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**LAND TO THE NORTH OF MID
DEVON BUSINESS PARK,
WILLAND, DEVON:
GEOARCHAEOLOGICAL
ASSESSMENT OF MONOLITH
SAMPLES**

Prepared for Cotswold
Archaeology

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Summary

This report is a geoarchaeological assessment of three monolith samples from the Mid Devon Business Park site near Willand in Devon. The stratigraphy is believed to be a colluvial deposit sealing an Iron Age horizon. No buried soils were apparent nor was there any material suitable for radiometric dating or palaeoenvironmental analysis.

1 INTRODUCTION

- 1.1 In February 2016, ARCA examined three monolith samples that had been delivered to the University of Winchester by Cotswold Archaeology. The monolith samples had been recovered from the site of Land to the north of Mid Devon Business Park Willand, Willand, Mid Devon, Devon NGR: ST 03634 11637 (Cotswold Archaeology 2016). The site had evidence for Iron Age activity in the form of pits and ditches and a possible buried soil.
- 1.2 The three monolith samples were labelled as follows:
 - One tin 500x100x100mm MDBP 15 <7>
 - One tin 250x100x100mm MDBP 15 <8>
 - One tin 500x100x100mm MDBP 15 <9>
- 1.3 The objective of the examination of the monolith samples was to identify a possible buried soil and retrieve any palaeoenvironmental evidence (pollen) that would shed light on the environment in which the soil developed and the human prehistoric occupation took place. Suitable material from secure contexts was to be retrieved for AMS ¹⁴C dating.
- 1.4 The methodology was first to clean the monolith samples with a scalpel blade, photograph them and then describe the sediments according to standard geological criteria (Tucker 2011; Jones *et al.* 1999; Munsell Color 2000).
- 1.5 The site lies on the north west flank of a gentle spur at c.70-80m OD between the south west flowing Spratford Stream, 300m to the west and the River Culm 1.2km to the east. The British Geological Survey (BGS 2016) map the site as lying on Made Ground that overlies the Aylesbeare Mudstone Group. This Group is part of the Early Triassic bedrock, which was laid down 251-245 My BP. The Mudstone is described as a reddish brown silty mudstone and clayey siltstone with some local sandstone. The Made Ground is mapped as very local possibly a consequence of the Business Park itself or the construction of the M5 motorway in the 1970s. Upslope to the east the BGS map Head; an unstratified polymict deposit of a mixture of gravel, sand and clay that was deposited under periglacial conditions during the Pleistocene (1.8-0.011 My BP). On higher ground 3km north east of the site lie the Budleigh Salterton Pebble Beds.

2 RESULTS

2.1 The archaeological stratigraphy and depths marked on the monolith tin are listed in the column *Context* in Table 1 and marked by black dashed lines on the photograph therein.


MDBP 15 <7>	<i>Context</i>	Unit	Depth m	Description
	1000 0-0.1m	1	0-0.3	5 YR 4/3 Reddish brown silt/clay with occasional very fine sand and rare very fine roots, rare sub angular patinated granular-sized chert. Gradual boundary to:
	1001 0.1- 0.3m			
	1002 0.3- 0.43m	2	0.3-0.5	5 YR 5/4 Reddish brown compact silt clay with rare sub rounded grey and red fine grained sandstone. Rare granules of sub rounded sandstone and chert.
	1006 0.43- 0.5m			

Table 1 MDBP 15 <7>

- 2.2 According to the data provided by Cotswold Archaeology, monolith <7> contains: context 1006 the fill of a probable Iron Age feature [1004], context 1002 a buried soil, and two overlying strata that are part of the modern soil profile. On examination in the laboratory the sediment sampled was a reddish brown silt/clay (Unit 1) with occasional fine sand-sized mineral grains (the majority appeared to be quartz) that graded into a lighter coloured silt/clay (Unit 2) which was slightly more compact and contained only rare fine sand-sized grains. No evidence could be found of the buried soil (context 1002 approximately equivalent to Unit 2). A buried soil would be expected to be darker in colour with respect to the surrounding strata as a result of a higher humic acid content. In this sample however the sediment was lighter than the overlying strata. Nor was there any evidence of a stratum of fine or coarse material such as charcoal grains or rock fragments that might suggest a change in the environment of deposition. Aside from rare granules of sub angular chert and rare fine pebbles of sandstone derived ultimately from the Budleigh Salterton Pebble Beds, the sediment in the monolith sample was a fine grained non-clastic silt/clay.
- 2.3 The basal context in the monolith sample was described as the top fill of [1004], an Iron Age context. The boundary to this context was not visible. Be that as it may and from the examination described above, the (overlying) sediment would therefore appear to be colluvium that has gradually deposited over the Iron Age horizon. The modern soil profile has developed within the top of the colluvium.
- 2.4 On receipt of monolith MDBP 15 <8> it was noted that the top and base were not marked on it, and have been interpreted as shown in Table 2. Context boundaries are approximate.


