



West Berkshire Integrated Waste Management Facility, Padworth, Berkshire

Archaeological Evaluation Report





**WEST BERKSHIRE INTEGRATED WASTE MANAGEMENT
FACILITY,
PADWORTH,
BERKSHIRE**

Archaeological Evaluation Report

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Summary

Wessex Archaeology was commissioned by Scott Wilson acting on behalf of West Berkshire Council to undertake an archaeological evaluation on the site of a former gravel quarry in advance of redevelopment of the land as an integrated waste disposal unit. Borehole and geotechnical data indicated that there was a strong probability that all deposits that might contain archaeological or palaeo-environmental material had been removed by the quarrying; however there remained a slight possibility that some areas of high archaeological potential remained undisturbed.

Two trenches were excavated within the proposed footprint of the Maturation Hall and two others in an area set aside for the construction of a pond. The results of the evaluation confirmed that made ground was present across all parts of the former quarry and overlay undisturbed fluvial deposits of the River Kennet. These deposits of made ground reached a maximum depth of approximately 1.5-2 m across the central part of the former quarry, which coincided with the areas targeted by the evaluation.

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Acknowledgements

Wessex Archaeology was commissioned by Scott Wilson acting on behalf of West Berkshire Council to undertake an archaeological evaluation. Thanks are due to Duncan Coe, Archaeologist for West Berkshire Council and his assistant Sarah Orr for monitoring the works and attending meetings at very short notice. Thanks are also due to Andrew Armstrong, Assistant Archaeological Consultant at Scott Wilson for help in preparation for the fieldwork.

The field work was undertaken by Phil Harding, Ruth Panes and Dave Reay. The report was compiled by Phil Harding and the illustrations prepared by Will Foster. The project was managed for Wessex Archaeology by Richard Greatorex, who also edited this report.

**WEST BERKSHIRE INTEGRATED WASTE MANAGEMENT FACILITY,
PADWORTH,
BERKSHIRE****Archaeological Evaluation Report****1 INTRODUCTION****1.1 Project Background**

1.1.1 Wessex Archaeology was commissioned by Scott Wilson acting on behalf of West Berkshire Council to undertake an archaeological evaluation to implement a written scheme of investigation drawn up by Scott Wilson. The work was necessary (see planning reference **08/01167/MINMAJ**) as a part of archaeological mitigation works in advance of, and during, the construction of the new West Berkshire Integrated Waste Management Facility. The entire programme of investigation comprises three distinct stages, including both archaeological watching briefs and evaluation trenching, of which only the latter has been so far undertaken and it is that, which is described in this document.

1.2 The Site, location and geology

1.2.1 The development site consists of an irregular area of approximately 10 hectares located at the former Padworth Sidings, north-east of Aldermaston Wharf, centred on National Grid Reference (NGR) 460590, 167330 (hereafter referred to as the Site, see **Figure 1**).

1.2.2 At the time of the archaeological evaluation the south-eastern and south-western edges of the Site were defined by hedgerows; the latter following the towpath of the Kennet and Avon Canal. The northern Site boundary comprised a fence line demarcating the edge of the Great Western Railway line. To the north-east the Site directly abutted the wire fence of the former Conoco Distribution Terminal.

1.2.3 The archaeological evaluation was undertaken in a 'brown-field' site, which comprised largely waste ground with discrete areas of hard standing and rough vegetation. The Site was predominantly of flat ground located at approximately 51m above Ordnance Datum (aOD).

1.2.4 The underlying geology is mapped as Beenham Grange river gravels (BGS Sheet 268 Reading) of the River Kennet. These gravels were sealed by flood plain alluvium in the south-east part of the Site, adjacent to the present channel of the River Kennet.

1.2.5 The majority of the southern and central parts of the Site were quarried for gravel extraction during the 1960s. The affected areas were subsequently used as a landfill site and the ground level reinstated to a level approaching its original height.

