

Forge Mill, Sandwell

Archaeological Monitoring of Engineering Test-Pits



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Report Number: 044/2014

Code: SFM

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SUMMARY

The Environment Agency proposes to undertake works in the valley of the River Tame at Forge Mill, Sandwell. The Sandwell Valley lies between West Bromwich to the west, Handsworth to the south and east and Hamstead and Great Barr to the north. The Study Area covers the valley of the River Tame from the M5 bridge down to the Old Walsall Road, Hamstead, taking in the Handsworth and Hilltop Golf Clubs, the Sandwell Valley Nature Reserve and part of the Sandwell Valley Country Park.

Desk-based assessment has suggested that works within the Study Area have the potential to impact upon cultural heritage assets and/or buried archaeological remains. A total of 25 non-designated heritage assets were identified within the Study Area ranging from prehistoric to post-medieval in date, with the vast majority being post-medieval.

The prehistoric and Roman periods are represented only by a scatter of finds, largely outside of the Study Area. There is no evidence of early Medieval activity/occupation. The potential for such remains is low on current evidence. In the medieval period the main settlement foci lay outside of this stretch of the valley. The northern part of the Study Area probably lay within the open fields of Bromwich, the south and east within the fields of Handsworth. The estate of Sandwell Priory lay beyond the open-field system of West Bromwich but may have included parts of the west of the Study Area and probably included the Sandwell Mill on the north side of Swan Pool, however, the evidence for the existence of dwellings in the valley other than the priory before the 18th century is sparse.

Evidence of post-medieval development and use of the landscape is more likely to be encountered. The development of Sandwell Mill into a slitting mill, and the establishment of Forge Mill on the river are testament to this industrial development. The location of an associated furnace (perhaps nearer to Forge Farm) remains unknown. Below ground remains of this may survive and evidence for construction and development over time of mill leats and ponds is likely to survive.

Monitoring of the engineering trial pits recovered little in the way of direct archaeological evidence, however it did clarify the nature of the deposit sequence along the river corridor and allow areas of archaeological potential to be more clearly identified.

North of the river there has been considerable disturbance and landscaping connected with former colliery operations. 0.6-1.2m of made ground is evident across this area directly onto the sandy clay natural. There is little potential for archaeological survival here. South of the river in this area, topsoil and subsoil directly overlie the natural sand and gravel and there is less evidence for post-medieval or modern disturbance.

On the west side of the river, north of the former Forge Mill, pieces of wood were found preserved within the upper levels of the underlying gravel. This area was formerly the mill pond for Forge Mill and this survival suggests that evidence for its construction and operation might survive more widely. Further north, beyond the railway, there appears to have been little modern disturbance and evidence relating to management of the river to maintain water flow to the mill might be found here also.

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April 2014

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Date	30 th March 2014
Approved by	Steve Malone, Project Manager
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Date	30 th March 2014
Report Number	044/2014
Status	Final Report

ACKNOWLEDGMENTS

Ed Wilson and Rachel Kelly of the Environment Agency are thanked for commissioning this work. On site assistance: Phil Edge of Opus and Samuel Gonzalez Maceda of CH2M Hill.

1. INTRODUCTION

1.1 Site Background

1.1.1 The Environment Agency proposes to undertake works in the valley of the River Tame at Forge Mill, Sandwell (Figure 1). Consultation has suggested that the Study Area has the potential to impact upon cultural heritage assets and/or buried archaeological remains.

1.1.2 In line with the National Planning Policy Framework (NPPF), where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the developer is required to submit an appropriate desk-based assessment describing the significance of any heritage assets affected (including any contribution made by their setting) and, where necessary, a field evaluation.

1.1.3 The desk-based assessment took in a study area of 3.75km² around a stretch of the River Tame at Forge Mill, Sandwell, including part of the Sandwell Valley Country Park and the Sandwell Valley Nature Reserve (National Grid Reference: SP 03306 92420) (Fig. 1).