MDBP15 <8>	Context	Unit	Depth m	Description
	901	1	0-0.15	5 YR 5/4 Reddish brown silt/clay grading into 4/3 but colouration is inconsistent. Occasional very fine sand and rare very fine roots throughout. Faint mottling. Some prismatic structure to clay at base of unit 2. Rare sub angular to sub rounded patinated pebbles of greenish grey sandstone (fragments of rounded sandstone/quartzite cobbles from Budleigh Salterton beds). Occasional grains and granules of blackish brown mineral probably manganese oxide.
	902			
	909	2	0.15-0.25	

Table 2 MDBP 15 <8>

- 2.5 On the assumption that monolith <8> is the right way up then the darker sediment (Unit 2) would represent context 909 the fill of [908]. There is a diffuse to gradual boundary with the overlying Unit 1 a lighter coloured silt/clay. Unit 1 will be equivalent to context 902 a putative buried soil, however, there is no evidence from its colour, texture nor material content that it is in fact a buried soil. There are occasional grains and granules of black manganese oxide that may form an extensive horizon, although this mineral has probably formed after the deposition of the unit as a result of a fluctuating water table. Occasional faint mottling was also present at the top of the unit. It is possible that drainage was impeded with the construction of the nearby railways and/or motorway.
- 2.6 The evidence suggests that the sediment in Unit 1 (contexts 902 and 901) is colluvial in origin. The fine grained silt/clay and rare

sandstone fragments are probably derived from the Head deposits upslope.

2.7 The archaeological stratigraphy and depths marked on the monolith tin are listed in the column *Context* in Table 3 and marked by black dashed lines on the photograph therein.


MDBP 15 <9>	Context	Unit	Depth m	Description
	1400 0- 0.08m	1	0-0.24	5 YR 4/3 Reddish brown silt/clay with rare very fine sand and rare very fine roots. Rare eroded sub rounded sandstone/quartzite. Gradual/diffuse boundary to:
	1401 0.08- 0.33m			
	1402 0.33- 0.5m	2	0.24- 0.5	5 YR 5/4 Reddish brown compact silt/clay with very rare charcoal granule. Rare granule to sub rounded coarse grained black pebble-sized sandstone, rare sub angular chert granule. Occasional medium sand-sized black mineral grains that could be mistaken for comminuted charcoal.

Table 3 MDBP 15 <9>

- 2.8 There is no evidence in monolith <9> of a buried soil (context 1402). Neither can a buried soil be seen in Figure 1. From the photograph and the examination of the monolith sample it would appear that the modern soil profile has developed in the top 0.2m of a colluvial deposit containing rare sandstone and quartzite clasts. As was the case in monolith <8>, fine grains of what is probably manganese oxide are occasionally present in the lower half of the stratigraphy (Unit 2).



Figure 1 Photograph of monolith MDBP 15 <9>

3 RECOMMENDATIONS AND CONCLUSIONS

- 3.1 No evidence of a buried soil could be found in the three monolith samples examined. The sediment that they contained is believed to be colluvium that has slowly deposited across the site by hillslope processes, such as soil creep and hill wash. The colluvium buried the Iron Age features, and any ancient soil profile contemporary

with them has not been preserved. The source of the fine grained mineral sediment and clasts was upslope to the east of the site where deposits of Head are recorded.

- 3.2 No dateable material was recovered nor is it recommended that samples be taken for palynological assessment as colluvium is not conducive to good pollen preservation.

4 ACKNOWLEDGEMENTS

- 4.1 ARCA would like to thank Sarah Wyles of Cotswold Archaeology for her help in the preparation of this report.

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