Archaeological Monitoring and Recording Report: Geotechnical Trial Pits at Curry Moor, Somerset

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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Revision History

Revision	Date	Amendment

Summary

In March 2021, ADAS was commissioned to carry out an archaeological watching brief for RSK Environment Ltd on behalf of Kier of two machine dug trial pits and eight windowless sample boreholes.

The two trial pits were dug as intended however no significant archaeological features or artefacts were observed or recovered from either Trial Pit. The absence of archaeological features recorded during the archaeological monitoring is likely attributed to the relatively limited ground impact of the trial pits and due to the impact of agricultural activity in these fields.

Data recorded from across the site and from LiDAR and Google Earth suggests the presence of an earlier course of the River Tone at the eastern end of the Site. However, there is limited data from the Site works to support this and there is also an absence of data along a 275 m long stretch between BH5 and WS5 where such a channel might exist.

Whilst no features or artefacts were identified both trial pits were recorded to contain layers of peat up to 2.30m thick sealed beneath layers of alluvial clays.

Similar levels of peat were recorded as part of the geoarchaeological works for the scheme from which initial analysis highlights that these peat/clayey peat deposits are representative of a transition towards a semi-terrestrial environment, most likely supporting alder carr and sedge fen/reed swamp type communities. The age of these deposits is currently unknown. However, on the basis of radiocarbon dating undertaken at Saltmarsh (Wilkinson et al., 2009), these peat deposits could date to anywhere between the late Mesolithic and Bronze Age period.

The presence of the Peat and Alluvial sediments have the potential to contain further information on the past landscape at Curry Moor, through palaeoenvironmental assessment of the floral and faunal remains (e.g. pollen, diatoms, plant macrofossils and insects) and radiocarbon dating. These can identify the nature and timing of changes in the landscape, and the interaction of different processes (e.g. vegetation change, human activity, climate change, hydrological change) thereby increasing our knowledge of the relatively limited archaeological understanding of the site and nearby area.

Further work therefore may have the potential to shed further light on potential buried archaeological deposits in areas of the scheme, including the location of an earlier course of the River Tone.

Acknowledgements

This archaeological watching brief was commissioned by RSK Environment on behalf of Kier, and thanks are due in this regard. Fieldwork was carried out by Charlotte Barley. The report and supporting illustrations were prepared Charlotte Barley, and checked by James McNicoll-Norbury. The archive was compiled by Charlotte Barley.

1 Introduction

Project Background

1.1 In March 2020 ADAS carried out an archaeological watching brief for RSK Environment of two geotechnical trial pits on land at Currymoor (NGR: ST 31792 26952). The objective of the watching brief was to record all archaeological remains exposed during the groundworks (Figure 1).

1.2 The works were carried out as archaeological mitigation for the proposed ground investigation works as describe in the *Curry Moor Urgent Works Ground Investigation Specification* (2021).

1.3 RSK ADAS Ltd were instructed to prepare a Written Scheme of Investigation (WSI) to carry out the required archaeological works and record any archaeological remains during the monitoring of the groundworks (ADAS, 2021).

1.4 The fieldwork undertaken and this report follows current best practice and appropriate national guidance including the National Planning Policy Framework (2019), the Chartered Institute for Archaeologists (CIfA) Code of Conduct (2019), CIFA Standards and Guidance for Archaeological Watching briefs (2020), the Management of Research Projects in the Historic Environment (MoRPHE) (Historic England, 2015) and the ADAS technical manual (2019).

1.5 In carrying out this work the Client complied with their obligations to the historic environment.

2 The Site, Development and Geology

The Site

2.1 Curry Moor is located on the Somerset Levels approximately 1.7 km to the north of North Curry. The Site is centred on the National Grid Reference ST 31792 26952. The trial pits are located in a field to the east of New Road and to the north of the River Tone (Figure 1).

2.2 The Curry Moor Flood Detention Reservoir is a flood storage area (FSA) formed on a low-lying area of moor of the same name in the Somerset Levels and Moors. It is in an area of the Moors that has historically flooded when the River Tone has been unable to pass all the river flow. The reservoir has two cells which are interconnected via an inverted syphon under the River Tone. The larger cell of the reservoir, on the left (north) side of the river, is known as Curry Moor. It is contained by raised embankments (levees) on the River Tone to the south and east, by a series of low banks to the north, by higher surrounding ground to the west and with a low bank across the flood plain at the upstream end. The smaller cell of the reservoir is known as Hay Moor, and is located to the right of the River Tone (south). This is bounded by the raised riverbanks of the River Tone to the north, a low bank at the eastern end, high ground to the south and a bank across the

floodplain at the upstream (western) end (Curry Moor Detention Reservoir Ground Investigation for Urgent Works for MIOS item (ii) at New Bridge, 2021).

The Development

2.3 The works are part of the Curry Moor Reservoir upgrades to address the Measures in the Interest of Safety (MIOS) raised by the Inspection Engineer in the latest S10 Report, September 2019. The ground investigation is to provide information to confirm the geology, hydrogeological and geotechnical parameters to enable to the design of appropriate remedial works.

2.4 The monitored groundworks comprised two machine dug trial pits. Eight dynamic windowless sample holes located along the crest of the bank were also required to a depth of 8m below ground level.

The Geology

2.5 The underlying bedrock geology for the boreholes and trial pits is mudstone and halite stone of the Mercia Mudstone Group. This sedimentary bedrock formed approximately 201 to 252 million years ago in the Triassic Period (BGS, 2021).

2.6 The superficial deposits are recorded as clay, silt sand and gravel alluvium deposits. These superficial deposits formed up to two million years ago in the Quaternary Period (BGS, 2021). Alluvial deposits such as these have a high potential for containing palaeoenvironmental remains. There are no recorded borehole logs within the vicinity of the Site. The nearest borehole is located in North Curry (ST32NW2) which recorded yellow soil overlying red and grey marl and shale (BGS, 2021).

2.7 The River Tone has been deliberately straightened in the area of the EA project, but the former channel is visible on aerial photos and lidar and runs under the area of proposed works. This is one of the key research question targets for the archaeological work and the understanding of this channel will be important information for the construction design.

3 Objectives

Aims and Scope

3.1 The aims of this watching brief were:

- To ensure that any archaeological features/deposits exposed during groundworks were identified, recorded and interpreted to an acceptable standard;
- To ensure that any significant discoveries of artefactual evidence were recorded and analysed to an acceptable standard;

- To carry out geoarchaeological assessment of at least two cores retrieved and produce an updated Site specific deposit model for the site
- To inform a strategy to avoid or mitigate the impacts of the proposed development on any surviving archaeological remains identified

3.2 The specific aims of the fieldwork were;

- To clarify the nature, depth and extent of any alluvium and peat deposits
- To investigate the New Bridge and the realignment of the River Tone
- To identify and record any unknown buried archaeological remains, artefacts or earthworks associated with the River Tone

3.3 In addition, the geoarchaeological assessment is required in order to increase our knowledge and understanding of the geoarchaeological and palaeoenvironmental potential of the Site.

3.4 Four significant research aims relevant to the investigations at the Site were outlined:

- To clarify the nature of the sub-surface stratigraphy across the site;
- To clarify the nature, depth and extent of any alluvial and peat deposits;
- To investigate whether the sequences contain any artefact or ecofact evidence for prehistoric or historic human activity
- To investigate whether the sequences contain any evidence for natural and/or anthropogenic changes to the landscape (wetland and dryland);

3.5 To ensure that the fieldwork took place within, and contributes to the goals of the Research Frameworks set out in the South West Archaeological Research Framework (Grove and Croft, 2021).

3.6 To report the results as appropriate.

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5 Geoarchaeological, Archaeological and Historical Context

Introduction

5.1 An online search was previously conducted which assessed the historic environment potential of a 500 m Study Area around the proposed works. A summary of these results from the wider area is outlined below.

5.2 There are few recorded heritage assets in the Somerset HER within the surrounding area. This is likely due to a limited amount of archaeological work that has taken place in the area.

5.3 The site is located within the Somerset Levels and Moors which is one of England's lowest wetland areas and of great importance for the preservation of well stratified prehistoric sites and biological remains which enable palaeoenvironmental reconstruction (Historic England, 2015b). The nearby River Tone runs into the River Parrett to the north in the Burrowbridge Area and forms part of the Parrett ranges floodplain.

5.4 During previous investigations on the Somerset Levels to the north of the site the earliest Holocene strata encountered were lacustrine beds of mid-seventh millennium BC age at Saltmoor and Moorland House. These are likely to have formed in hollows in the Pleistocene topography, initially in an entirely freshwater environment, but with indications for later brackish water input. The latter demonstrates a connection with the River Parrett and the fact that the latter must have been tidal.

5.5 Later still in the mid-late sixth millennium BC, lithological and diatom evidence demonstrates that tidal waters extended up the channel system as far as the northern part of Southlake Moor which lies to the north of Currymoor. Deposition of laminated sands and muds in these tidal conditions thereafter deposited the majority of the Holocene sequence in the Saltmoor and Southlake Moor areas (9-12m), albeit that there is evidence of brief standstill phases in the form of occasional thin organic layers.

5.6 This rapid intertidal sedimentation only ceased in the latest Mesolithic (mid-fifth millennium BC) when depositional rates outstripped Relative Sea Level (RSL) rise and freshwater marsh developed across much of the Parrett valley. The resultant peats thereafter continued forming until the Bronze Age. The vestiges of human occupation during the Mesolithic might be expected in any part of the sequence, although such activity might have been ephemeral and irregular in the intertidal deposits that form the majority of the sequence. Nevertheless, while the very limited palynological work that has been carried out shows no evidence for human activity, it is notable that magnetic susceptibility peaks in the laminated sequences from Southlake Moor suggest the input of ash into valley during the Mesolithic (Historic England, 2015b).