1.2.6 Preliminary geotechnical investigations confirmed that large parts of the Site comprised of a layer of made ground overlying a thin band of gravel or lying directly on the London Clay itself (Norwest Holt 2004; Capita Symonds 2007). The results of the geotechnical investigations indicated that the layer of made ground varied in depth between approximately 1m and 3m from

ground level, but predominantly exceeded 1.5m deep in the majority of cases

2 METHODOLOGY

2.1 Aims and scope

2.1.1 A baseline archaeological assessment of the proposed development was undertaken by Scott Wilson in April 2008 (Scott Wilson 2008). This assessment, which was produced in consultation with the Council's Archaeological officer Duncan Coe, concluded that the potential for the survival of archaeological deposits was low, and if any potential should be preserved, it was only likely to survive in two distinct areas of the Site. These conclusions were based on the results of the very detailed geotechnical investigations undertaken within the Site (Norwest Holt 2004; Capita Symonds 2007).

2.1.2 The geotechnical surveys indicated that the majority of the original ground surface and upper parts of the geological sequence had been extensively truncated by the quarrying of the *in-situ* Beenham Grange gravels. The report concluded that archaeological deposits were very unlikely to survive in such locations. However it was considered possible that archaeological deposits might survive in what were thought to be two undisturbed areas within the Site, to the south-east (hereafter '**Zone 1**') and the north-west (**Zone 2**) (**Figure 1**).

2.1.3 The agreed archaeological mitigation strategy comprised:

2.1.4 An archaeological evaluation (trial trenching) in advance of ground works in selected areas of **Zones 1 & 2**, which forms the subject of this report.

2.1.5 A watching brief during removal of contaminated ground and during the subsequent construction phase of an access road and two ponds in **Zone 1**.

2.1.6 This mitigation strategy was designed to consider only those parts of **Zones 1 & 2** which would be impacted specifically by the development (see **Figure 1**).

3 AIMS

3.1.1 The archaeological background confirmed that significant prehistoric and Romano-British activity has been recorded in the general proximity of the site (within 500m). The archaeological evaluation was designed to determine whether evidence of human communities was present in any undisturbed deposits, especially those of Mesolithic, Neolithic, Bronze Age and Roman date. Any surviving water-logged deposits might contain crucial palaeo-environmental evidence to demonstrate how these early communities utilised the riverine environment.

3.1.2 The evaluation

3.1.3 The archaeological evaluation was undertaken within an area of **Zone 1** that lay within the footprint of the Maturation Hall, and parts of **Zone 2** which would be directly impacted by the construction of Pond 1 (**Figure 1**). The specific objectives aimed:

- 3.1.4 To identify the presence/absence, nature, depth, extent and date of any archaeological deposits or features within the impacted areas;
- 3.1.5 To define the extent and depth of modern disturbance, resulting from quarrying, which may have already compromised archaeological deposits;
- 3.1.6 To determine the likely range, quality and quantity of archaeological artefacts and any environmental evidence present;
- 3.1.7 To investigate, record and sample any alluvial or peat deposits, which may contain in situ palaeo-environmental data, within the impacted area for off-site analysis. In particular to recover monolith samples through the alluvial/peat sequence if possible; and
- 3.1.8 To investigate and record any archaeological deposits which may be found in association with the peat/alluvial sequence (Mesolithic material in particular may be anticipated in this setting).
- 3.1.9 The results would be used to determine the significance of any archaeological remains present and help to formulate the need for any future mitigation strategy, should that be necessary.

4 METHODOLOGY

- 4.1.1 The archaeological evaluation comprised four trenches, each 30m long by 1.8m trenches (**Figure 1**). The first two trenches (**1** and **2**) were located in the footprint of the proposed pond in **Zone 2**. **Trenches 3** and **4** were positioned within the footprint of the maturation hall in **Zone 1**.
- 4.1.2 All trenches were excavated in previously agreed locations (**Figure 1**) for which coordinates were entered into a GPS. In the archaeological specification, it was stipulated that excavation should be undertaken using a wheeled JCB mechanical excavator fitted with a toothless ditching blade. In the event due to the compacted nature of the tarmac, make-up and made ground below it, a toothed bucket was used.
- 4.1.3 The adopted methodology conformed to the standard format for undertaking work of this type. Excavation proceeded under constant archaeological supervision to the top of the first archaeological horizon or to undisturbed natural deposits, whichever were encountered first. Exposed surfaces would be inspected for archaeological remains, cleaned by hand, where necessary and a representative sample of features and deposits excavated and sampled sufficient to conclude the aims and objectives of the work.
- 4.1.4 Contingencies were put in place to install stepped sections to allow access to the base of the trench if this proved necessary in the event that important deposits were discovered.
- 4.1.5 All work was recorded using Wessex Archaeology's standard pro forma recording system with a continuous, unique context record. A digital photographic record was maintained to demonstrate the general nature of the site and to provide detailed records of the deposits in each trench.

