Nethermains Solar PV Kilwinning, North Ayrshire

Archaeological Test-pitting Exercise

for

JBA Consulting on behalf of North Ayrshire Council

November 2015



Test-pit 8 (photo 011)

Addyman Archaeology

Archaeology

Heritage Consultancy

Architecture

Addyman Archaeology

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Nethermains Solar PV *Kilwinning, North Ayrshire*

Archaeological Test-pitting Exercise

Job number 2187.01

November 2015

by Andrew Morrison

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Nethermains Solar PV *Kilwinning, North Ayrshire*

Archaeological Test-pitting Exercise : November 2015

1. Introduction

i. General

Addyman Archaeology was contracted by JBA Consulting (contact: Phil Bennett-Lloyd) on behalf of North Ayrshire Council (contact: David Hammond) to undertake the monitoring of a series of test-pits following the results of the archaeological desk-based assessment and survey; this latest stage of works took place in advance of the construction of a proposed solar photovoltaic scheme at the site of Nethermains near Kilwinning, North Ayrshire.

The test-pit monitoring exercise was undertaken on the 3^{rd} of November, 2015 by Andrew Morrison under sunny and clear weather conditions. A series of test-pits were excavated for both archaeological and soil-morphological purposes; in all, of the eight test-pits excavated, four were investigated archaeologically.

This report is prepared in accordance with standard Addyman Archaeology procedures and in line with the guidelines established by the Chartered Institute for Archaeologists (*ClfA*). A record of the Test-Pitting exercise has been deposited with the Online Access to the Index of Archaeological Investigations (OASIS) website hosted by the Archaeological Data Service (OASIS ID addymana1-230757) and with Discovery and Excavation in Scotland (DES), the annual publication of fieldwork by Archaeology Scotland.

2. Test-pitting Exercise

i. General

The test-pitting exercise was undertaken on the 3rd of November, 2015, with four test-pits opened for archaeological purposes (TP's 2-3, 7-8), and a further four opened for the purposes of soil morphological investigations within the footprint of the modern land-fill (TP's 1, 4-6).

All test-pits were excavated using a 22-tonne tracked JCB JS220 fitted with a 1.2m toothed bucket for topsoil removal, and a 0.70m ditching bucket for subsequent excavations. The excavations of test-pits 2-8 were monitored, and recorded where necessary, by Andrew Morrison. The locations of the Test-pits were plotted to within 5m accuracy using a Magellan Explorist 310 hand-held GPS.

a. Test-pit l

Test-pit 1 (TP1) was located within the north-west area of the site, within the grazed field beyond the limit of the modern land-fill and adjacent to Sandy Road (see *Figure 1*). Centred roughly on NGR NS 30787 41649, TP1 was placed by the engineer in order to assess soil morphology. Topsoil was found to be a dark, humic ploughsoil extending to a depth of 0.50-0.60m, overlying a sandy subsoil. River gravels were encountered at a depth of 2.30m below topsoil, with standing water noted at 2.50m. The excavation of TP1 was not monitored by an archaeologist.



Figure 1 Archaeological and geological test-pit locations (Addyman Archaeology from Bing Maps 2015).

b. Test-pit 2

Test-pit 2 (TP2) was located within the southern half of the site, immediately north-east of the former Garven Cottage. Centred on NGR NS 30787 41149 (see *Figure 1*), TP2 was an archaeological test-pit located in order to ascertain the extent of the modern land-fill, and to record the stratigraphy of the soil beyond the land-fills limits. Excavations were abandoned at a depth of 0.50m when uniform land-fill deposits were uncovered.

c. Test-pit 3



Plate 1 South-facing section of TP3 (photo 001).

Centred on NGR NS 30794 41134, Test-pit 3 (TP3) was located approximately 16m south-east of TP2, adjacent to the former Garven Cottage. TP3 was excavated as an archaeological test-pit, and was designed to assess the make-up of sub-soil deposits in the southern half of the site, beyond the limits of the modern land-fill. Measuring 2.5m in length, by 0.70m in width, TP3 was orientated east-west, and was excavated to an overall depth of 2.20m.

A dark brown, humic topsoil (301) with a depth of 1.00m was found to overly a dark black/grey industrial deposit (302) made up of thin lenses of ashy material, and oily sand with fragments of brick, coal, and clinker. This industrial layer measured 0.70m in thickness, and yielded infrequent finds of glass and ceramic (not retained), tentatively dating the deposit to the late 19th-early 20th century; this date correlates with the Mineral Railway (*Site 004*) and Barney Pit (*Site 005*) identified in the Desk-Based Assessment as being in the immediate area.

Underlying the industrial deposit (302), was a mid-brown sandy clay with frequent charcoal flecks (303), measuring approximately 0.50m in thickness. This deposit was interpreted as a pre- 19^{th} century ploughsoil, and was seen to overly a light-brown/orange sandy natural (304) (see *Plate 1*).

