

## GEU EXCAVATION AT WILDERSPOOL WARRINGTON, LANCs - SOIL pH AND PHOSPHATE DETERMINATIONS

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The Roman site was situated on soils developed on coarse river sands with occasional patches of finer material. Bone preservation on the site was extremely poor, pH determinations were carried out using a field pH meter and phosphate determined by the qualitative molybdate method.

Results are shown in Table 1.

1. pH determinations

The completed site had been covered by a bowling green and soil pH was higher than on the other site, suggesting that the bowling green had been limed. In general soils were quite acid, which would account for the poor bone preservation. Unfortunately no suitable deposits for pollen analysis occurred.

2. Phosphate determinations

There appeared to be no correlation between pH and phosphate concentrations. It is impossible to draw conclusions from the phosphate results as the variations, although significant, do not follow any pattern. It is possible that areas where phosphate levels were relatively high represent an input derived from human activity eg. animal and human bone, faeces, rubbish, but if so this was not necessarily associated with archaeological features. Areas where phosphate appeared to be absent may represent increased leaching of the soil through pedogenic and/or anthropogenic processes.

TABLE 1 SOIL pH AND PHOSPHATE DETERMINATIONS CARRIED OUT AT WILDERSPOOL, WARRINGTON

Grid reference	pH	Phosphate
<u>Site I Uncompleted</u>		
99601080		Trace
99651080		Trace
99701080 (Feature 445)		Absent
Approximately 30cms back from 9970 1080 towards 99651080, outside feature		
Base of feature 445		Absent
99751080		Trace
99801080 (topsoil		Absent
(natural subsoil		Absent
99651075 almost pure sand -		Trace
edge of pit		
99701070 perpendicular (top		Absent
ditch (base		Trace
9981070		Positive
99901070		Trace
10001070 (topsoil	5.2	Positive
profile at site (subsoil	5.3	Absent
edge (pottery containing layer	5.1	Trace
at approximately 30cms. depth		
99701060		Trace
99801060		Trace
99901060		Absent
99701050 (top of main ditch)		Strong
99801050		Positive
99901050		Absent
<u>Site II Completed</u>		
10409970		Trace
10409980	6.3	Trace
10409990 (edge of small ditch)	605.	Trace
Bottom of ditch		Absent
10409998 section through ditch:-		
(a) base of ditch	5.4	Absent
(b) middle of ditch	6.4	Trace
(c) layer above	6.1	Absent
(d) subsoil above	5.7	Absent
10309970		Absent
10309980	6.5	Positive
10309990		Trace
10209970	6.1	Trace
10209968 ditch section:-		
(a) top		Trace
(b) middle black layer		Trace
(c) base		Absent
10209980	6.0	Positive
10209990		Strong
10109969 feature:-		
(a) base		Weak
(b) top		Absent

Site II Completed (Cont'd)

10109962 (side):-

- (a) soft sand at base
- (b) soft sand adjacent
- (c) half way up section

10101970

10101980

10101990

5.4

Trace

Absent

Absent

5.7

Absent

6.4

Positive

Weak