

Treasure Act 1996 (Case 19.15 Wales)

Second Interim Treasure Report: An Iron Age chariot burial group from Llanstadwell Community, Pembrokeshire (Addendum to Treasure 18.04)

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1.0 Summary (AG)

This report concerns an additional discovery of a group of grave goods and chariot fittings of Late Iron Age date during a follow-up archaeological excavation in March – early April 2019 of a burial monument dating to the first century AD. This report and treasure case (Treasure Case 19.15) forms a second case and addendum to an earlier reported find (Treasure Case 18.04), comprising items discovered by metal-detectorist Mike Smith in February 2018 and during a subsequent preliminary archaeological excavation in June 2018, previously declared treasure in January 2019.

In this report, it is recommended that all copper alloy and iron chariot fittings and grave goods accompanying a chariot burial, found in a central grave feature within a circular burial monument (Cat. Nos. 1-45 & 47, below) are treasure, as directly associated prehistoric base-metal artefacts. Some listed artefacts (Cat. Nos. 48-61) are recommended as not treasure, by virtue of not being of contemporary Late Iron Age date and not being directly associated with the artefacts in the central grave. A few items, initially thought to be artefacts, are now identified as naturally formed and not artefacts (Cat. Nos. 46, 62-3), are recommended as not treasure. Similarly, items of charcoal, animal bone, stone samples, soil samples and conservation samples (Cat. Nos. 46, 64-111) are recommended as not treasure.

This treasure case is the subject of a major ongoing heritage partnership project in Wales, led by Amgueddfa Cymru and involving Dyfed Archaeological Trust, Cadw, University of Manchester, PLANED, Pembrokeshire College and Pembrokeshire Coast National Park Authority. Following the determination of the legal status of this chariot grave group by H.M Coroner for Pembrokeshire, a significant research and conservation programme will be required in future years to enable the publication and care of this grave group of international significance, and to permit its presentation to wide public audiences. Efforts are currently underway to seek enabling research funding for this to happen.

This burial monument, a recently discovered adjacent Iron Age promontory fort and its immediate environs, is now a scheduled ancient monument (PE 572) and protected by law.

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2.0 Discovery (AG)

This additional discovery of artefacts considered to be treasure, follows the initial discovery of eleven bronze artefacts including a group of decorated Late Iron Age chariot fittings, by Mr Mike Smith on 7th February 2018. These first finds were made in one area of a field, ploughed but under pasture, in Llanstadwell Community, Pembrokeshire. Subsequent geophysical survey and a preliminary archaeological excavation was undertaken in June 2018. This led to the discovery and retrieval of 14 further associated Late Iron Age chariot fittings and fragments. The combined metal-detected and excavated finds from 2018 were reported upon within a first treasure report on the find (Gwilt *et al* 2018a) and were subsequently declared treasure by H.M. Coroner for Pembrokeshire on 31st January 2019.

The exploratory excavation during June 2018, also led to the discovery of the tops of two vertically placed iron chariot tyres, located in two parallel tyre-pits. This indicated the presence of a chariot placed whole within a grave-pit and the presence of further associated artefacts, thought to be treasure, still buried. At this stage, and acting upon advice provided by Dr Kathryn Roberts, Chief Inspector of Cadw, the decision was taken to carefully cover the grave, pending the planning and resourcing of a larger archaeological excavation during 2019. This would reveal the whole grave and linked monument and also include the retrieval of all associated artefacts still buried, permitting later treasure reporting on these finds.

During the period from June 2018 – March 2019, all efforts possible were taken to protect the site from illicit metal-detecting and looting. Recognising the importance of the site and adjacent Iron Age promontory fort, Cadw rapidly designated the site a Scheduled Ancient Monument (PE 572; HER PRN 112146), thereby affording it legal protection and making it illegal to metal-detect here. In addition, staff at Amgueddfa Cymru, Dyfed Archaeological Trust and Cadw liaised with Heritage Protection Officers at Dyfed-Powys Police and the land-owners, to ensure an awareness of the heritage threat and to maintain an ongoing monitoring of the situation. A co-ordinated communications plan was formed amongst the museum and heritage organisations involved (Amgueddfa Cymru-National Museum Wales, Dyfed Archaeological Trust and Cadw) and with the agreement of the Coroner, ensuring minimal release of information about the archaeological site and involving the ongoing monitoring of and appropriate responses to external press interest.

Over the winter of 2018-19, a heritage partnership project was defined and planned, involving Amgueddfa Cymru, Dyfed Archaeological Trust, Cadw and Pembrokeshire College, with substantial necessary project funding provided by Amgueddfa Cymru, Cadw and National Lottery Heritage Fund. Having first obtained the necessary scheduled monument consent from Cadw (Murphy 2019a; Harris 2019), in March and early April 2019, a five week season of excavation of the chariot grave was undertaken (see below), leading to the discovery and conservation lifting of all remaining Late Iron Age artefacts within the grave and forming the subject of this second treasure report (Treasure 19.15).

The artefacts were couriered for safe-keeping and treasure reporting to the National Museum Cardiff during March – 5th April 2019. A treasure receipt was completed and sent to the Coroner for Pembrokeshire on 24th April 2019.

3.0 Archaeological excavation of the chariot grave (AG, KM & FM)

A five-week season of archaeological excavation and survey was undertaken by Ken Murphy and Frances Murphy of the Dyfed Archaeological Trust (DAT) working in collaboration with staff from Amgueddfa Cymru – National Museum Wales, between 4th March and 6th April 2019. The team comprised DAT staff, Amgueddfa Cymru conservation and curatorial staff (providing the lead on conservation lifting and treasure reporting), experienced DAT volunteers, doctoral students of Iron Age archaeology at Cardiff University and student volunteers from Pembrokeshire College, making a team of 9-12 persons excavating each day. A night security guard was employed during the excavation to prevent the risk of illicit metal-detecting and looting on the site while the chariot grave was revealed.

