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Environmental Statement

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THE TRUST FOR WELSH ARCHAEOLOGY
HENEB FIELD SERVICES

Land South of Cosmeston, Penarth,

Archaeological Trial Trench Evaluation Technical Note

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Introduction

This Technical Note is presented in advance of the full Archaeological Trial Trench Evaluation report that is forthcoming. It is not envisaged that any information contained in this document will change significantly, however, if this is the case notification will be provided at the earliest opportunity.

The Archaeological trial Trench Evaluation was undertaken prior to the development of a solar farm on land to the south of Cosmeston, Penarth, South Wales (centred on ST 17779 68355). The trenching covered an area of approximately 51.51ha across 10 parcels of land (here after the 'Proposed Development Area') situated south of the settlement of Cosmeston, in Penarth. The work was undertaken between the 7th and 18th September 2026.

The potential for archaeological remains to survive within the proposed development area was identified through geophysical survey of the Proposed Development Area. The survey identified a range of potential archaeological features including possible field systems, trackways, ring ditches, a segment of road tentatively dated to the Romano-British period, and enclosures.

Methodology

The Archaeological Trial Trench Evaluation was undertaken on fields 1 through 9. The trenches targeted a number of features identified through the geophysical survey, including possible field systems, trackways, ring ditches, a segment of road tentatively dated to the Romano-British period, and enclosures. Several 50m trenches targeted blank areas where no anomalies were recorded to test the survey results.

The locations of the 30no. proposed trial trenches are shown in the attached figure. They all measure 1.8m wide, the average bucket width of a mechanical excavator. The trenches comprised

- 1no. x 100m trenches
- 1no. x 60m trenches
- 13no. x 50m trenches
- 15no. x 25m trenches

Recording of all archaeological features or deposits conformed to best current professional practice and was carried out in accordance with the Trust for Welsh Archaeology Recording Manual.

A written, drawn and photographic record was maintained throughout the monitoring and recording and all contexts encountered were recorded using Heneb Field Services pro-formas.

Each Trench was excavated to the first significant archaeological horizon, or to naturally derived soils or to a maximum depth of 1.2m. The general approach for each of the trenches followed these procedures:

- The presence or absence of archaeological features encountered was noted;
- Where features of archaeological interest are identified they were systematically investigated by hand with sufficient work being undertaken to determine their date, character and function, using the conventional techniques for archaeological excavation and in accordance with CIfA Standard and Guidance;
- All features were located as accurately as possible using GPS and other survey techniques;
- Contexts were recorded manually on individual record forms, using a continuous numbering system, and were drawn and photographed as appropriate;
- Photography was undertaken digitally with a minimum resolution of 12 megapixels. Images include a metric scale in each view and were logged in a photographic register;

Results Summary

Five out of the thirty excavated trenches contained archaeological features. These were trenches **11, 15, 19, 25, 27 and 29.**

For ease of presentation the results will be presented sequentially by field number.

Field 1

The Archaeological Trial Trench Evaluation in this field comprised the excavation of four trenches (trenches 1 to 4). Trench 1 measured 100m and, was divided into two equal sections (Trench 1a and 1b), trenches 2 and 4 measured 25m, whilst trench 3 measured 50m. These trenches targeted geophysical anomalies.

Trench 1

The superficial natural geological soil (1003) was encountered at a depth of 1.65m below ground level and consisted of a mid reddish brown clay silt with frequent medium-large stone inclusions. This was overlain by a colluvial deposit (1002) measuring 1.5m in depth and consisted of a mid brown clay-silt with rare inclusions of small sub-angular stones. The topsoil (1001) had a depth of 0.15m and was formed of a mid brown clay-silt with rare inclusions of small sub-angular stones. No archaeological features were identified and no finds were observed.

Trench 2

The superficial natural geological soil (2003) was encountered at a depth of 0.75m and consisted of a mid reddish brown clay silt with frequent medium-large stone inclusions. This was overlain by a colluvial deposit (2002) measuring 1.5m in depth and consisted of a mid brown clay-silt with rare inclusions of charcoal flecks. The topsoil (2001) had a depth of 0.35m and consisted of a mid brown clay-silt with rare inclusions of small sub-angular stones. No archaeological features were identified and no finds were observed.