5.7 In the wider area the River Tone Navigation was begun by John Malet, MP for Bath and Sheriff of Somerset, who in 1638 sought to improve the navigation of the river to improve the carriage of coal to Taunton. The works were never completed and in 1697 a group of Taunton merchants began the process of buying out the Malets. This resulted in the 1699 Tone Navigation Act which authorised the setting up of Conservators with powers to remove impediments, cut channels, and build bridges, wharves and locks weirs. The navigation was eventually replaced by the Bridgwater and Taunton Canal. A half lock known as Currymoor Half Lock as was built in 1708 approximately 274 metres downriver from Newbridge. It was later repaired in 1797 but it was however finally abandoned in the 1930s. The final record is the old timber Knapp Bridge. In 1766 the bridge was taken down by contractors who were to erect a "good and substantial bridge". This appears to be the site later known as New Bridge. The bridge was replaced by a sluice to the north of the river, diverted and the bridge was demolished in 1938 (Somerset HER, 2021).

6 Methodology

Introduction

6.1 The fieldwork followed the methodology set out within the Written Scheme of Investigation (ADAS, 2021). An archaeologist was present during all intrusive groundworks to excavate the trial pits.

6.2 Where archaeological deposits were encountered written, graphic and photographic records were compiled in accordance with the Chartered Institute for Archaeologists *Standard and Guidance: Archaeological watching brief 2020.*

6.3 In addition, geoarchaeological monitoring was carried out during the digging of three out of eleven window samples and five boreholes dug to the south of the trial pits. Core samples were retrieved from these site investigation works for analysis off site and are covered by a report in Appendix C.

Artefacts, Human Remains, Treasure and Environmental Sampling

6.4 No artefacts or human remains were encountered during the watching brief. Deposits of peat were identified in both of the trial pits, samples were taken from both the top and bottom of the layer of peat for later analysis.

Post-Excavation Analysis

6.5 No archaeological artefacts were encountered during the watching brief, and therefore no post-excavation analysis was required. Samples of peat were taken from the top and bottom of peat

deposits that were recorded in both of the trial pits. Following consultation with QUEST, it was decided that further analysis was not required of these samples due to the sampling and testing of peat remains recovered from the boreholes (Pers Comm, Dr Rob Batchelor).

Archives and Deposition

6.6 The archive is currently held by ADAS at their offices in Milton Park. No artefacts were recovered during the monitoring and therefore no artefacts will need to be deposited with an approved local museum. A paper archive will be deposited with South West Heritage Trust within six months of the completion of the fieldwork under an accession number which will be issued upon deposition. A summary of information from this project, set out within Appendix D, will be entered onto the OASIS database of archaeological projects in Britain. An OASIS form, ID reference adasuklt1-415075 has been provisionally completed and will be submitted at the time of completion.

ADAS Project Team

6.7 Fieldwork was undertaken by Charlotte Barley and Dr Rob Batchelor of QUEST. The report was written by Charlotte Barley and Dr Rob Batchelor. The illustrations were prepared by Charlotte Barley. The archive was compiled and prepared for deposition by Charlotte Barley. The project was managed for ADAS by James McNicoll-Norbury.

7 Results

7.1 This section provides an overview of the monitoring results; detailed summaries of the recorded contexts and finds are to be found in Appendix A. A full assessment of the geoarchaeological fieldwork can be found in Appendix C (Quest, 2021).

7.2 The archaeological watching brief area comprised the excavation of the two machine dug trial pits (Figure 2; Plates 1-4). The ground works consisted of topsoil being stripped from the trial pits using a mechanical excavator with a 600 mm flat bladed bucket to a depth of 0.2-0.3 m under constant archaeological supervision. Following the removal of the topsoil the trial pits were dug to their finished depth with a mechanical excavator. The works were completed over one day (Thursday 4th March 2021). The weather was dry and overcast Plates 1 - 4).

Trial Pit 1

7.3 Trial Pit 1 measured 3.2 m in length by 0.6 m in width and 3.5 m in depth. The topsoil (1001) was approximately 0.2 m deep and consisted of grass over a soft brown slightly sandy clay layer of alluvium. The topsoil overlay a layer of brown sandy clay which has been interpreted as alluvium (1002) measuring 1.0 m in depth. The base deposit of the trial pit comprised a layer of dark grey

silty clayey pseudofibrous peat with frequent root relics (1003) measuring approximately 2.30 m in depth which was sampled from the top and bottom of the layer.

7.4 No archaeologically significant features or artefacts were observed or recovered from the trial pit.

Trial Pit 2

7.5 Trial Pit 2 measured 3.1 m in length by 0.6 m in width and 3.0 m in depth. The topsoil (2001) was approximately 0.2 m deep and consisted of grass over a soft brown silty slightly sandy clay. The topsoil overlay a brown silty clay (2002) interpreted as alluvium measuring 1.10 m in depth. The base deposit in the trial pit was recorded to be a layer of dark brown clayey pseudofibrous peat with frequent root relics 1.7 m thick (2003) which was sampled from the top and bottom of the layer.

7.6 No archaeologically significant features or artefacts were observed or recovered from the trial pit.

8 Discussion and Conclusions

8.1 The two trial pits were dug as intended however no significant archaeological features or artefacts were observed or recovered from either Trial Pit. The absence of archaeological features recorded during the archaeological monitoring is likely attributed to the relatively limited ground impact of the trial pits and due to the impact of agricultural activity in these fields.

8.2 Data recorded from across the site and from LiDAR and Google Earth suggests the presence of an earlier course of the River Tone at the eastern end of the Site. However, there is limited data from the Site works to support this and there is also an absence of data along a 275 m long stretch between BH5 and WS5 where such a channel might exist.

8.3 Whilst no features or artefacts were identified both trial pits were recorded to contain layers of peat up to 2.30 m thick sealed beneath layers of alluvial clays.

8.4 Similar levels of peat were recorded as part of the geoarchaeological works for the scheme from which initial analysis highlights that these peat/clayey peat deposits are representative of a transition towards a semi-terrestrial environment, most likely supporting alder carr and sedge fen/reed swamp type communities. The age of these deposits is currently unknown. However, on the basis of radiocarbon dating undertaken at Saltmarsh (Wilkinson et al., 2009), these peat deposits could date to anywhere between the late Mesolithic and Bronze Age period.

8.5 The presence of the Peat and Alluvial sediments have the potential to contain further information on the past landscape at Curry Moor, through palaeoenvironmental assessment of the floral and

faunal remains (e.g. pollen, diatoms, plant macrofossils and insects) and radiocarbon dating. These can identify the nature and timing of changes in the landscape, and the interaction of different processes (e.g. vegetation change, human activity, climate change, hydrological change) thereby increasing our knowledge of the relatively limited archaeological understanding of the site and nearby area.

8.6 Further work therefore may have the potential to shed further light on potential buried archaeological deposits in areas of the scheme, including the location of an earlier course of the River Tone.

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Somerset HER 2021 Online Historic Environment Mapping Resource. Available at: https://www.somersetheritage.org.uk/record/44201# [accessed March 2021]

Appendix A: Context Descriptions

Trial Pit 1

No.	Type	Description	Length (m)	Width (m)	Depth/ Thickness (m)
(1001)	Layer	Topsoil – soft brown slightly sandy clay (Alluvium)	3.2 m	0.6 m	0.20 m
(1002)	Layer	Brown slightly sandy clay (Alluvium)	3.2 m	0.6 m	1.0 m
(1003)	Layer	Dark grey clayey pseudofibrous peat (Alluvium)	3.2 m	0.6 m	2.3 m

Trial Pit 2

No.	Type	Description	Length (m)	Width (m)	Depth/ Thickness (m)
(2001)	Layer	Topsoil – soft brown silty slightly sandy clay (Alluvium)	3.1 m	0.6 m	0.20m
(2002)	Layer	Brown silty clay (Alluvium)	3.1 m	0.6 m	1.10m
(2003)	Layer	Dark brown silty clayey pseudofibrous peat (Alluvium)	3.1 m	0.6 m	1.7 m

Appendix B: The Finds

No artefacts were identified during the course of the archaeological monitoring.

Appendix C: Geoarchaeological Assessment

QUEST
QUATERNARY SCIENTIFIC

University of Reading

CURRY MOOR URGENT WORKS, SOMERSET

Geoarchaeological Fieldwork & Deposit Modelling Report

NGR: ST 331644 126907

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CONTENTS

1. NON-TECHNICAL SUMMARY

A programme of geoarchaeological fieldwork and deposit modelling was carried out as part of the Curry Moor Urgent Works to: (1) clarify the nature of the sub-surface stratigraphy across the site, including the depth and extent of any alluvium and peat deposits; (2) to provide a provisional interpretation of the landscape history of the site, and (3) make recommendations for any further geoarchaeological and palaeoenvironmental investigations.

The program of fieldwork and deposit modelling has enabled the geoarchaeological and palaeoenvironmental potential of the deposits to be assessed. The sequence of deposits across the site comprises: (1) Mercia Mudstone Bedrock, (2) Gravel, (3) Alluvium & Peat and (4) Oxidised Alluvium / Flood Bank. The surface of the Mudstone and overlying Gravel is apparently up to 4m lower at the western end of the site, than it is at the eastern end. The Gravel surface is overlain by mineral-rich deposits of alluvial or estuarine origin. At the eastern end of the site where the Gravel surface is lowest, a ca. 0.3m thick basal peat horizon is recorded in BH4 and BH5 at the base of the alluvial deposits. Elsewhere, peat or clayey peats are frequently recorded between 0 and 4.5m OD. The entire alluvial sequence is capped by oxidised alluvium and/or flood bank deposits which share the same basic physical properties.

There appears to be limited evidence that the channel features observed in satellite imagery relates to a substantial channel cutting into the bedrock surface at the eastern end of the site. However, the site investigation works were carried out on the opposite bank to the apparent channel, and there is also an absence of data for a ca. 275m stretch between BH5 and WS5 where such a channel might exist.

The Peat and Alluvial sediments have the potential to contain further information on the past landscape at Curry Moor, through palaeoenvironmental assessment of the floral and faunal remains (e.g. pollen, diatoms, plant macrofossils and insects) and radiocarbon dating. It is therefore recommended that an assessment of the BH5 sequence is undertaken. The potential for further analysis and publication and dissemination will be addressed as part of this assessment.

2. INTRODUCTION

2.1 Site context

This report summarises the findings of the geoarchaeological fieldwork undertaken by Quaternary Scientific (QUEST) from works at Curry Moor, Somerset (National Grid Reference: centred on ST ST 331644 126907; Figures 1-3). The work was commissioned by ADAS on behalf of the RSK Environment Ltd.