4.1.6 The trenches were located using predetermined coordinates entered into a GPS and were resurveyed at the completion of the work. This enabled each trench to be located within the National Grid and surface elevations to be coordinated to those of the Ordnance Datum.

4.1.7 The archaeological evaluation was undertaken on 11th and 12th March 2009.

5 RESULTS

5.1 General results

5.1.1 Evaluation commenced at the south-west end of **Trench 3** in **Zone 1**. Work immediately encountered deposits of made ground to a depth of approximately 1.8 m that overlay deposits of mid yellow-brown mottled fluvial silt and clay. The made ground deposits comprised a compact surface veneer of material which overlay a deposit of unstable, 'free-running' clast supported washed gravel. This material made it impossible to maintain stable sections and difficult to ensure safe working conditions.

5.1.2 Work on this trench was therefore suspended until a decision on a revised methodology could be agreed and put in place.

5.1.3 Excavation of **Trench 1** in **Zone 2** was possible along its entire length. The section also revealed deposits of made ground approximately 1.6 m deep which overlay fluvial gravel. No trace of any natural soil profile was evident; all overlying topsoil and subsoil horizons having been removed as a precursor to quarrying.

5.1.4 The excavation was subsequently subjected to ingress of water through the base of the trench.

5.1.5 **Trench 2**, also in **Zone 2**, was also dug along its entire length; however water entered and comprehensively flooded the base of the excavation at a depth of approximately 0.50 m below the ground surface.

5.1.6 Despite the limitations of the excavation it was possible to establish that apparently clean gravel, present from immediately below the ground surface, did in fact contain irregular pockets of dark grey silt and was also redeposited material. It was not possible to establish the depth of this deposit in the evaluation trench; however the results of the bore hole logs suggest that it is comparable with deposits elsewhere in the central part of the back filled former quarry.

5.1.7 At the conclusion of this work a request was made that the Council's Archaeologist, or his representative, should make an unscheduled visit to the site to monitor the trenches and approve that they be backfilled in preference to leaving flooded trenches open overnight. This request also made it possible to reassess the evaluation methodology and approve recommendations based on the expected ground conditions, yet at the same time meet the requirements of the Project Design.

5.1.8 Following this meeting it was agreed that evaluation work in **Trenches 3** and **4, Zone 1**, should be restricted to the excavation of test pits at each end of the trench to avoid the threat of section collapse.

- 5.1.9 This revised methodology made it possible to confirm that the north-east end of **Trench 3** comprised made ground, but to an apparently reduced level, being only 0.98 m thick.
- 5.1.10 This deposit overlay sub-angular and well rounded flint gravel in a mid grey brown sand and clay matrix, which was considered to be undisturbed fluvial gravel. However the base level of this gravel, at approximately 1.70 m below the modern ground surface is broadly similar to the depth of made ground seen elsewhere in the quarry. Given that processed washed gravel was present in the south-west end of this trench it is possible that this material also represents back filled residue from the quarry.
- 5.1.11 The test pits at the each end of **Trench 4** confirmed made ground 1.05 m thick overlying natural fluvial pale grey, light yellow sand.

