√	√	
	5 (Eval)	3308	3309	DIT					√	√	
	6 (Eval)	2304	2305	DIT				√			
	13	5081	5084	DIT	√				√		√
	19	5227	5229	DIT	√	√				√	√
	55	5380	5382	DIT		√			√	√	√
	56	5388	5386	DIT	√	√			√	√	
	3 (Eval)	2808	2809	GUL	√	√				√	√
	4 (Eval)	3304	3305	GUL	√		√			√	

Key:     √ = material present in sample

Eval = samples retained during evaluation, DIT = ditch, GUL = gully, PH = posthole, O/K = Oven / Kiln, PIT = pit