1.1.4 No intrusive archaeological work has been undertaken within the Study Area itself and what little is known of the potential of the area is largely the result of surveys undertaken in the 1980s and excavations undertaken just to the southwest in the vicinity of the Sandwell Priory site (Hewitt and Hodder 1988). Large quantities of late Mesolithic flintwork were found here and four probable Bronze Age burnt mounds were also identified. The 'Sand Well' natural spring may have proved a particularly attractive location for such activity, but Neolithic flintwork is recorded from near to Forge Farm in the west of the study area and such material may be more widely distributed. Land-use in modern times would not lend itself to the discovery of such remains but the potential is not high on current evidence.

The later prehistoric and Roman periods are represented only by a scatter of finds outside of the Study Area. There is no evidence of early Medieval activity/occupation. The potential for such remains is low on current evidence.

In the medieval period the main settlement foci lay outside of this stretch of the valley. The northern part of the Study Area probably lay within the open fields of Bromwich, the south and east within the fields of Handsworth. The estate of Sandwell Priory lay beyond the open-field system of West Bromwich but may have included parts of the west of the Study Area and probably included the Sandwell Mill on the north side of Swan Pool, however, the evidence for the existence of dwellings in the valley other than the priory before the 18th century is sparse (Hewitt and Hodder 1988, 26) and potential remains low-moderate.

Evidence of post-medieval development and use of the landscape is more likely to be encountered. The development of Sandwell Mill into a slitting mill, and the establishment of Forge Mill on the river are testament to this industrial development. The location of the associated furnace (perhaps nearer to Forge Farm) remains unknown. Below ground remains of this may survive and evidence for construction and development over time of mill leats and ponds is likely to survive.

1.2 Site Topography and Geology

1.2.1 The Study Area is located at the boundary between the areas of Handsworth, West Bromwich and Great Barr, within the county of the West Midlands. It lies approximately 4.5km north west of Birmingham and 6km south east of Walsall.

1.2.2 The site covers an area 3.75km² in size which is dominated by recreational land, particularly the Sandwell Valley Country Park and the Sandwell Valley Nature Reserve. The proposed site boundary is irregularly shaped and is centred on a stretch of the River Tame which flows generally northwest to southeast making a right-angle bend in the centre of the Study Area.

1.2.3 The 1:50,000 British Geological Mapping shows that site is situated in an area where several different types of superficial geology are found. The bedrock of the area consists of Enville Member sandstone with subordinate conglomerate, siltstone and mudstone. This was formed approximately 271 to 309 million years ago in the Permian and Carboniferous periods. The majority of the superficial geology consists of mid Pleistocene till with bands of mid Pleistocene glacio-fluvial sand and gravel. Closer to the River Tame the superficial geology consists of river terrace deposits of sand and gravel along with clay, silt, sand and gravel alluvium (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>).

1.2.4 The site is situated on slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils (www.landis.org.uk/soilscapes).

1.2.5 Topographically the Study Area constitutes part of the valley of the River Tame, with ground sloping from all sides down to the course of the river which falls from around 105m O.D. to below 100m O.D. from northwest to southeast. The highest point within the study area is at its southern extent at c. 145m above Hilltop Golf Club. The north and northeast facing slopes from here down to the river are the steepest. The valley of a small tributary stream falls into the river at Forge Mill from the west with the ground rising to 120m beyond. Slopes here are more gentle.