The Curry Moor Flood Detention Reservoir is a low-lying area (ca. 5.5m OD) in the Somerset Levels that has historically been flooded by the River Tone. The reservoir has two cells: the larger cell on the left (north) bank of the river which is known as Curry Moor, and the smaller cell on the south bank, known as Hay Moor (Figure 1). Both areas are bounded by raised riverbanks of the River Tone, and by higher surrounding ground across the floodplain. The British Geological Survey (BGS) show the site underlain by Mercia Mudstone Group deposits of Mudstone and Halite Stone. The bedrock is overlain by Holocene alluvium, described as clay, silt, sand and gravel, across both Southlake Moor and the wider area.

Whilst the Somerset Levels has a long history of geoarchaeological and palaeoenvironmental investigation (see e.g. Bell et al., 2015), Curry Moor remains relatively poorly understood due to an absence of work in this particular area. The nearest investigations are downstream at Baltmoor Wall (Watts & Scaife, 2008), and in the Parrett Valley at Southlake (Wilkinson 2009; Batchelor, 2021; Batchelor et al., in prep).

At Baltmoor Wall, work undertaken as part of an investigation into the consolidation of parts of the Lower Tone Flood Defence Scheme revealed alluvial and peat sediments dating to the Bronze Age and Roman to Medieval period; the base of Holocene sequence however was not reached. Palaeoenvironmental analysis of these deposits indicated that during the Bronze Age, the local environment was dominated by deciduous woodland, with evidence of changes between grass-sedge fen and carr woodland on the wetland. Arable agriculture was also indicated throughout this period by cereal pollen. Similarly, during the early Roman period, grass/sedge fen changed to drier swamp and alder carr, before regressing back to a wetter floodplain environment during the 11th/12th century AD. The local environment was dominated by herbs and grasses with limited trees and shrubs (Watts & Scaife, 2008).

At Southlake, investigations at two locations on the northern and eastern sides of the moor in 2009 revealed a sequence Late Glacial / Early Holocene head and fluvial sands and gravels (Wilkinson et al., 2009). This was overlain by >10m of fine-grained channel and overbank sediments, peats, mineral clays, and strata associated with the flood banks. Radiocarbon dating indicated that the channel fill and associated deposits began accumulating during the late Mesolithic, whilst peat formation commenced during the early Neolithic and continued until the late Bronze Age / Iron Age. This period of peat formation closely correlates to that recorded in deposits on the south-side of the River Parrett between Monk's Leaze Clyse and Northmoor Green (Wilkinson, 2007) and the well-known Brue Valley peats (Campbell et al., 1999). A subsequent borehole taken close to Barrow Mump

revealed a much shorter sequence of peat and silt (Batchelor, 2021); analysis of this sequence is currently ongoing (Batchelor et al., in prep).

In March 2021, a transect of geotechnical site investigations was carried out in association with the flood bank on the left (north) bank of the River Tone, comprising boreholes, window samples and test-pits. These urgent site investigation works formed part of the Curry Moor Reservoir upgrades to address the Measures in the Interest of Safety (MIOS) raised by the Inspection Engineer in the latest S10 Report, September 2019. Specifically, it is to provide information on the geological, hydrogeological and geotechnical parameters of the flood bank to enable the design of appropriate remedial works immediately upstream and downstream of New Bridge (Environment Agency, 2020; ADAS, 2021; Figure 1). Archaeological and geoarchaeological monitoring is required as mitigation for these site investigation works (ADAS, 2021a), the findings of which form the focus of this report.

2.2 Geoarchaeological, Palaeoenvironmental and Archaeological significance

Geoarchaeological investigation of the site will provide an insight into the environmental history of Curry Moor, an area not previously subject to such investigation. This in turn can be compared to nearby investigations at Baltmoor Wall (Watts & Scaife) and Southlake Moor (Wilkinson et al, 2009; Batchelor, 2021; Batchelor et al., in prep).

Variations in the surface of the Pleistocene Gravels, and the type, thickness and age of the subsequent Holocene Peat and Alluvium are significant as they represent different environmental conditions that would have existed in a given location. For example: (1) the varying surface of the Gravel may represent the location of pre-Holocene river terraces, former channels and bars; (2) the presence of peat represents former terrestrial or semi-terrestrial land-surfaces, and (3) various alluvial units represent periods of changing hydrological conditions. Thus, by studying the sub-surface stratigraphy across the site in greater detail (including geoarchaeological investigations at the site), it will be possible to build an understanding of the former landscapes and environmental changes that took place across space and time. Indeed, surface elevation models (LIDAR) and Google Earth imagery indicate the presence of an earlier course of the Tone meandering south to Haymoor Old Rhyne (Figures 2 & 3; ADAS, 2021; Brunning pers. comm.), evidence of which may be recorded in the borehole/window samples.

Any alluvial and organic-rich sediments (in particular peat and soil horizons) have high potential to provide a detailed reconstruction of past environmental conditions on both the wetland and dryland across Curry Moor. Furthermore, these deposits also provide the potential to develop understanding on the interactions between hydrology, human activity, vegetation succession and climate. Significant vegetation changes include the Mesolithic/Neolithic decline of elm woodland, the Neolithic colonisation and decline of yew woodland, and the general decline of wetland and dryland woodland during the Bronze Age. Such investigations have been undertaken on a number of records across the Somerset Levels (see e.g. Bell et al., 2015), most locally at Baltmoor Wall (Watts & Scaife, 2008) and Saltmoor (Wilkinson et al., 2009; Batchelor et al., in prep) (see section 2.1).

Finally, areas of high gravel topography, soils and peat represent potential areas that might have been utilised or even occupied by prehistoric people, evidence of which may be preserved in the archaeological (e.g. features and structures) and palaeoenvironmental record (e.g. changes in vegetation composition). No features or finds were made during archaeological monitoring of the two test-pits however.

2.3 Aims and objectives

The aims of the geoarchaeological fieldwork and deposit modelling are detailed within the Written Scheme of Investigation for the site (ADAS, 2021):

1. To clarify the nature of the sub-surface stratigraphy across the site;
2. To clarify the nature, depth and extent of any alluvial and peat deposits;
3. To investigate the New Bridge and the realignment of the River Tone
4. To investigate whether the sequences contain any artefact or ecofact evidence for prehistoric or historic human activity;
5. To investigate whether the sequences contain any evidence for natural and/or anthropogenic changes to the landscape (wetland and dryland);

In order to address the first three of these aims and establish the potential of addressing aims 4 & 5, the following objectives are proposed:

1. To monitor a selection of geotechnical boreholes put down across the site;
2. To use the stratigraphic data from the new locations to produce a deposit model of major depositional units across the site, and
3. To provide a provisional interpretation of the landscape history of the site
4. To make recommendations for further geoarchaeological and palaeoenvironmental work

Aims 4 and 5 will be established through a program of geoarchaeological and paleoenvironmental assessment/analysis, the potential for which will be confirmed after achieving Aims 1 to 3.

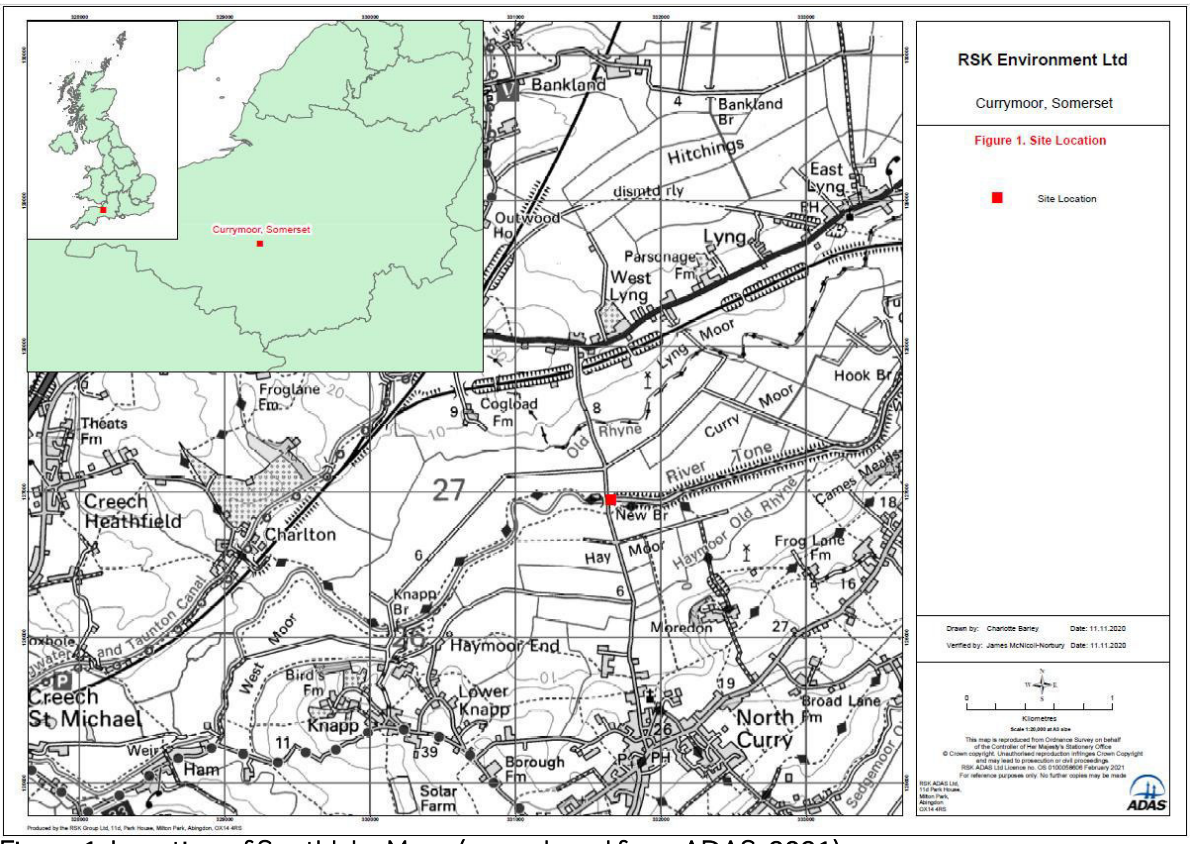

Figure 1: Location of Southlake Moor (reproduced from ADAS, 2021)