A gravel surface below the overgrowth was also noted to the south of TP3; this surface may represent the partial survival of the Mineral Railway, and could be a good indicator of the archaeological potential of this area beyond the limits of the modern land-fill.

d. Test-pit 4

Test-pit 4 (TP4) was a non-archaeological test-pit centred roughly on NGR NS 30858 41144 (see *Figure 1*), approximately 65m ENE of TP3. Found to be a uniform land-fill deposit, and with a strong odour of gasses present, TP4 was abandoned at a depth of 0.30m.

e. Test-pit 5

Centred on NGR NS 30779 41250, Test-pit 5 (TP5) was a non-archaeological test-pit located within the footprint of the modern land-fill, approximately 100m north of TP2 (*Figure 1*). TP5 revealed a uniform land-fill deposit, and was abandoned at an overall depth of 0.70m.

f. Test-pit 6

Test-pit 6 (TP6) was a non-archaeological test-pit located approximately 90m NNW of TP5. A fault in the GPS unit meant that no accurate NGR readings could be taken; an approximate location is shown on *Figure 1* above. TP6 revealed a uniform land-fill deposit, and was abandoned at an approximate depth of 0.30m.

g. Test-pit 7

Located roughly 200m NNW of TP5, Test-pit 7 (TP7) was an archaeological test-pit designed to evaluate the extent of the modern land-fill along the western edge of the site, immediately south of the north-west / south-east orientated linear drain that bisects it. Placed along the slope of land rising southwards from the marshy ground to the south of the drain, TP7 uncovered a uniform land-fill deposit, and was abandoned at a depth of 0.30m. A fault in the GPS device meant that exact coordinates could not be taken, though an approximate test-pit location is given in *Figure 1* above.

h. Test-pit 8

The final test-pit (TP8) was an archaeological test-pit located at the north end of the site, between the modern land-fill to the south, the site boundary to the north, and a wood and barbed-wire fence to the east (*Plate 2*). Centred on NGR NS 30904 41760 (*Figure 1*), TP8 was designed to assess the soil stratigraphy beyond the land-fill in an area thought to be relatively unmodified farmland.



Plate 2 Location of Test-pit 8, showing boundary fence to east (photo 013)



Plate 3 TP8, north-west facing section showing river gravels (photo 009)

Measuring 2.50m in length, 0.70m in width, and orientated north-west/south-east, excavations within TP8 revealed an overall topsoil depth of 0.20m (801), overlying a layer of mid-brown compact sand (802) 0.50m in thickness. Underlying the sand, a layer of river gravels (803) was uncovered, made up of small rounded pebbles in a silty sandy matrix (*Plate 3*). Excavation was abandoned at an overall depth of 1.50m, with the river gravel deposit not bottomed.

No archaeological finds or features were noted during the excavation of TP8.

ii. Potential for the survival of unknown, buried heritage assets within the development area

The test-pitting exercise at Nethermains has shown that archaeological deposits relating to the history, and likely prehistory, of the development area survive beyond the limit of the modern land-fill.

Test-pit 3 confirmed the presence of likely late 19th-early 20th century industrial deposits, possibly associated with the Mineral Railway and Barney Pit identified during the Desk-Based Assessment as *Sites 004*, and *005*. The land-fill extended much further west and south than was expected, though archaeological deposits have been shown to survive along the edges of the southern half of the site. Archaeological sites/ finds/ features are likely to remain *in-situ* beyond the limits of the modern land-fill.

Test-pits 1 and 8 confirmed the area within the north-west corner of the site to be free of land-fill activity, and to likely represent an area of relatively un-modified farmland. Fluvial sands and river gravels were noted at a relatively shallow depth below topsoil, 0.20m within TP8, and 0.50m within TP1. The Desk-Based Assessment identified the sands and river gravels of the former course of the River Garnock to be the location of numerous prehistoric finds dating as far back as 11,800 years ago. Sand and river gravel deposits are likely within the north-west and north-east corners of the proposed development area, beyond the extent of the modern land-fill activity, and within which further prehistoric finds are possible.

Any groundbreaking works associated with the proposed development outwith the boundaries of the modern land-fill could have a detrimental impact on buried and upstanding archaeological features.

3. Overall Recommendations

It is recommended that an archaeological watching-brief be implemented during ground-breaking works outwith the boundaries of the modern land-fill.

Further mitigation measures may be required to ensure that the identified cultural heritage assets remain unaffected by the development. Where construction is anticipated in these areas, it is recommended that these sites be thoroughly recorded through additional survey, and where preservation *in situ* is not an option, through a programme of archaeological investigation.

4. Archiving

Both a hard copy and a digital copy of this report in its final form will be submitted to the NMRS as held by HES. This will be accompanied by the project archive including selected email correspondence, site records, and digital copies of all site photographs.

A copy of this report will also be submitted to the West of Scotland Archaeology Service for inclusion on their Historic Environment Record.

An entry has been created on the online OASIS platform to ensure public access to the research and an entry will be submitted to *Discovery and Excavation in Scotland*, the annual journal produced by Archaeology Scotland charting fieldwork across Scotland.