2. METHODOLOGY

2.1 Test-pit Methodology

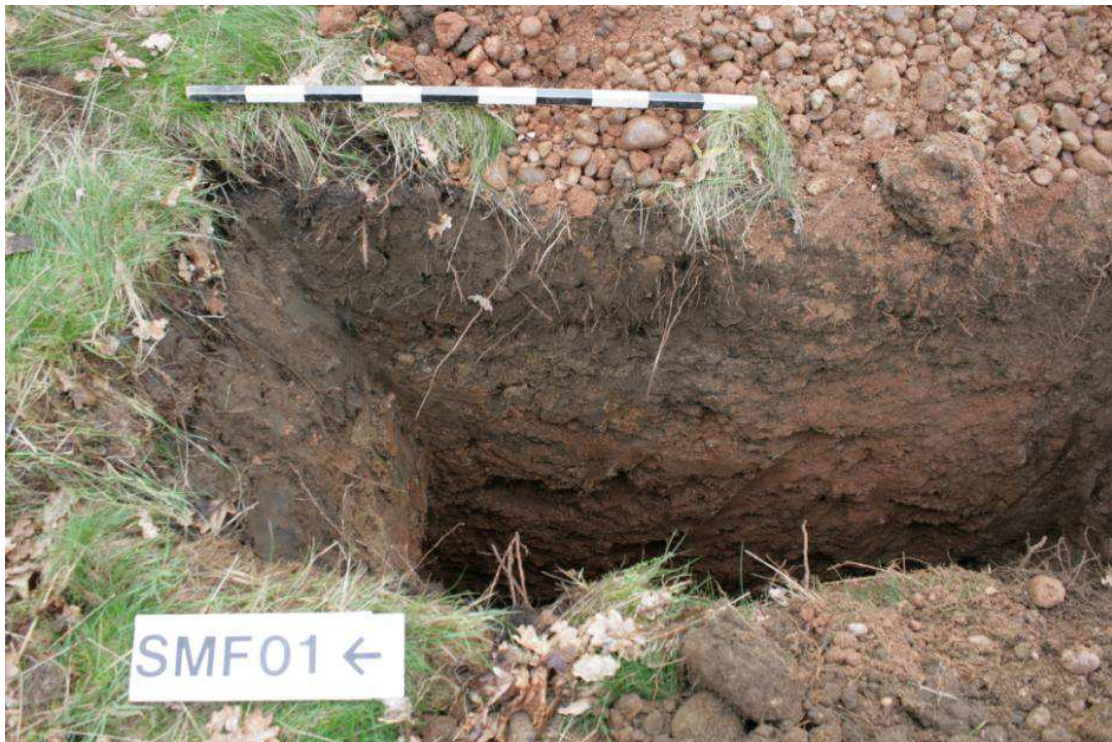
2.1.1 Test pits were machine excavated, c. 0.6m wide by c. 2m in length. Depth varied from c. 2m to c. 4m depending on deposits encountered and degree of waterlogging. A photographic, written and drawn record of a representative section of each test-pit was compiled with sediment descriptions including standardised Munsell colour references. Artefacts, where encountered, were assigned a unique code and recorded according to the context from which they derived.

2.1.2 The locations of the test-pits are shown on Figure 2. Descriptions of the deposit sequences are given below accompanied by a photograph of each test-pit section. Drawn sections are illustrated in Figure 3.

3. Results

Trial Pit 01 (105 EA No)

- (101) 0m - 0.3m Top soil mid brown 7.5YR 4/2 brown silt loam, 10% rounded stones up to 40mm
- (102) 0.3m - 0.5m Subsoil 7.5 YR 5/3 brown sandy silt loam, 25% rounded stones up to 70mm in size
- (103) 0.5m - 3.5m Sands and gravels 10YR 5/4 yellowish brown to 5/8 yellowish brown sandy clay 30% rounded stones up to 80mm in size. Deposit loses clay component at c. 0.8m becoming sandy silt loam and gravels. At a depth of 1.9m it becomes sand and gravel. Waterlogged at 3.5m



Trial Pit 02 (102 EA No)

- (201) 0m – 0.25m Top soil 7.5YR 3/1 very dark grey clay loam 5% rounded stones up to 30mm in size
- (202) 0.25m – 0.55m Subsoil 5YR 4/1 dark grey clay loam, 20% rounded to subrounded stones up to 60mm in size
- (203) 0.55m – 1.8m Sands and gravels 5YR 5/1 grey sandy clay 60% rounded pebbles up to 180mm in size. Deposit loses clay element by 0.9m becoming principally gravel with 30% sand. Increasingly waterlogged by 1.5m.
- (204) 1.8m – 1.9m Sand 10YR 5/6 yellowish brown. Waterlogged at 1.9m