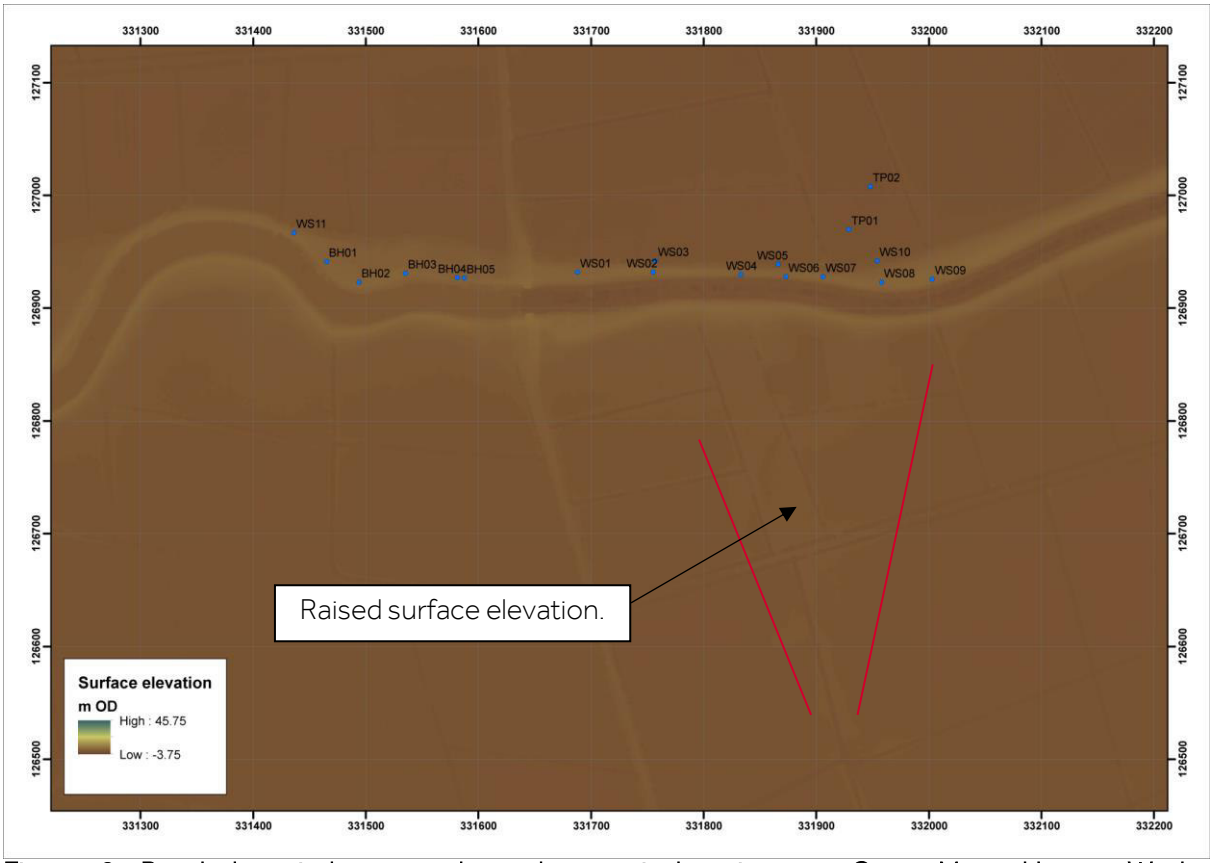

Figure 2: Borehole, window sample and test-pit locations at Curry Moor Urgent Works, superimposed on surface elevation model produced from LIDAR data (DEFRA, 2021; Contains public sector information licensed under the Open Government Licence v3.0)

Figure 3: Google Earth map highlighting the position of an earlier course of the River Tone that runs south from its current man-made course (Brunning, pers. comm.).

3. METHODS

3.1 Field investigations

A total of eleven window samples (WS01 to WS11), four boreholes (BH1-4) and two test-pits (TP01 & TP02) were put down for geotechnical purposes. The window samples were put down using a tracked window sampling rig and the boreholes were put down by rotary coring. At each location a combination of geotechnical testing methods was used resulting in disturbed and interrupted sampling unsuitable for offsite geoarchaeological and palaeoenvironmental works. As such, repeat sequences were obtained from window sample locations WS03A, WS10A and BH5 (Figure 2). Spatial co-ordinates were obtained using a Leica Differential GPS and with reference to LIDAR surface elevation imagery (Table 1).

Table 1: Spatial attributes of the Curry Moor Urgent Works site investigation works.

Name	Easting	Northing	Elevation†	Depth (m)	Subject to geoarchaeological monitoring	Sampled for geoarchaeological purposes
WS01	331688	126932	7.70	8.45	*	
WS02	331755	126932	8.27	8.45		
WS03/03A	331757	126942	5.76	8.45	*	*
WS04	331833	126930	8.01	8.45		
WS05	331866	126939	5.92	8.45		
WS06	331873	126928	7.82	8.45		
WS07	331906	126928	8.06	8.45		
WS08	331958	126923	8.20	8.45		
WS09	332003	126926	8.10	8.45		
WS10/10A	331954	126942	5.90	8.45	*	*

WS11	331436	126967	7.91	8.45		
TP01	331929	126970	5.45	3.5		
TP02	331948	127008	5.25	3		
BH01	331465	126941.5	7.65	12	*	
BH02	331493.9	126923.2	7.97	13.2	*	
BH03	331535.2	126931	7.93	12	*	
BH04	331581.3	126927.1	7.99	14.9	*	
BH05	331587.3	126926.9	8.02	12.5	*	*

† WS and TP elevations were estimated from LIDAR data (see Figure 2)

3.2 Lithostratigraphic descriptions

The deposits monitored and/or sampled for geoarchaeological purposes (Table 1) were described using standard procedures for recording unconsolidated sediments and organic remains, noting the physical properties (colour), composition (particle size, organic content and sorting), and any archaeological inclusions (Tröels-Smith, 1955). The procedure involved: (1) cleaning the sample using a scalpel; (2) recording the physical properties, most notably colour using a Munsell Soil Colour Chart; (3) recording the composition; gravel (Grana glareosa; Gg), fine sand (Grana arenosa; Ga), silt (Argilla granosa; Ag) and clay (Argilla steatoides; As); (4) recording the degree of peat humification and (5) recording the unit boundaries e.g. sharp or diffuse. This was undertaken in order to assess the palaeoenvironmental and archaeological potential of the deposits. Images of the recovered samples are presented in Figure 3, the results and interpretations of the lithostratigraphic descriptions are presented in Tables 2-9, Figure 4 and Sections 4.

3.3 Deposit modelling

Sedimentological descriptions from the monitored/sampled boreholes were classified into five different lithologies which were grouped into three lithostratigraphic units: (1) Bedrock, (2) Gravel, (3) Peat, (4) Alluvium and (5) Flood Bank / Oxidised Alluvium. Due to the linear nature of the works, it was not possible to produce topographic surface plots of the height and thickness of each lithostratigraphic unit from deposit modelling. Instead, the results of the geoarchaeological and geotechnical records have been summarised in a two-dimensional west-east stratigraphic profile (Figure 5).

4. RESULTS & INTERPRETATION OF THE GEOARCHAEOLOGICAL FIELDWORK & DEPOSIT MODELLING

Tabulated descriptions of the monitored and/or sampled window samples and boreholes are provided in Tables 2-9. A photograph of the borehole BH5 is shown in Figure 4, and a west-east transect incorporating all the records is displayed in Figure 5.

Sample recovery was good in boreholes BH1-4, providing a near complete record of the sub-surface stratigraphy to the top of the Pleistocene Gravels. Borehole BH5 provided the best record as this was taken solely for geoarchaeological purposes. By comparison, sample recovery in the window samples was intermittent. Varying geotechnical testing and sampling inevitably contributed to this, but even in those samples taken specifically for geoarchaeological purposes, recovery was very intermittent (see Figure 5). This is not an uncommon occurrence, and most likely results from: (1) the relatively soft nature of the alluvial and peat deposits, and (2) the percussive force of the window sampling rig.

Nevertheless, the new geotechnical and geoarchaeological records provide a useful insight into the sub-surface stratigraphy of the site. The full sequence of deposits comprises:

Flood Bank / Oxidised Alluvium
Alluvium & Peat
Gravel
Mudstone bedrock

4.1 Mercia Mudstone

Firm reddish brown silty clay was recorded at the base of three sequences: below -4.16m OD in BH4, below -1.98m OD in WS05 and below -1.48m OD in WS10A. These deposits are representative of the bedrock Mercia Mudstone Group. The number of data-points are obviously limited, but appear to indicate that the bedrock surface either slopes downwards in a westerly direction or undulates more widely across the area.

4.2 Gravel

The bedrock surface is overlain BH4, WS5 and WS10A by sand and generally fine sub-angular to sub-rounded gravel. It is also recorded at the base of the sequence in BH1-4 and WS6. These deposits are most likely representative of Late Glacial / Early Holocene fluvial sands and gravels. The gravel is predominantly composed of mudstone, sandstone and quartz, suggesting it derives from the Mercia Mudstone bedrock. In boreholes BH1 to BH5, the surface of the gravel is recorded between ca. -3.2 and -4.0m OD, whilst in window samples WS5, WS6 and WS10A it is recorded between 0.2 and -0.6m OD. There is therefore a clear difference in gravel surface elevation on the western and eastern sides of the site. However, there is a 275m distance between BH4 (west) and WS5 (east) where the surface of the gravel remains undetermined.

4.3 Alluvium & Peat

The surface of the Gravel is overlain by thick deposits of predominantly inorganic blue-grey/grey fine-grained sediment reaching up to ca. 7m in thickness, and with an upper surface around 7±1.5m OD. These deposits are dominated by blue-grey sands and silts, that become increasingly silty and clayey with decreasing depth. These sediments are collectively interpreted as Estuarine Alluvium and represent deposition under low energy fluvial or estuarine conditions.