6 CONCLUSIONS

- 6.1.1 The evaluation set out to establish whether the use of the Site as a quarry was sufficiently extensive to have removed all traces of archaeological activity. It was thought likely that only limited areas, if any at all, might survive intact. It was considered that if any areas did remain intact that they might hold considerable potential for the preservation of archaeological or palaeo-environmental remains.
- 6.1.2 The work has confirmed that the quarrying was extensive and indicated that within the areas evaluated no traces of deposits remain intact. The work has confirmed that no old ground surfaces, subsoil deposits or those capable of retaining palaeo-environmental evidence have survived.
- 6.1.3 These conclusions are largely in accord with results compiled from bore hole and geotechnical test pit logs (Norwest Holst 2004; Capita Symonds 2007; Scott Wilson 2008, Fig 5). These records indicated that the depth of made ground, as reconstructed in transects aligned north-west to south-east across the former quarry, consistently measured between 1.5 -2m through the central part of the extracted area. This area largely coincides with where the evaluation trenches were located.
- 6.1.4 The deepest parts of the former quarry are between 3 and 4m below the modern surface height of the River Kennet floodplain.
- 6.1.5 The transects (as produced by Scott Wilson from data supplied by Norwest Holst and Capita Symonds, 2004) reproduced and updated here with the latest evaluation results, also indicate that the depth of made ground thins to approximately 0.5m near the edges of the former quarry (see **Sections A and B, Figure 2**). In these areas a greater depth of gravel remains is suggested; however as our own results indicate, what has previously been interpreted as undisturbed gravel may actually be redeposited and in addition it is probable that even where this may not be the case, surface stripping of topsoil and subsoil, in advance of quarrying, will also have damaged or removed most if not all traces of archaeological deposits from these peripheral areas.

6.1.6 In addition the evaluation highlighted the likelihood that (should further work be considered necessary) some of the construction trenches will be liable to flooding.

7 REFERENCES

7.1 Bibliography

Capita Symonds 2007: *Padworth Sidings, Lower Padworth; Environmental Site Investigation Interpretative Report*

Norwest Holst 2004: *Soil Engineering Report on a Ground Investigation at Padworth Sidings, Lower Padworth, Reading. Report F13657*

Scott Wilson 2008: *Appendix 8.2 Cultural Heritage Assessment. Revision Schedule.* Unpublished report Veolia Environmental Services, West Berkshire IWF: EIA Archaeological Assessment

Appendix 1 – Evaluation trench descriptions

Trench 1		
Context	Description	Depth
100	Made Ground- much organic material including tree roots and stumps	0-1.6
101	Natural Gravel- fluvial, matrix supported sandy gravel. Description compiled from the surface	1.6 m +

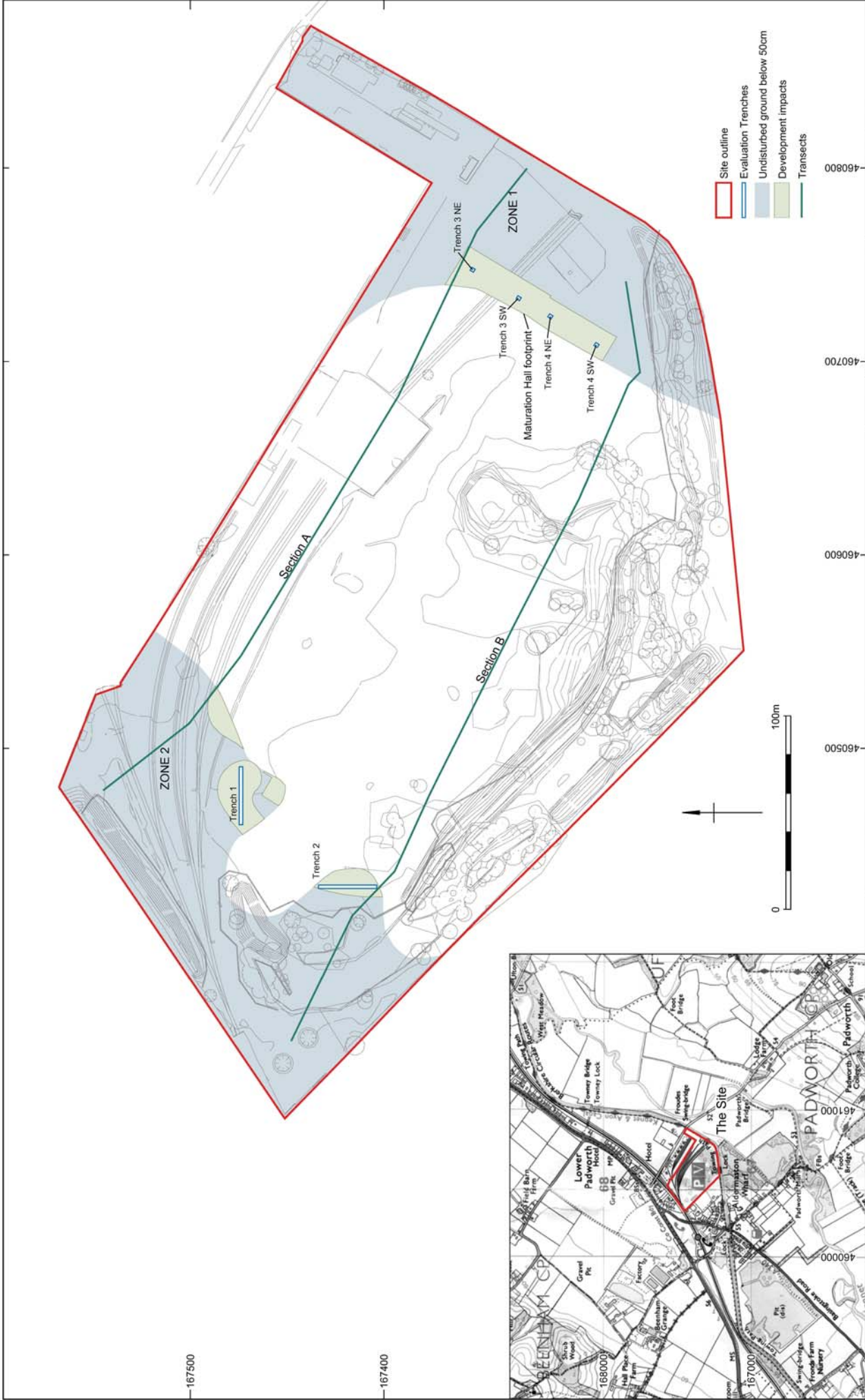
Trench 2		
Context	Description	Depth
200	Made Ground- Deposit of redeposited backfilled gravel. Mixed with irregular pockets of dark grey silt. Trench flooded	0-0.5+