Trench 3

The superficial natural geological soil (3003) was encountered at a depth of 0.8m and consisted of a mid reddish brown clay silt with frequent medium-large stone inclusions. This was overlain by a colluvial deposit (3002) measuring 0.5m in depth and consisted of a mid brown clay-silt with rare inclusions of charcoal flecks. The topsoil (3001) had a depth of 0.3m and was formed of a mid brown clay-silt with rare inclusions of small sub-angular stones. No archaeological features were identified and no finds were observed.

Trench 4

The superficial natural geological soil (4002) was encountered at a depth of 0.4m and consisted of a mid reddish brown clay silt with frequent medium-large stone inclusions. This was overlain by a topsoil (4001) with a depth of 0.4m and was formed of a mid brown clay-silt with rare inclusions of small to medium sized sub-angular stones. No archaeological features were identified and no finds were observed.

Field 2

The Archaeological Trial Trench Evaluation in field comprised the excavation of eight trenches (trenches 5 to 12). Trenches 5 to 8 measured 50m, whilst trenches 9 to 12 measured 25m. The trenches were targeted on geophysical anomalies comprising a number of linear features and possible circular feature.

Trench 5

The superficial natural geological soil (5002) was encountered at a depth of 0.35m and consisted of a mid reddish brown clay silt with frequent medium-large stone inclusions. This was overlain by a topsoil (5001) with a depth of 0.4m and was formed of a mid brown clay-silt with rare inclusions of small to medium sized sub-angular stones. No archaeological features were identified and no finds were observed.

Trench 6

The superficial natural geological soil (6003) was encountered at a depth of 1.48m and consisted of a mid reddish brown clay silt with frequent medium-large stone inclusions. This was overlain by a colluvial deposit (6002) measuring 1.2m in depth and consisted of a mid reddish-brown clay-silt with rare inclusions of small sub-angular stones. The heavily ploughed topsoil (6001) had a depth of 0.3m and was formed of a mid brown clay-silt with rare inclusions of small sub-angular stones. No archaeological features were identified and no finds were observed.

Trench 7

The superficial natural geological soil (7002) was encountered at a depth of 0.35m and consisted of a mid reddish brown clay silt with no inclusions. This was overlain by a topsoil (7001) with a depth of 0.35m and consisted of a mid brown clay-silt with rare inclusions of small to medium sized sub-angular stones. No archaeological features were identified and no finds were observed.

Trench 8

The superficial natural geological soil (8002) was encountered at a depth of 0.35m and consisted of a mottled mid blueish brown clay silt with patches of mid reddish brown, and rare small stone inclusions. This was overlain by a topsoil (8001) with a depth of 0.35m and consisted of a mid brown clay-silt with rare inclusions of small to medium sized sub-angular stones. No archaeological features were identified and no finds were observed.

Trench 9

The superficial natural geological soil (9002) was encountered at a depth of 0.4m and consisted of a pale yellowish brown clay silt with patches of dark blue grey, and frequent white mineral flakes. This was overlain by a topsoil (9001) with a depth of 0.4m and consisted of a mid brown clay-silt with no inclusions. No archaeological features were identified and no finds were observed.

Trench 10

The superficial natural geological soil (10002) was encountered at a depth of 0.4m and consisted of a mid blueish grey silty clay with patches manganese. This was overlain by a topsoil (10001) with a depth of 0.4m and was consisted of a mid brown clay-silt with no inclusions. No archaeological features were identified and no finds were observed.

Trench 11

The superficial natural geological soil (1103) was encountered at a depth of 0.4m and consisted of a reddish-brown clay silt with no inclusions. This was overlain by a subsoil (1102) with a depth of 0.1m and consisted of a light yellowish-brown clay-silt with no inclusions. The topsoil (1101) had a depth of 0.3m and was formed of a mid brown clay-silt with no inclusions. A linear feature [1104], aligned northwest by southeast, was situated around the centre of the trench this feature was cut into the superficial natural geological soil (1103), and was aligned

northwest-southeast. It measured 1.12m in width, with a depth of 0.34m. It had moderately sloped sides into a flattish slightly concave base. The single fill (1105) comprised mid reddish brown silty clay with occasional charcoal flecks. No finds were observed

Trench 12

The superficial natural geological soil (1203) was encountered at a depth of 0.49m and consisted of a reddish-brown clay silt with no inclusions. This was overlain by a subsoil (1202) with a depth of 0.13m and consisted of a light yellowish-brown clay-silt with no inclusions. The topsoil (1201) had a depth of 0.36m and was formed of a mid brown clay-silt with rare small stone inclusions. No archaeological features were identified and no finds were observed

Field 3

The Archaeological Trial Trench Evaluation in this field comprised the excavation of one trench (trench 13) measuring 25m in length and, targeted a linear feature identified by geophysics.