These alluvial deposits are separated by peat and/or clayey peat units recorded at the following distinct levels:

1. a 0.3m thick layer of well-humified clayey unidentifiable peat is recorded at the base of the Alluvium, immediately overlying the Gravel below -13.8m OD in boreholes BH4 and BH5, and
2. up 4m of well humified peat or clayey peat with wood and/or herbaceous remains is consistently recorded in all sequences (except BH3) between ca. 0 and 4.5m OD. In BH1, BH4, BH5, WS3A and WS10A, this thick layer of peat was separated by a layer of alluvium ranging up to 1m in thickness. Whether this was a more widespread occurrence is not possible to determine due to poor sample recovery in the other sequences. For the same reason, establishing the true thickness of the peat in these sequences is difficult.
3. A thin horizon of peat (0.12m) is recorded at the top of the alluvial sequence in BH3 only at around 6.0m OD.

These peat/clayey peat deposits are representative of a transition towards a semi-terrestrial environment, most likely supporting alder carr and sedge fen/reed swamp type communities. The age of these deposits is currently unknown. However, on the basis of radiocarbon dating undertaken at Saltmarsh (Wilkinson et al., 2009), these peat deposits could date to anywhere between the late Mesolithic and Bronze Age period.

4.4 Oxidised Alluvium & Flood Bank

Towards the top of the sequence, above 5.0-6.0m OD, the silty clayey alluvium becomes browner in colour with frequent mottling and manganese staining. This transition is frequently recorded towards the top an alluvial sequence as a result of oxidation and soil-forming processes (pedogenesis).

The flood bank deposits must be at least 2m thick as this is the minimum elevation difference between the natural floodplain surface and crest of the bank. However, it is difficult to separate this from the oxidising alluvium because they generally share similar properties. As such, the Oxidised Alluvium and Flood Bank deposits have been grouped together at this stage, although further laboratory and microscope-based work may help to differentiate the two.

It is of note however that Wilkinson (2007) defined five categories of flood bank facies during work at Saltmoor (see Table 10). At this stage in the investigation, the flood bank deposits at Curry Moor seem most closely aligned to Type 4 in this classification system. These deposits were described as

massive grey-brown silt/clay and fine sand, often with peat 'clasts', and are interpreted as dredged channel sediments.

Table 10: Flood bank facies (modified after Wilkinson 2007, 15)

Type	Description	Interpretation
1	Compact angular gravel in red brown matrix.	20th century floodbank armouring
2	Yellow brown calcareous fine sand with cultural debris	20th century infill behind revetment
3	Massive yellow brown silt/clay with cultural debris	Dumped building, occupation and craft waste
4	Massive grey brown silt/clay and fine sand, often with peat 'clasts'	Dredged channel sediments
5	Laminated blue grey silt/clay and organic mud	Flood event

The entire sequence is capped by a thin horizon of top-soil.

Figure 4: Photograph of the BH5 core samples, Curry Moor Urgent Works

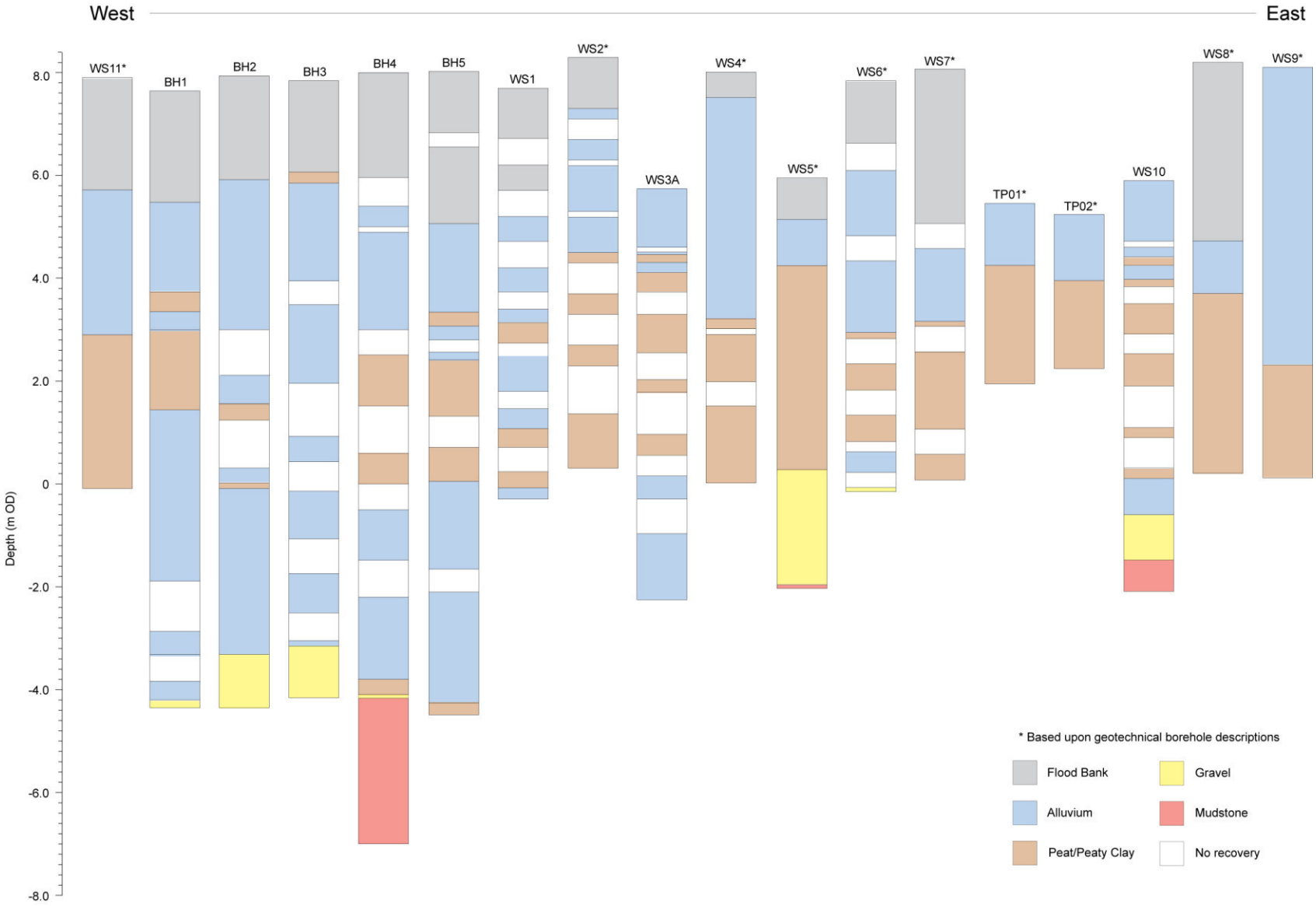

Figure 5: West-east transect of sequences along the Curry Moor Urgent Works (sequences are not spaced accurately to scale)

Table 2: Description of WS01, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
7.70 to 6.70	0 to 1.00	Test-pit – not observed	FLOOD BANK / OXIDISED ALLUVIUM
6.70 to 6.20	1.00 to 1.50	No recovery	
6.20 to 5.80	1.50 to 1.90	10YR 4/3; Ag2, As2; Brown silty clay with iron staining; diffuse contact into:	
5.80 to 5.70	1.90 to 2.00	10YR 4/3; Ag3, As1; Brown silty clay with iron staining	
5.70 to 5.20	2.00 to 2.50	No recovery	
5.20 to 4.70	2.50 to 3.00	10YR 4/3; Ag3, As1; Brown silty clay with iron staining	
4.70 to 4.20	3.00 to 3.50	No recovery	
4.20 to 3.90	3.50 to 3.80	10YR 4/3; Ag3, As1; Brown silty clay with iron staining; sharp contact into:	
3.90 to 3.78	3.80 to 3.92	Gley 2 5/1; As4; Bluish grey soft clay	ALLUVIUM
3.78 to 3.75	3.92 to 3.95	10YR 4/2; As3, Sh1; Dark greyish brown organic-rich clay	
3.75 to 3.40	3.95 to 4.30	No recovery	
3.40 to 3.15	4.30 to 4.55	10YR 4/2; As4, Sh+; Dark greyish brown clay with traces of organic material; possibly disturbed; diffuse contact into:	
3.15 to 2.70	4.55 to 5.00	10YR 4/2; As3, Sh1 to As2, Sh2, Tl+; Humo 4; Dark greyish brown very well humified organic-rich clay to unidentifiable peaty clay with fragments of wood	PEAT
2.70 to 2.50	5.00 to 5.20	No recovery	
2.50 to 2.07	5.20 to 5.63	10YR 4/3; As4; Brown clay; probable collapsed material; diffuse contact into:	ALLUVIUM
2.07 to 1.80	5.63 to 5.90	10YR 4/2; As3, Sh1; Greyish brown organic-rich clay; possibly disturbed	
1.80 to 1.45	5.90 to 6.25	No recovery	
1.45 to 1.07	6.25 to 6.63	10YR 5/3; As4; Brown to bluish grey very soft clay; disturbed	
1.07 to 0.70	6.63 to 7.00	10YR 4/2; As2, Sh2, Gg+; Greyish brown very soft unidentifiable peaty clay; possibly disturbed	PEAT
0.70 to 0.25	7.00 to 7.45	No recovery	
0.25 to -0.07	7.45 to 7.77	10YR 4/2; As2, Sh2, Gg+; Greyish brown very soft unidentifiable peaty clay; possibly disturbed	
-0.07 to -0.30	7.77 to 8.00	10YR 5/2; As4, Sh+; Brownish grey clay with traces of organic material.	ALLUVIUM