Context	Test-pit	Туре	Description	Date	Initial
No.					
301	3	Deposit	Topsoil	03/11/2015	AJLM
302	3	Deposit	Industrial deposit, Charcoal, brick, clinker	03/11/2015	AJLM
303	3	Deposit	Pre-19th century ploughsoil	03/11/2015	AJLM
304	3	Deposit	Light brown sandy natural	03/11/2015	AJLM
801	8	Deposit	Topsoil	03/11/2015	AJLM
802	8	Deposit	Mid-brown silty sand	03/11/2015	AJLM
803	8	Deposit	River gravel	03/11/2015	AJLM

Appendix A Context Register

Appendix B Photographic Register

Image	Direction	Date	Description	Initials	Portrait/
No.	Facing		-		Landscape
001	V/NE	03/11/2015	TP3, South facing section	AJLM	L
002	V/E	03/11/2015	TP3, Overall	AJLM	L
003	V/S	03/11/2015	TP3, North facing section	AJLM	L
004	E	03/11/2015	Working shot, area of TP5	AJLM	L
005	E	03/11/2015	Working shot, area of TP5	AJLM	L
006	E	03/11/2015	TP7, Working shot	AJLM	L
007	E	03/11/2015	TP7, Working shot	AJLM	L
			TP8, South-west / north-west corner, showing		
008	E	03/11/2015	stratigraphy	AJLM	L
009	SE	03/11/2015	TP8, North-west facing section	AJLM	L
010	NE	03/11/2015	TP8, South-west facing section	AJLM	L
011	SE	03/11/2015	TP8, Overall	AJLM	L
012	WSW	03/11/2015	TP8, Overall	AJLM	L
013	E	03/11/2015	TP8, Overall	AJLM	L

Appendix C Photographic Thumbnails



2187 (001).JPG



2187 (004).JPG



2187 (007).JPG



2187 (010).JPG



2187 (013).JPG



2187 (002).JPG



2187 (005).JPG



2187 (008).JPG



2187 (011).JPG



2187 (003).JPG



2187 (006).JPG



2187 (009).JPG



2187 (012).JPG

LOCAL AUTHORITY:	North Ayrshire Council
PROJECT TITLE/SITE NAME:	Nethermains Solar PV
PROJECT CODE:	2187.01
PARISH:	Kilwinning
NAME OF CONTRIBUTOR:	Andrew Morrison
NAME OF ORGANISATION:	Addyman Archaeology
TYPE(S) OF PROJECT:	Archaeological Test-pitting Exercise
NMRS NO(S):	185800, 42107
SITE/MONUMENT TYPE(S):	WWII Army Depot, Find site- Shale bead, Flint scraper 1880's
SIGNIFICANT FINDS:	Possible remains of Mineral Railway, Barney Pit. River gravels
NGR (2 letters, 8 or 10 figures)	NS 30838 41461
START DATE (this season)	November 3 rd , 2015
END DATE (this season)	November 3 rd , 2015
PREVIOUS WORK (incl. <i>DES</i> ref.)	Archaeological Survey and Desk-based Assessment
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	Addyman Archaeology was contracted by JBA Consulting (contact: Phil Bennett-Lloyd) on behalf of North Ayrshire Council (contact: David Hammond) to undertake the monitoring of a series of test-pits following the results of the archaeological desk-based assessment and survey; this latest stage of works took place in advance of the construction of a proposed solar photovoltaic scheme at the site of Nethermains near Kilwinning, North Ayrshire. The test-pit monitoring exercise was undertaken on the 3 rd of November, 2015 by Andrew Morrison under sunny and clear weather conditions. A series of test-pits were excavated for both archaeological and soil-morphological purposes; in all, of the eight test-pits excavated, four were investigated archaeologically. Test-pit 3 confirmed the presence of likely late 19 th -early 20 th century industrial deposits, possibly associated with the Mineral Railway and Barney Pit identified during the Desk-Based Assessment as <i>Sites 004</i> , and <i>005</i> . The land-fill extended much further west and south than was expected, though archaeological deposits have been shown to survive along the edges of the southern half of the site. Archaeological sites/ finds/ features are likely to remain <i>in-situ</i> beyond the limits of the modern land-fill. Test-pits 1 and 8 confirmed the area within the north-west corner of the site to be free of land-fill activity, and to likely represent an area of relatively un-modified farmland. Fluvial sands and river gravels were noted at a relatively shallow depth below topsoil, 0.20m within TP8, and 0.50m within TP1. The Desk-Based Assessment identified the sands and river gravels of the former course of the River Garnock to be the location of numerous prehistoric finds dating as far back as 11,800 years ago. Sand and river gravel deposits are likely within the north-west and north-east corners of the proposed development area, beyond the extent of the modern land-fill activity, and within which further prehistoric finds are possible.
PROPOSED FUTURE WORK:	Potential Watching Brief
CAPTION(S) FOR ILLUSTRS:	-
SPONSOR OR FUNDING BODY:	North Ayrshire Council

Appendix DProvisional DES Entry

ADDRESS OF MAIN CONTRIBUTOR:	St. Ninian's Manse, Quayside Street, Edinburgh, EH6 6EJ
EMAIL ADDRESS:	admin@addyman-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Historic Environment Scotland