Trench 13

The superficial natural geological soil (1303) was encountered at a depth of 0.44m and consisted of a reddish-brown clay silt with no inclusions. This was overlain by a subsoil (1302) with a depth of 0.11m and consisted of a light yellowish-brown clay-silt with no inclusions. The topsoil (1301) had a depth of 0.33m and was formed of a mid brown clay-silt with rare small stone inclusions. No archaeological features were identified and no finds were observed.

Field 4

The Archaeological Trial Trench Evaluation in this field comprised the excavation of five trenches (trenches 14 to 18). Trenches 14 and 15 measured 25m in length, the remaining trenches measured 50m. The trenches were targeted on geophysical anomalies comprising a number of linear features, with the exception of trenches 16 and 18 which were placed in areas devoid of any geophysical anomalies.

The baseline natural deposit sequence in this field was the same across all trenches. The superficial natural geological soil was encountered at a depth of 0.3m and consisted of a light-yellow brown clay silt with no inclusions. The topsoil had a uniform depth of 0.3m due to ploughing and consisted of a mid reddish brown clay loam with occasional limestone inclusions.

Trench 14

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Trench 15

The deposit sequence in this trench did not significantly differ from the sequence described above. A linear feature [1502], aligned northwest by southeast, was situated around the centre of the trench this feature was cut into the superficial natural geological soil (1500), and was aligned northwest-southeast. The cut measured 0.65m in width, with a depth of 0.34m. It comprised of moderately sloped sides into a flat base with clear signs of bioturbation. The cut [1502] contained a single deposit (1503) of mid reddish brown silty clay with occasional charcoal flecks. This deposit was interrupted by a recut [1504] on its western extent, measuring 0.4m in width by 0.32m in depth, with steep sloped sides into a concave base. This contained a single deposit (1505) of dark grey-brown silty clay with frequent charcoal inclusions. This feature has been interpreted as an historic field boundary.

Trench 16

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Trench 17

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Trench 18

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Field 5

The Archaeological Trial Trench Evaluation in this field comprised the excavation of three trenches (trenches 19, 23 and 26). Trench 19 measured 60m in length, trench 23 measured 50m in length, whilst trench 26 measured 25m in length. The trenches were targeted on geophysical anomalies comprising a number of linear features, with the exception of trench 23 which was placed in an area devoid of any geophysical anomalies. Trench 19 contained archaeological material.

The baseline natural deposit sequence in this field was the same across all trenches. The superficial natural geological soil was encountered at a depth of 0.3m and consisted of a light-yellow brown clay silt with no inclusions. The topsoil had a uniform depth of 0.3m due to ploughing and consisted of a mid reddish brown clay loam with occasional limestone inclusions.

Trench 19

The deposit sequence in this trench did not significantly differ from the sequence described above. Trench 19 was orientated northwest by southeast, and measured 60m in length. Situated towards the northwest end of the trench and cut into the natural geological soil (1900), was the remains of the continuation of a still visible field boundary [1902]. The field boundary measured 0.6m in width, with a depth of 0.08m, and comprised of a gradual slope into a shallow concave base. The boundary contained a single deposit (1903) of light greyish brown silty clay, with occasional small sub-angular stone inclusions.

The centre of the trench contained at least four square shaped features on a north-south alignment. Two of these features were investigated to ascertain their purpose, whilst the remaining two were largely within the baulk.

The most central square pit [1904] measured 0.6m by 0.6m, with a depth of 0.06m, and comprised of steep, almost vertical sides and a flat base. The pit contained a single fill (1905) of mid reddish grey sandy silt with occasional medium sized limestone and brick fragments along the base.

Located immediately to the south of this feature was another square feature [1906], which in plan had the same shape and dimensions. When this feature was investigated it had almost no depth, instead it consisted of a demolition deposit (1907) of loose rubble and thick concrete which displayed signs of damage from a hydraulic breaker.

These features have been interpreted as evidence of demolition of structure of unknown size or purpose.

Trench 23

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Trench 26

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Field 6

The Archaeological Trial Trench Evaluation in this field comprised the excavation of two trenches (trenches 21and 22). Both trenches measured 50m in length and were placed in areas devoid of any geophysical anomalies.