Table 3: Description of WS03A, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
5.76 to 5.46	0 to 0.30	Top soil	TOP-SOIL / OXIDISED ALLUVIUM
5.46 to 4.66	0.30 to 1.10	10YR 4/3; As4; Brown very wet clay with iron staining	
4.66 to 4.56	1.10 to 1.20	Gley 2 5/1; As4; Bluish grey very wet clay with iron staining	ALLUVIUM
4.56 to 4.51	1.20 to 1.25	No recovery	
4.51 to 4.47	1.25 to 1.29	Gley 2 5/1; As4; Bluish grey very wet clay with iron staining; sharp contact into:	
4.47 to 4.36	1.29 to 1.40	10YR 3/1; Sh3, As1; Humo 4; Very dark grey clayey unidentifiable peat; diffuse contact into:	PEAT
4.36 to 4.30	1.40 to 1.46	10YR 4/1; Sh2, As2 to As3, Sh1; Dark grey clayey unidentifiable peat to organic-rich clay; diffuse contact into:	
4.30 to 4.06	1.46 to 1.70	Gley 2 5/1; As4; Bluish grey clay; diffuse contact into:	ALLUVIUM

4.06 to 3.91	1.70 to 1.85	10YR 4/1; As3, Sh1, Th+; Dak grey mottled blue organic-rich clay with traces of wood; diffuse contact into:	PEAT
3.91 to 3.76	1.85 to 2.00	10YR 4/2; As2, Sh1, Tl1; Humo 4; Dark greyish very well humified brown unidentiable and wood peaty clay	
3.76 to 3.30	2.00 to 2.46	No recovery	
3.30 to 3.15	2.46 to 2.61	10YR 4/2; As2, Sh1, Tl1; Humo 4; Dark greyish very well humified brown unidentiable and wood peaty clay	
3.15 to 2.76	2.61 to 3.00	10YR 3/2; Sh2, Tl2; Humo 2-3; Very dark brown moderately humified wood and unidentifiable peat; soft	
2.76 to 2.02	3.00 to 3.74	No recovery	
2.02 to 1.76	3.74 to 4.00	10YR 3/2; Sh2, Tl2; Humo 2-3; Very dark brown moderately humified wood and unidentifiable peat; soft	
1.76 to 0.92	4.00 to 4.84	No recovery	
0.92 to 0.76	4.84 to 5.00	10YR 3/2; Sh2, Tl2; Humo 2-3; Very dark brown moderately humified wood and unidentifiable peat; very soft	
0.76 to 0.14	5.00 to 5.62	No recovery	
0.14 to -0.10	5.62 to 5.86	10YR 5/2; As2, Ag2, Sh+, Dl+; Brownish grey silty clay with traces of organic matter and detrital wood; sharp contact into:	ALLUVIUM
-0.10 to -0.24	5.86 to 6.00	Gley 2 5/1; Ag3, Ga1; Bluish grey sandy silt	
-0.24 to -0.94	6.00 to 6.70	No recovery	
-0.94 to -1.05	6.70 to 6.81	10YR 5/2; As2, Ag2, Sh+, Dl+; Brownish grey silty clay with traces of organic matter and detrital wood; sharp contact into:	
-1.05 to -1.11	6.81 to 6.87	Wood	
-1.11 to -1.24	6.87 to 7.00	Gley 2 5/1; Ga4; Blueish grey fine sand	
-1.24 to -1.74	7.00 to 7.50	No recovery	
-1.74 to -2.24	7.50 to 8.00	Gley 2 5/1; Ga4; Blueish grey fine sand	

Table 4: Description of WS10A, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
5.90 to 5.70	0 to 0.20	Top soil	TOP SOIL / OXIDISED ALLUVIUM
5.70 to 4.70	0.20 to 1.20	2.5YR 4/3; As4; Reddish brown clay with rooting	
4.70 to 4.60	1.20 to 1.30	No recovery	
4.60 to 4.51	1.30 to 1.39	10YR 4/3; As3, Ag1; Brown silty clay with iron staining; diffuse contact into:	
4.51 to 4.44	1.39 to 1.46	10YR 4/3; As4; Brownish grey clay; sharp contact into:	
4.44 to 4.24	1.46 to 1.66	10YR 3/2; Sh3, As1; Humo 4; Very dark greyish brown very well humified clayey unidentifiable peat; diffuse contact into:	PEAT
4.24 to 3.97	1.66 to 1.93	As4; Blueish grey clay; sharp contact into:	ALLUVIUM
3.97 to 3.92	1.93 to 1.98	10YR 4/2; Sh2, As2; Humo 4; Dark greyish brown very well humified clayey unidentifiable peat; diffuse contact into	PEAT
3.92 to 3.45	1.92 to 2.45	No recovery	
3.45 to 2.90	2.45 to 3.00	10YR 4/2; Sh3, As1, Tl+, Th+; Humo 4; Dark greyish brown very well humified clayey unidentifiable peat with traces of wood and herbaceous remains	
2.90 to 2.55	3.00 to 3.35	No recovery	
2.55 to 2.20	3.35 to 3.70	10YR 3/2; Sh3, As1; Humo 4; Very dark greyish brown very well humified clayey unidentifiable	

		peat; very soft and possibly disturbed; diffuse contact into:	
2.20 to 1.90	3.70 to 4.00	10YR 4/2; Sh2, As2, Tl+; Humo 3; Dark greyish brown well humified clayey unidentifiable peat with traces of wood	
1.90 to 1.10	4.00 to 4.66	No recovery	
1.10 to 0.90	4.66 to 5.00	10YR 4/2; Sh2, As2, Tl+; Humo 3; Dark greyish brown well humified clayey unidentifiable peat with traces of wood; very soft and possibly disturbed above 4.80.	
0.90 to 0.30	5.00 to 5.60	No recovery	
0.30 to 0.10	5.60 to 5.80	10YR 4/2; Sh2, As2, Tl+; Humo 3; Dark greyish brown well humified clayey unidentifiable peat with traces of wood; soft	
0.10 to 0	5.80 to 5.90	Gley 2 5/1; As2, Ag2; Bluish grey silty clay; diffuse contact into:	ALLUVIUM
0 to -0.44	5.90 to 6.34	Gley 2 5/1; As2, Ag1, Ga1; Bluish grey silty sandy clay	
-0.44 to -0.60	6.34 to 6.50	10YR 5/1 to 10YR 4/3; Ga4, Gg+; Grey to brown sand with traces of gravel; diffuse contact into:	
-0.60 to -0.68	6.50 to 6.58	10YR 4/3; 10YR 4/3; Ga2, Gg2; Brown sandy gravel; sharp contact into:	GRAVEL
-0.68 to -1.50	6.58 to 7.40	2.5YR 4/3; Ga2, Gg2; Reddish brown sandy gravel; sharp contact into:	
-1.50 to -2.10	7.40 to 8.00	Mudstone	MUDSTONE

Table 5: Description of BH1, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
7.65 to 6.45	0 to 1.20	Test-pit – not observed	FLOOD BANK / OXIDISED ALLUVIUM
6.45 to 5.45	1.20 to 2.20	10YR 4/3; As4, Ag+; Brown clay with traces of silt; diffuse contact into:	
5.45 to 4.77	2.20 to 2.88	10YR 5/2; As4; Brownish grey clay; diffuse contact into:	
4.77 to 4.35	2.88 to 3.30	10YR 4/3; As4; Brown clay; diffuse contact into:	
4.35 to 3.80	3.30 to 3.85	10YR 5/2; As4; Greyish brown clay; sharp contact into:	ALLUVIUM
3.80 to 3.35	3.85 to 4.30	10YR 3/1; Sh3, As1; Humo 4; Very dark grey highly humified clayey unidentifiable peat; sharp contact into:	PEAT
3.35 to 2.99	4.30 to 4.66	Gley 2 5/1; As4; Blueish grey clay; sharp contact into:	ALLUVIUM
2.99 to 1.65	4.66 to 6.00	10YR 3/1; As2, Sh2; Humo 4; Dark grey very well humified clayey unidentifiable peat;	PEAT
1.65 to 1.45	6.00 to 6.20	10YR 4/2; As3, Sh1, Tl+; Dark greyish brown organic-rich clay with traces of wood; diffuse contact into:	
1.45 to 0.45	6.20 to 7.20	10YR 5/1; As2, Ag2, Sh+; Grey silty clay with traces of organic material; diffuse contact into:	ALLUVIUM
0.45 to 0.35	7.20 to 7.30	Gley 2 5/1; As2, Ag2; Blueish grey silty clay; diffuse contact into:	
0.35 to 0.20	7.30 to 7.55	10YR 5/2; As3, Sh1; Greyish brown organic-rich clay; diffuse contact into:	
0.20 to -0.35	7.55 to 8.00	Gley 2 5/1; As4; Bluish grey clay	
-0.35 to -1.85	8.00 to 9.50	10YR 5/1; Ag2, Ga2; Grey silty sand	
-1.85 to -2.85	9.50 to 10.50	No recovery	
-2.85 to -3.35	10.50 to 11.00	10YR 5/1; Ag2, Ga2; Grey silty sand	
-3.35 to -3.85	11.00 to 11.50	No recovery	

-3.85 to -4.25	11.50 to 11.90	10YR 5/1; Ag2, As1, Ga1; Grey clayey sandy silt; sharp contact into:	
-4.25 to -4.35	11.90 to 12.00	10YR 4/3; Ag2, Ga1, Gg1; Brown gravelly sandy silt. Gravel of mudstone and quatzite	GRAVEL

Table 6: Description of BH2, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
7.97 to 6.77	0 to 1.20	Test-pit – not observed	FLOOD BANK / OXIDISED ALLUVIUM
6.77 to 5.97	1.20 to 2.00	10YR 5/3; As2, Gg2; Brown mixture of clay and fine gravel; diffuse contact into:	
5.97 to 3.97	2.00 to 4.00	10YR 5/3; As3, Ag1; Brown to grey brown silty clay	
3.97 to 2.97	4.00 to 5.00	10YR 5/3; As3, Ag1; Grey brown silty clay; disturbed	ALLUVIUM
2.97 to 2.17	5.00 to 5.80	No recovery	
2.17 to 2.02	5.80 to 5.95	10YR 5/3; As2, Ag2; Grey brown silty clay; disturbed	
2.02 to 1.77	5.95 to 6.20	10YR 4/1; As2, Ag1, Ga1; Dark grey silty sandy clay; sharp contact into:	
1.77 to 1.27	6.20 to 6.50	10YR 3/1; Sh2, Tl1, As1; Humo 3; Very dark grey well humified clayey unidentifiable and wood peat	PEAT
1.27 to 0.37	6.50 to 7.60	No recovery	
0.37 to 0.24	7.60 to 7.73	10YR 5/3; As2, Ag1, Sh1; Brown organic-rich silty clay; sharp contact into:	ALLUVIUM
0.24 to 0.07	7.73 to 7.90	As4; Blueish grey clay; sharp contact into:	
0.07 to -0.03	7.90 to 8.00	10YR 2/1; As2, Tl2; Black clay with frequent wood	PEAT
-0.03 to -3.33	8.00 to 11.00	10YR 5/1; As2, Ag2; Grey silty sand	ALLUVIUM
-3.33 to -4.33	11.00 to 12.00	10YR 5/3; Ga2, Gg2; Brown sandy gravel. Gravel of mudstone, sandstone and quartzite.	GRAVEL