Trench 3 (NE end)		
Context	Description	Depth
300	Made Ground	0-0.98
301	Gravel- sub angular to well rounded, moderately sorted flint gravel in mid grey brown clay and silt matrix	0.98-1.70
302	Natural Gravel- Well sorted, flint gravel in light orange yellow sandy matrix	1.70+

Trench 3 (SW end)		
Context	Description	Depth
303	Made Ground	0- 1.20
304	Made Ground- redeposited, loose free-running clast supported gravel	1.20-1.80
305	Natural Gravel- Mid yellow brown mottled orange silty clay	1.80+

Trench 4 (NE end)		
Context	Description	Depth
400	Made Ground	0-1.10
401	Sand- light yellow medium-coarse	0.10-1.80
402	Natural Alluvial Clay- mid yellow brown mottled orange silty clay	1.80+

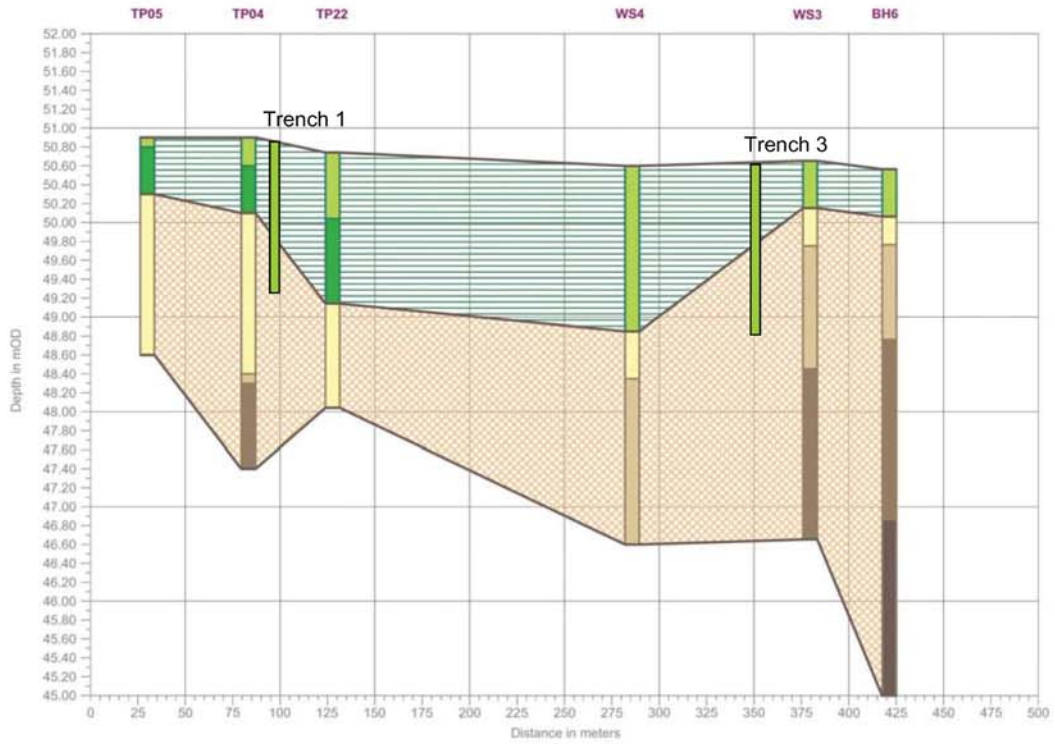
Trench 4 (SW end)		
Context	Description	Depth
403	Made Ground	0-1.05
404	Natural Alluvial Clay- pale grey – yellow fine sand	1.05-1.30+