The deposit sequence in both trenches did not significantly differ from the sequence described above. No archaeological features were identified, and no finds were observed in either trench.

Field 7

The Archaeological Trial Trench Evaluation in this field comprised the excavation of two trenches (trenches 24 and 25). Both trenches measured 25m in length and were targeted on geophysical anomalies comprising a number of linear features. Trench 25 contained a linear feature.

Trench 24

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Trench 25

The deposit sequence in this trench did not significantly differ from the sequence described above. Situated towards the north end of the trench and cut into the natural geological soil (2500), was the remains of a linear ditch [2502], aligned east-west. The ditch measured 0.65m in width, with a depth of 0.15m, and comprised of a gradual slope into a shallow concave base with clear signs of bioturbation. The ditch contained a single deposit (2503) of dark greyish brown silty clay, with occasional small sub-angular stone inclusions. This ditch has been interpreted as the remains of an historic field boundary

Field 8

The Archaeological Trial Trench Evaluation in this field comprised the excavation of a single trench (trench 20), which measured 25m in length and was targeted on geophysical anomalies comprising a number of linear features.

Trench 20

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Field 9

The Archaeological Trial Trench Evaluation in this field comprised the excavation of four trenches (trenches 27 to 30). All trenches measured 25m in length and were targeted on

geophysical anomalies comprising a number of linear and pit features. A pit feature was found within trench 27, and a linear feature was investigated in trench 30.

The baseline natural deposit sequence in this field was the same across all trenches. The superficial natural geological soil was encountered at a depth of 0.3m and consisted of a light-yellow brown clay silt with no inclusions. The topsoil had a uniform depth of 0.3m due to ploughing and consisted of a mid reddish brown clay loam with occasional limestone inclusions.

Trench 27

The deposit sequence in this trench did not significantly differ from the sequence described above. A pit feature [2703] was situated towards the northeast end of the trench and cut into the natural geological soil (2700). The pit was circular in plan, and measured 0.42m in width, 0.36 in length, with a depth of 0.07m. The pit comprised of steep sloped sides into a flat base. The pit contained a single deposit (2704) of dark grey black silty clay, with frequent charcoal and burnt stone. Modern glass and iron fragments were present in the fill. No evidence of in situ burning was discovered, as such, the feature has been interpreted as a modern dump of burnt material

Trench 28

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Trench 29

The deposit sequence in this trench did not significantly differ from the sequence described above. A linear feature [2903] was situated towards the centre of the trench and cut into the natural geological soil (2900). The linear was aligned northwest-southeast, and measured 1.4m in width, with a depth of 0.3m. The linear comprised of shallow sloped sides into a concave base with clear signs of bioturbation. The linear contained a single deposit (2904) of mid greyish brown silty clay, with occasional charcoal fleck inclusions. The linear feature has been interpreted as the remains of an historic field boundary.

Trench 30

The deposit sequence in this trench did not significantly differ from the sequence described above. No archaeological features were identified and no finds were observed.

Provisional Conclusion and Recommendations

Of the 30 Trenches we excavated, trenches 1-10, 12-14, 16-18, 20-24, 26, 28 and 30 were blank, with any targeted geophysical anomalies resulting from local changes in the geology.

Trenches 11, 15, 25 and 29 contained field boundaries of either post-medieval or modern date of negligible archaeological significance.

Trench 19 contained patches of demolition rubble (including brick and concrete) possibly demarcating a row of post settings of likely 20th century date, potentially relating to use of the site during WW2. Unfortunately, the online repository of aerial photographs held on behalf of Historic England was not working at the time of writing. It was therefore not possible to examine the 1946 archive which could have helped determine if there was any wartime structure/s present in the vicinity of this trench. As such this trench can be considered to contain archaeology of low significance.

Finally, Trench 27 contained a small modern pit (it contained modern glass) of negligible archaeological significance.

As has been demonstrated, the archaeology identified during the Archaeological Trial Trench Evaluation is of negligible to low significance. As such no further archaeological work is suggested, although any decision on further mitigation lies with the LPA.


Archaeological Trial Trench Evaluation Trench Layout
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1B
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Field 1
Field 2
Field 3
Field 4
Field 5
Field 6
Field 7
Field 8
Field 9
0
100
200
300
400
500
600
700
800
900
1,000
1,100 m