Trial Pit 03 (101 EA No)

- (301) 0m – 0.3m Topsoil 7.5YR 3/1 very dark grey clay loam
- (302) 0.3m – 0.6m Subsoil 10YR 4/3 brown clay loam, <2% rounded stones up to 20mm in size
- (303) 0.6m – 1.45m Start of sands and gravels 10YR 5/4 yellowish brown sandy clay 20% rounded pebbles up to 50mm in size, loses caly element by c. 1m
- (304) 1.45m – 1.6m Very sandy clay 5YR 6/1 grey with 5% patches 10YR 5/4 yellowish brown sandy clay
- (305) 1.6m – 3.3m Sands and gravels proper, sand 5YR 6/1 grey 60% pebbles up to 150mm. Pit waterlogged at 3.3m
- (306) 2.3m a pocket within the sands and gravels (e) of sandy clay 5YR 4/2 dark reddish grey mudstone with < 2% rounded stones up to 40mm, 10% dark black shale/organic mudstone



Trial Pit 04 (106 EA No)

- (401) 0m – 0.25m Topsoil 7.5YR 3/1 very dark grey loamy sand, 20% large pebbles up to 60mm in size
- (402) 0.25m – 1.2m Sands and gravels 5YR 6/8 reddish yellow very sandy clay, 60% stones rounded up to 100mm in size
- (403) 1.2m – 1.9m Sands and gravels 10YR 5/3 reddish brown sand, 60% stones rounded up to 100mm in size
- (404) 1.9m – 2.4m sands and gravels, sandy clay Gley 4/5BG dark greenish grey, 25% quartz gravel rounded up to 60mm in size



Trial Pit 05 (103 EA No)

- (501) 0m – 0.2m Topsoil 7.5YR 3/1 very dark grey silty clay, 2% rounded stones up to 40mm in size, 10% roots
- (502) 0.2m – 0.75m Re-deposited material, (TP located on old land fill site) a mix of 7.5YR 3/1 very dark grey silty clay and 7.5 YR 7/2 pinkish grey silty clay, 5% rounded pebbles up to 120mm in size, 7.5YR 4/2 brown silty clay.
- (503) 0.75m – 3.5 Natural boulder clay firm to hard sandy clay 5YR 4/4 reddish brown, 2% rounded stones up to 80mm in size, becomes increasingly clayey as depth increases. Occasional bands of 10YR 5/6 yellowish brown sand
- (504) 3.5m-4m Silty clay 5YR 4/2 reddish brown