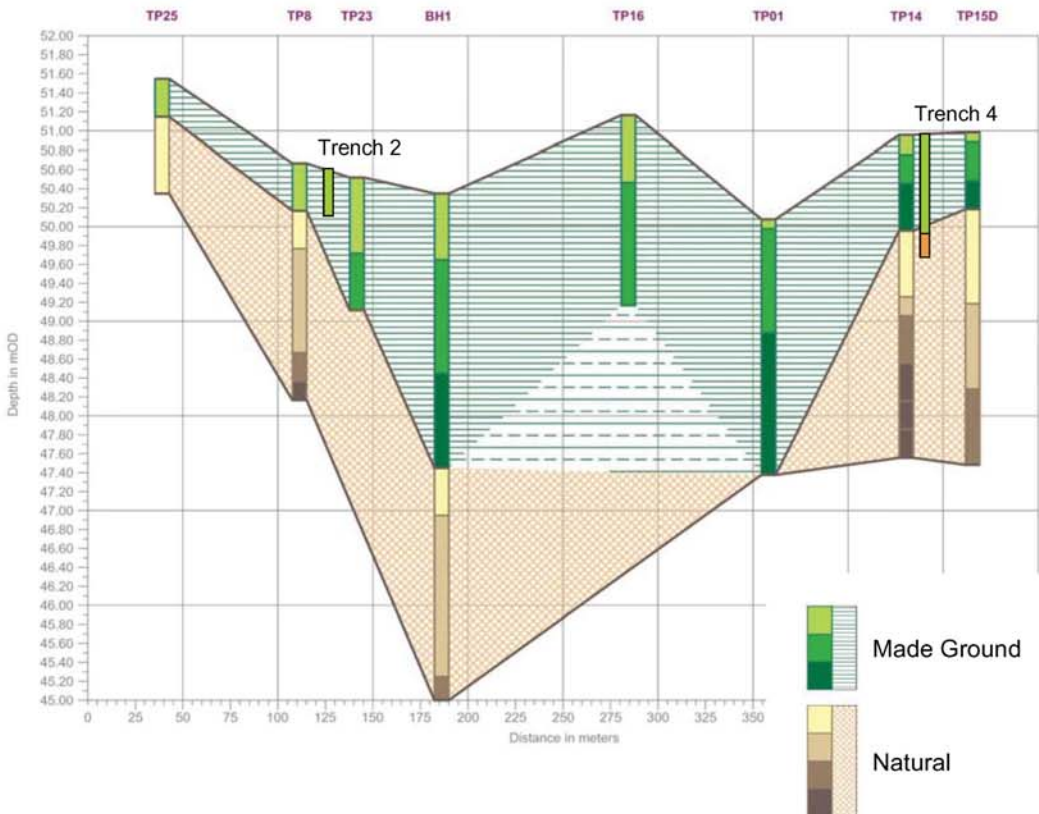
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Site location plan showing location of Evaluation Trenches Figure 1

Section A



Section B



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Transects A & B and locations of Evaluation Trenches

Figure 2



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