Table 7: Description of BH3, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
7.93 to 6.73	0 to 1.20	Test-pit – not observed	FLOOD BANK / OXIDISED ALLUVIUM
6.73 to 6.05	1.20 to 1.88	10YR 5/3; Ag3, Ga1; Brown sandy silt; sharp contact into:	
6.05 to 5.93	1.88 to 2.00	10YR 3/1; Sh3, As1, Th+; Humo 4; Very dark grey very well humified clayey unidentifiable peat with traces of wood;	PEAT
5.93 to 4.53	2.00 to 3.40	10YR 5/3 to 10YR 5/2; As3, Ag1; Brown to greyish brown silty clay	ALLUVIUM
4.53 to 4.45	3.40 to 3.48	Wood	
4.45 to 3.93	3.48 to 4.00	10YR 5/3 to 10YR 5/2; As3, Ag1; Brown to greyish brown silty clay	
3.93 to 3.43	4.00 to 4.50	No recovery	
3.43 to 1.93	4.50 to 6.00	10YR 5/1; Ag2, Ga2; Grey silty sand; minimal recovery below 5.00m bgl	
1.93 to 0.83	6.00 to 7.10	No recovery	
0.83 to 0.43	7,10 to 7.50	10YR 5/2; As2, Ag1, Sh1; Greyish brown organic rich silty clay	
0.43 to -0.17	7.50 to 8.10	No recovery	
-0.17 to -1.07	8.10 to 9.00	10YR 5/1; Grey clay	
-1.07 to -1.77	9.00 to 9.70	No recovery	
-1.77 to -2.27	9.70 to 10.20	10YR 5/2; As2, Ag1, Sh1; Greyish brown organic rich silty clay	
-2.27 to -2.57	10.20 to 10.50	10YR 5/1; As3, Ag1, Sh+; Grey silty clay with traces of organic remains	

-2.57 to -3.07	10.50 to 11.00	No recovery	
-3.07 to -3.17	11.00 to 11.10	10YR 5/1; As3, Ag1; Grey silty clay; sharp contact into:	
-3.17 to -4.07	11.10 to 12.00	10YR 5/1; Ga3, Gg1; Grey gravelly sand. Gravel of mudstone, sandstone and quartzite.	GRAVEL

Table 8: Description of BH4, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
7.99 to 6.79	0 to 1.20	Test-pit – not observed	FLOOD BANK / OXIDISED ALLUVIUM
6.79 to 5.99	1.20 to 2.00	10YR 5/2; Ag2, As2, Ga+; Greyish brown silty clay with an increasing in sand content with depth	
5.99 to 5.39	2.00 to 2.60	No recovery	
5.39 to 4.99	2.60 to 3.00	10YR 5/3; As2, Ag2; Brown silty clay	
4.99 to 4.89	3.00 to 3.10	No recovery	
4.89 to 4.69	3.10 to 3.30	10YR 5/3; As2, Ag2; Brown silty clay	
4.69 to 3.19	3.30 to 4.80	10YR 5/3; As4; Brown clay, blocky with iron staining; sharp contact into:	
3.19 to 2.99	4.80 to 5.00	10YR 5/1; As4; Grey clay	ALLUVIUM
2.99 to 2.29	5.00 to 5.70	No recovery	
2.29 to 1.49	5.70 to 6.50	10YR 2/1; Sh3, Tl1, Th+, As+; Humo 3; Black well humified wood and unidentifiable peat with traces of clay and occasional clay lenses	PEAT
1.49 to 0.59	6.50 to 7.40	No recovery	
0.59 to -0.01	7.40 to 8.00	10YR 5/2; Sh2, As2; Greyish brown unidentifiable peat and clay	
-0.01 to -0.51	8.00 to 8.50	No recovery	
-0.51 to -1.51	8.50 to 9.50	10YR 5/1; As4, Ga+; Grey clay with traces of sand	ALLUVIUM
-1.51 to -2.21	9.50 to 10.20	No recovery	
-2.21 to -2.81	10.20 to 10.80	10YR 5/1; As4, Ga+; Grey clay with traces of sand	
-2.81 to -3.51	10.80 to 11.50	As4; Reddish brown clay	
-3.51 to -3.81	11.50 to 11.80	10YR 4/1; As4; Dark grey clay	
-3.81 to -4.11	11.80 to 12.10	10YR 3/2; Sh3, As1, Ga+; Very dark greyish brown clayey unidentifiable peat with traces of sand; sharp contact into:	PEAT
-4.11 to -4.16	12.10 to 12.15	10YR 5/1; Ga2, Gg2; Grey sandy gravel; sharp contact into	GRAVEL
-4.16 to -6.91	12.15 to 14.90	Mudstone	MUDSTONE

Table 9: Description of BH5, Curry Moor Urgent Works

Depth (m OD)	Depth (m bgl)	Description	Interpretation
8.02 to 6.82	0 to 1.20	Test-pit – not observed	FLOOD BANK / OXIDISED ALLUVIUM
6.82 to 6.56	1.20 to 1.46	No recovery	
6.56 to 5.52	1.46 to 2.50	10YR 4/2; Ag2, As1, Ga1; Dark greyish brown becoming faintly red with depth, clayey sandy silt with rooting and occasional molluscs and charcoal/manganese fragments. At 2.85m bgl a band of white carbonaceous material is recorded; diffuse contact into:	
5.52 to 3.57	2.50 to 4.45	As2, Ag2; Reddish brown silty clay, with traces of sand recorded below 3.70m bgl	
3.57 to 3.49	4.45 to 4.53	Gley 2 4/1; As2, Ag2; Dark bluish grey silty clay; blocky structure; diffuse contact into:	ALLUVIUM
3.49 to 3.37	4.53 to 4.65	Gley 2 5/1; As3, Ag1; Blue grey silty clay; sharp contact into:	
3.37 to 3.32	4.65 to 4.70	10YR 4/1; As3, Sh1; Dark grey organic-rich clay; sharp contact into:	PEAT
3.32 to 3.19	4.70 to 4.83	10YR 2/1; Sh3, Tl1; Humo 4; Black very well humified wood and unidentifiable peat; diffuse contact into:	
3.19 to 3.07	4.83 to 4.95	10YR 3/1; As2, Sh2; Very dark grey clayey unidentifiable peat; diffuse contact into:	
3.07 to 2.82	4.95 to 5.20	Gley 2 5/1; As3, Ag1; Bluish grey silty clay	ALLUVIUM
2.82 to 2.57	5.20 to 5.45	No recovery	
2.57 to 2.42	5.45 to 5.60	10YR 4/1; As3, Ag1; Dark grey silty clay; sharp contact into:	
2.42 to 2.12	5.60 to 5.90	10YR 4/1; Sh2, Tl1, As1; Humo 4; Dark grey very well humified clayey unidentifiable and wood peat; diffuse contact into:	PEAT
2.12 to 1.32	5.90 to 6.70	10YR 3/1; Sh3, Tl1; Humo 4; Very dark grey very well humified wood and unidentifiable peat	
1.32 to 0.72	6.70 to 7.30	No recovery	
0.72 to 0.07	7.30 to 7.95	10YR 5/2; As2, Sh1, Tl1; Humo 4; Very dark grey clay with unidentifiable and wood peat; sharp contact into:	
0.07 to -0.18	7.95 to 8.20	Gley 2 4/1; As3, Ag1; Dark bluish grey silty clay	ALLUVIUM
-0.18 to -0.58	8.20 to 8.80	No recovery	
-0.58 to -1.68	8.80 to 9.70	Gley 2 4/1; As3, Ag1, Ga+, Dl+; Dark bluish grey silty clay with traces of sand and detrital wood	
-1.68 to -2.13	9.70 to 10.15	No recovery	
-2.13 to -2.43	10.15 to 10.45	Gley 2 4/1; As3, Ag1, Ga+, Dl+; Dark bluish grey silty clay with traces of sand and detrital wood	
-2.43 to -2.98	10.45 to 11.00	Gley 2 4/1; Ag2, As1, Ga1, Dl+; Dark bluish grey clayey sandy silt with traces of detrital wood	
-2.98 to -4.28	11.00 to 12.30	Gley 2 4/1; As2, Ag2, Ga+; Dark bluish grey silty clay with traces of sand; diffuse contact into:	
-4.28 to -4.48	12.30 to 12.50	10YR 3/1; Sh3, As1, Tl+; Very dark grey clayey unidentifiable peat with traces of wood	PEAT

5. CONCLUSIONS & RECOMMENDATIONS

A programme of geoarchaeological fieldwork and deposit modelling was carried out as part of the Curry Moor Urgent Works to: (1) clarify the nature of the sub-surface stratigraphy across the site, including the depth and extent of any alluvium and peat deposits; (2) to provide a provisional interpretation of the landscape history of the site, and (3) make recommendations for any further geoarchaeological and palaeoenvironmental investigations.

The program of fieldwork and deposit modelling has enabled the geoarchaeological and palaeoenvironmental potential of the deposits to be assessed. The sequence of deposits across the site comprises: (1) Mercia Mudstone Bedrock, (2) Gravel, (3) Alluvium & Peat and (4) Oxidised Alluvium / Flood Bank. The surface of the Mudstone and overlying Gravel is apparently up to 4m lower at the western end of the site, than it is at the eastern end. The Gravel surface is overlain by mineral-rich deposits of alluvial or estuarine origin. At the eastern end of the site where the Gravel surface is lowest, a ca. 0.3m thick basal peat horizon is recorded in BH4 and BH5 at the base of the alluvial deposits. Elsewhere, peat or clayey peats are frequently recorded between 0 and 4.5m OD. The entire alluvial sequence is capped by oxidised alluvium and/or flood bank deposits which share the same basic physical properties.