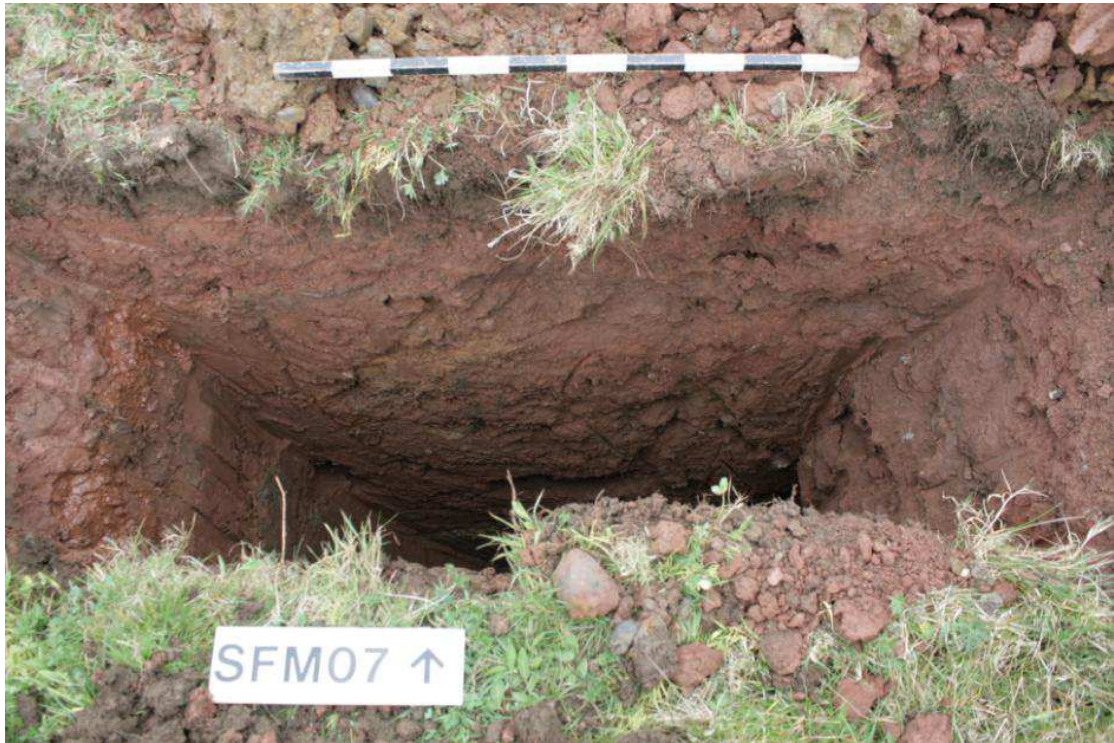
Trial Pit 06 (111 EA No)

- (601) 0m – 0.3m Topsoil 7.5YR 3/1 very dark grey silty clay loam, 2% rounded stones up to 25mm in size
- (602) 0.3m – 0.7m Capping layer for colliery deposit below sandy silt loam 10YR 4/4 dark yellowish brown <1% charcoal flecks, <5% rounded stones up to 30mm in size, <1% tiny brick fragments
- (603) 0.7m – 1.5m Colliery deposit/dredged material containing twigs, almost peat like Sandy clay 10YR 2/1 black to 10YR 3/1 very dark grey mottled with 10YR 4/3 brown and lighter grey 10YR 5/1.
- (604) 1.5m – 3.3m Natural boulder clay firm to hard sandy clay 5YR 4/4 reddish brown, 2% rounded stones up to 80mm in size, becomes increasingly clayey as depth increases.
- (605) 3.3m – 4m Silty clay 5YR 4/2 reddish brown



Trial Pit 07 (109 EA No)

- (701) 0m – 0.2m Topsoil silty clay loam 10YR 4/2 dark greyish brown
- (702) 0.2m – c. 1m Made ground? Top of natural boulder clay? sandy clay loam 5YR 4/6 yellowish red, 5% rounded pebbles up to 80mm in size
- (703) c. 1m- 3.2m Natural boulder clay firm to hard sandy clay 5YR 4/4 reddish brown, 2% rounded stones up to 80mm in size, becomes increasingly clayey as depth increases. Band of 10YR 5/6 yellowish brown sand at 2.3m of c. 0.2m width



Trial Pit 08 (110 EA No)

- (801) 0m – 0.25m Topsoil 7.5YR 2.5 black slightly sandy, silt loam, 2% rounded to subrounded stones up to 40mm in size, <1% angular sandstone pieces up to 70mm in size
- (802) 0.25m – 0.80m Made ground sandy clay 7.5YR 5/3 brown to 5YR 4/4 reddish brown, 20% patches of clay 7.5YR 3/1 dark grey to 7.5YR 4/1 dark grey <1% black organic flecks like (c) in Trench 6, 10% rounded pebbles up to 40mm, <1% coal flecks. Concrete slab present (unexcavated)
- (803) 0.8m – 3.2m Natural boulder clay firm sandy clay 5YR 4/4 reddish brown, <5% rounded stones up to 70mm in size, becomes increasingly clayey as depth increases, occasional bands of 10YR 5/6 yellowish brown sand.



Trial Pit 09 (107 EA No)

Placed by the side of the road on an artificial bank raised above the floodplain to the south and railway to the north.

- (901) 0m – 0.35m Top soil 10YR 3/2 very dark greyish brown silty clay loam, 1% pebbles rounded up to 30mm in size, <1% angular pieces of sandstone, 5% roots, <5% brick and tile fragments
- (902) 0.35m – 0.7m Made ground sandy clay loam 10YR 4/3 20% mottles of 10YR 3/4 dark yellowish brown sandy clay loam, 2% rounded pebbles up to 30mm in size, 1% brick and tile fragments
- (903) 0.7m – 3.8m Made ground Very sandy clay 10YR 3/4 dark yellowish brown. c. 2m start getting large clay lumps of 10YR 3/4 dark yellowish brown.



Trial Pit 10 (108 EA No)

- (1001) 0m – 0.3m Topsoil 10YR 3/2 very dark greyish brown silty clay loam, 1% rounded pebbles up to 30mm in size
- (1002) 0.3m – 1.8m Made ground - tip lines - sandy clay loam 10YR 4/3 brown, 10% bands of 7.5YR 3/1 very dark grey sandy clay loam, 30% gravels up to 120mm in size, <1% coal pieces up to 5mm in size, brick fragments present. 5% bands of 10YR 5/6 sandy clay loam yellowish brown and 7.5YR 6/1 grey sandy clay loam, 5% ash band
- (1003) 1.8m – 2.2m Reworked natural Silty clay 5YR 4/2 reddish brown
- (1004) 2.2m – 2.8m Organic 'pond' deposit – dredged material? Sandy clay loam 7.5YR 2.5/1 black
- (1005) 2.8m – 3.2m Re-deposited material? Sand 10YR 5/4 yellowish brown, 15% rounded pebbles up to 60mm in size
- (1006) 3.2m – 3.8m Natural? Sandy clay 2.5YR 5/1 grey



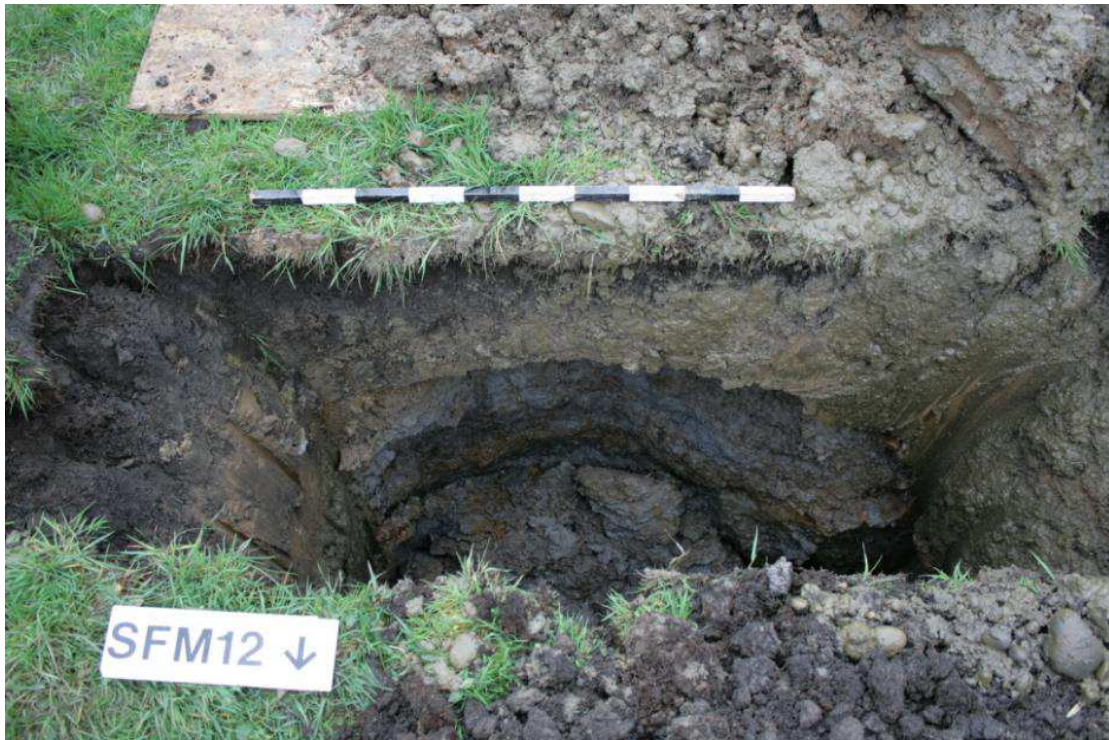
Trial Pit 11 (112 EA No)