Surface elevation models (LIDAR) and Google Earth imagery indicate the presence of an earlier course of the Tone meandering south to Haymoor Old Rhyne at the eastern end of the site (Figures 2 & 3; ADAS, 2021; Brunning pers. comm.). However, there appears to be limited evidence that this might originate from a substantial channel cutting into the bedrock surface. Indeed the Mudstone and Gravel surface is apparently highest at this end of the site. However, the site investigation works were carried out on the opposite bank to the apparent channel, and there is also an absence of data for a ca. 275m stretch between BH5 and WS5 where such a channel might exist.

The Peat and Alluvial sediments have the potential to contain further information on the past landscape at Curry Moor, through palaeoenvironmental assessment of the floral and faunal remains (e.g. pollen, diatoms, plant macrofossils and insects) and radiocarbon dating. These can identify the nature and timing of changes in the landscape, and the interaction of different processes (e.g. vegetation change, human activity, climate change, hydrological change) thereby increasing our knowledge and understanding of the site and nearby area. In the case of human activity, palaeoenvironmental evidence can include: (1) decreases in tree and shrub pollen suggestive of woodland clearance; (2) the presence of herbs indicative of disturbed ground, pastoral and/or arable agriculture; (3) charcoal/microcharcoal suggestive of anthropogenic or natural burning, and (4) insect taxa indicative of domesticated animals.

It is therefore recommended that an assessment of the BH5 sequence is undertaken incorporating organic-matter content determinations, radiocarbon dating, pollen, diatom, plant macrofossil, waterlogged wood and molluscs. The potential for further analysis and publication and dissemination will be addressed as part of the assessment.

6. REFERENCES

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Appendix D: Oasis Report Form

OASIS ID: adasuklt1-415075

Project details

Project name	Curry Moor
Short description of the project	In March 2021, ADAS was commissioned to carry out an archaeological watching brief for RSK Environment Ltd on behalf of Kier of two machine dug trial pits and eight windowless sample boreholes. The trial pits recorded the presence of peat however, no archaeological features were recorded in any of the trial pits. The peat deposits represent wetland and have the potential to contain further information on the past landscape through assessment of palaeoenvironmental remains. The absence of archaeological features recorded during the archaeological monitoring would suggest that there is a low potential for archaeological features to be impacted by future work in this area. However, the absence of features could be attributed to the limited ground impact caused by the trial pits. Due to the relatively low impact of the ground investigation works it should be considered that the area still has potential for containing undisturbed archaeological features or deposits.
Project dates	Start: 04-03-2021 End: 04-03-2021
Previous/future work	Not known / Not known
Any associated project reference codes	CMR21 - Sitecode
Type of project	Environmental assessment
Site status	Site of Special Scientific Importance (SSSI)
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	NONE Uncertain
Monument type	NONE Uncertain
Significant Finds	NONE Uncertain
Significant Finds	NONE Uncertain

Project location

Country	England
Site location	SOMERSET SOUTH SOMERSET CURRY RIVEL Curry Moor
Postcode	TA3 6LB
Study area	300 Square metres
Site coordinates	ST 331813 126941 50.909290963204 -2.950493896124 50 54 33 N 002 57 01 W Point
Lat/Long Datum	Unknown

Project creators

Name of Organisation	RSK ADAS Ltd
Project brief originator	RSK ADAS Ltd
Project design originator	James McNicoll-Norbury
Project director/manager	James McNicoll-Norbury
Project supervisor	James McNicoll-Norbury
Type of sponsor/funding body	Environment Agency

Project archives

Physical Archive Exists?	No
Digital Contents	''none''
Digital Media available	''GIS'',''Images raster / digital photography'',''Text''
Paper Contents	''none''

Paper Media available	''Diary'',''Map'',''Photograph''
Entered by	charlotte barley (charlotte.barley@adas.co.uk)
Entered on	23 March 2021

Plates

Plate 1: North facing view from Trial Pit 1.

Plate 2: North-east facing view of Trial Pit 1.

Plate 3: North-east facing view of Trial Pit 1.

Plate 4: North-east facing view from Trial Pit 2.

Plate 5: South facing view of Trial Pit 2.

Plate 6: South facing view of Trial Pit 2.

RSK Environment Ltd

Currymoor, Somerset

Figure 1. Site Location

Site Location

Drawn by: Charlotte Barley Date: 28.04.2021

Verified by: James McNicoll-Norbury Date: 28.04.2021

N
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S

0 1

Kilometres

Scale 1:20,000 at A3 size

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Milton Park,
Abingdon
OX14 4RS

ADAS

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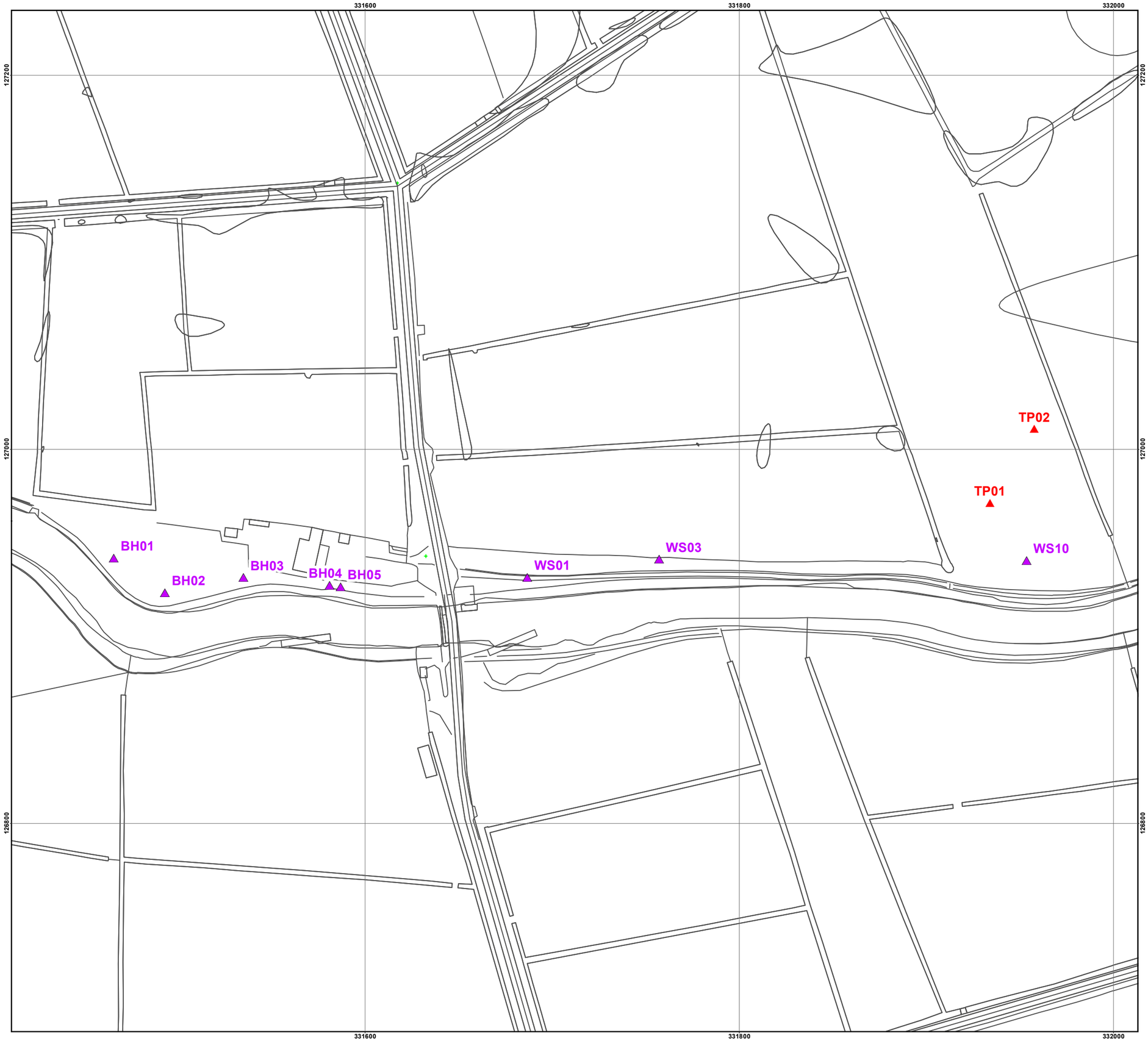

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Currymoor, Somerset

Figure 2. Location of the Groundworks

▲ Geoarchaeological Monitored Boreholes

▲ Trial Pits

Drawn by: Charlotte Barley Date: 28.04.2021

Verified by: James McNicoll-Norbury Date: 28.04.2021

N
W E
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0 125

Metres

Scale 1:5,000 at A3 size

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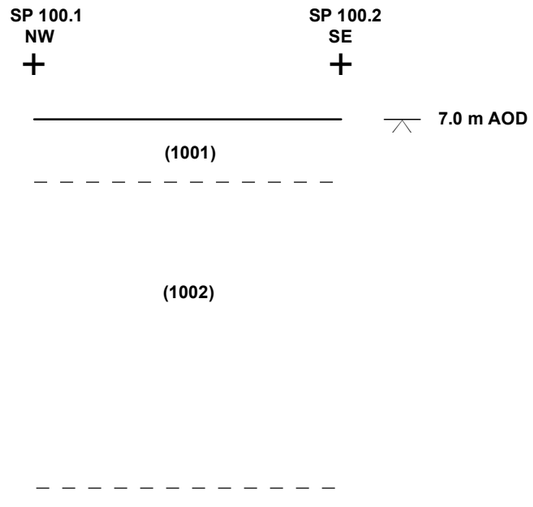

Section 1: North-east facing view of Trial Pit 1

Section 2: South facing view of Trial Pit 2

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Figure 3: Representative Sections of Trial Pits 1 & 2

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Verified By: James McNicoll-Norbury Date: 28.04.2021

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Metres

Scale 1:20 at A3

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