- (1101) 0m – 0.7m Topsoil 7.5YR 2.5/1 black silt loam <1% rounded stones up to 40mm in size
- (1102) 0.7m – 2.1m Sands and gravels sandy clay 7.5YR 4/1 grey with mottles of sand 10YR 5/6 yellowish brown, 40% rounded to sub-rounded stones up to 90mm in size. Watertable at 1m. Horizontal timber at 0.95m – unable to retrieve or establish if worked. End of a tapered timber AAA recovered from top 0.2m of gravels ie between 0.7m and 0.9m depth. Deposit becomes sand after 1.3m with much larger rounded cobbles, up to 145mm at 2m



Trial Pit 12 (113 EA No)

- (1201) 0m – 0.25m Topsoil 10YR 2/2 very dark brown silt loam
- (1202) 0.25m – 0.6m Subsoil 10YR 5/2 greyish brown clay
- (1203) 0.6m – 1.7m Alluvial clay 10YR 5/3 brown clay with 10% patches of 2.5YR 5/1 gray and 10YR 5/6 yellowish brown sandy clay
- (1204) 1.7m – 2.8m Sands and gravels 2.5YR 6/1 grey to 4/1 dark grey sand, 40% rounded stones up to 50mm, 1% organic content comprising twig fragments up to 5mm in size. Gravel content increases to 70%-75% with depth



Trial Pit 13 (104 EA No)

- (1301) 0m – 0.5m Topsoil 10YR 2/2 very dark brown friable silt loam
- (1302) 0.5m -0.75m Alluvium 10YR 4/1 grey soft clay
- (1303) 0.75m – 1.2m Alluvium 10YR 4/3 brown soft clay
- (1304) 1.2m – 1.6 Alluvium 10YR 5/3 brown soft clay
- (1305) 1.6m – 1.8 Alluvium 10YR 5/6 yellowish brown soft clay
- (1306) 1.8m – 2.1m Sands and gravels 2.5YR 6/1 grey to 4/1 dark grey sand, 40% rounded stones up to 50mm, 1% organic content comprising twig fragments up to 5mm in size. Gravel content increases to 70%-75% with depth and pockets of black organic silty clay at 2.8m
- (1307) 2.1m – 3.3m Boulder clay 10YR 4/1 grey



Trial Pit 14 (114 EA No)

- (1401) 0m – 0.25m Topsoil 7.5YR 4/2 brown soft silty clay
- (1402) 0.25m – 1.1m Subsoil 5YR 5/4 reddish brown soft clay loam
- (1403) 1.1m – 1.5m Alluvium Mix of 7.5YR 5/1 grey and 10YR 5/6 yellowish brown soft silty clay
- (1404) 1.5m – 2.7m Sands and gravels 1.5m-2m is sand with a clay element ie sandy clay 10YR 5/6 yellowish brown becoming sand, with 45% rounded pebbles up to 80mm in size, which increase in density as the depth increases to 70% towards base of pit. By c. 2m the deposit becomes 7.5YR 5/1 grey in colour



Trial Pit 15 (115 EA No)

- (1501) 0m - .025m Topsoil 10YR 3/1 very dark grey soft silty clay containing pot AAB
- (1502) 0.25m- 1m Alluvium? 5YR 5/4 reddish brown soft silty clay <1% tiny angular stones giving deposit a gritty texture
- (1503) 1m -2.6m Sands and gravels sandy clay 7.5YR 4/4 brown 50% rounded pebbles up to 80mm in size with pockets of sand 10YR 5/6 yellowish brown. By 1.4m there is no longer a clay element. Naturally occurring coal and black mudstone is present towards the base of the sand and gravel matrix.



4. DISCUSSION AND CONCLUSIONS

4.1 Discussion

Test-pits 01-04 lay on the south side of the River Tame towards the eastern end of the study area. In TP01-03 topsoil and subsoil of 0.5-0.6m depth overlay the natural drift deposits of sand and gravel. Topsoil was much shallower in TP04 with sand and gravel occurring at just 0.25m.

Test-pits 06-08 were placed on the north/east side of the river just to the northeast of Mill Lake. This area had apparently been subject to landscaping either in connection with the formation of Mill Lake and/or as a result of disposal of former colliery waste. A thin, 0.20-0.25m, topsoil overlay 0.6-1.2m of made ground below which firm to hard reddish brown sandy clay natural was encountered.

Test-pits 09-10 also lay on the north side of the river, but further east, closer to the line of the railway. Although topsoil was slightly thicker, these two test-pits encountered a considerable depth of made ground (up to 3.2-3.8m in depth from the ground surface) presumably also related to colliery operations and/or construction of the railway line. A natural sandy clay was only reached in TP 10 at a depth of 3.2m.

Test-pits 11-15 were excavated on the west side of the river in the flood plain north of the former Forge Mill. TP11 lay within the probable area of the former mill pond of Forge Mill (now filled in and level, but still slightly lower than surrounding ground). A deep, 0.7m thick, topsoil was recorded here immediately overlying sand and gravel. Waterlogged timbers were encountered within the top of the gravels. One piece AAA, with a tapered end, was retained, but it was unclear whether the larger piece had been worked and this could not be retrieved. TP12-15 lay north of the railway line in an apparently undisturbed (or much less disturbed) area of floodplain pasture. Here a natural sequence of topsoil–alluvial clay–sand and gravel was observed. Alluvium was up to 1.3m in depth. A single post-medieval pot sherd AAB was retrieved from the topsoil in TP15.

4.2 Conclusions

Monitoring of the engineering trial pits recovered little in the way of direct archaeological evidence, however it did clarify the nature of the deposit sequence along the river corridor and allow areas of archaeological potential to be more clearly identified.

North of the river there has been considerable disturbance and landscaping connected with former colliery operations. 0.6-1.2m of made ground is evident across this area directly onto the sandy clay natural. There is little potential for archaeological survival here. South of the river in this area topsoil and subsoil directly overlie the natural sand and gravel and there is less evidence for post-medieval or modern disturbance.

On the west side of the river, north of the former Forge Mill, pieces of wood were found preserved within the upper levels of the underlying gravel. This area was formerly the mill pond for Forge Mill and this survival suggests that evidence for its construction and operation might survive more widely. Further north, beyond the railway, there appears to have been little modern disturbance and evidence relating to management of the river to maintain water flow to the mill might be found here also.

5. BIBLIOGRAPHY

Hewitt, N.R. and Hodder, M.A. 1988 'A Landscape Survey of Sandwell Valley, 1982-87', *Trans. South Staffordshire Archaeological and Historical Society* 28, 14-38

Mapplethorpe K. and Malone, S. 2014 *Sandwell Forge Mill. Archaeological Desk-based Assessment*, unpublished TPA report 25/2014

Watt, S. (ed.) 2011 *The Archaeology of the West Midlands. A Framework for Research*, Oxford

Online resources

The Domesday Book Online: <http://www.domesdaybook.co.uk>

National Library of Scotland: Ordnance Survey - Six-inch England and Wales, 1842-1952
<http://maps.nls.uk/os/6inch-england-and-wales/>

<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

<http://www.landis.org.uk/soilscapes>