Included within the scope of the work undertaken, were a topographical survey of the adjacent Iron Age promontory fort, wider geophysical survey of the immediate environs of the chariot grave, excavation of trial trenches through outer hillfort ditches near the entrance and east of the grave (Trenches 2 & 3) and small exploratory slots through two monuments to the west of the chariot grave (Trenches 4 & 5). These are not directly relevant to this treasure report, specifically relating to artefacts recovered from the chariot grave, however the results are briefly outlined in an interim report prepared by DAT for Cadw (Murphy 2019b).

Over the chariot grave, a trench with an area of c. 14m by 14m was opened, with the chariot grave and the area of the 2018 exploratory excavation trench at its centre. The intention was to completely excavate the grave, its surrounding penannular ditch (10m in diameter) and any archaeological features closely associated. The ploughsoil was removed by machine, under archaeological supervision and with constant guidance on the correct depth of soil removal. The finder and his metal-detecting partner scanned the spoil heaps and exposed area for finds and the locations of discoveries within ploughsoil were recorded. At this early stage, a number of fragments of Late Iron Age chariot fittings, including parts of a decorated bridle-bit and decorated strap-union were discovered (Cat. Nos. 1-7, *below*). These were once buried in the chariot grave, having been disturbed and dispersed over a distance of a few metres by more recent deep ploughing activity for potatoes.

The trench was carefully cleaned by hand trowelling, removing all remaining ploughsoil, back-fill from the 2018 excavation trench and defining the edges of archaeological features cutting into the stony sub-soil. A shelter was erected over the entire central grave, providing protection from bad weather. The central burial pit was found to be sub-rectangular with a rounded east end and 3.9m long (east-west) and 2.5m wide (north-south). Upon careful excavation of the upper layer of silty clay (context 1002) filling the grave-pit (context 1022), a complete iron long sword (Cat. No. 23, *below*) was discovered. This was located at the western end of the grave-pit, between the two parallel east-west aligned tyre pits containing the vertical iron chariot tyres (first discovered in 2018), with the tip end of the blade overlying the edge of the south tyre pit. A number of copper alloy and iron artefacts were also identified at the same level and near the sword (Cat. Nos. 18-22, 24-28, 35-36, 40-42, *below*), including fittings from a scabbard suspension strap or belt (Cat. Nos. 18-20). Patches of dark organic stain were revealed and sampled next to the sword, suggesting either the existence of the original burial, or perhaps the burial of artefacts made of animal skin or leather. These possibilities require further analysis and research before any conclusions may be reached. In these acidic soils, no human bone survived. The presence of the sword and associated

artefacts, located towards the front of the original wooden chariot platform, since entirely decayed, provides a likely proxy location for the person of high standing originally buried in the grave. The sword and some of the immediately adjacent artefacts were carefully block-lifted to permit further excavation and X-ray analysis in the archaeological conservation laboratory at the National Museum Cardiff. The other artefacts were also carefully lifted and removed, singly or within small soil blocks.

Careful cleaning and exploration of remaining soils at the east end of the grave-pit, confirmed preliminary findings of the 2018 excavation, to the effect that no evidence for the chariot pole and yoke at the front of the chariot had survived. These elements had been placed at a more shallow depth than the wheels, having largely been destroyed by more recent deep ploughing of the field. The relative locations of the horse-brooch, large terret and bridle-bit discovered in 2018, provided the best surviving tentative evidence for the one-time positioning of the chariot-pole and yoke.

Having recorded, excavated and removed the archaeological deposits and artefacts located between the two chariot tyre slots, focus was next devoted to carefully excavating the two chariot tyres in their narrow pits (Cat. Nos. 29-30, *below*). This was undertaken by careful trowelling through the soil fills to either side of the vertical tyres, progressively exposing the circuits of the tyres and leaving them supported on central pillars of soil where the wooden rim, spoke and hub components of the wheels were once placed. In the upper fill of the south tyre-pit, on the inner side of the tyre, a number of small iron objects were discovered, recorded, photographed and carefully lifted (Cat. Nos. 37-39, 43-45, *below*). It soon became apparent that both iron tyre circuits were complete, however had been compressed and had broken into a number of section components, probably when the wooden sections of the wheels had rotted away and the combined weight of soil placed above the chariot had borne down upon the remaining iron tyre components. Each tyre had originally been a little over 1m in diameter.

Remarkably, towards the base and centre of each wheel slot and to either side of each tyre, were discovered sets of wheel hub, axle and wheel fittings, indicating that sections of wheel hub had been buried and present, later slumping together from their central position on the wheel, towards the base, as the complete wooden wheel components had rotted away. In each tyre pit, an inner and outer copper alloy nave-hoop – bands, surrounding the inner and outer wheel-hubs, were observed (Cat. Nos. 8-14 & 17, *below*). On the outer wheel sides, a pair of large matching linch-pins, once securing the wheels to the axle were discovered (Cat. Nos. 15-16, *below*).

As there was no surviving evidence of soil stains, indicating the location and dimensions of the wooden rim and wheel-spokes, it was not necessary as first anticipated, to block lift the whole tyres, each with their central soil columns in place. Instead, lifting of the tyres in smaller upper and lower sections was deemed the most appropriate lifting method, with the adhering soil also retrieved on the internal tyre surfaces (see Section 4.0, *below*). In addition, the inner and outer wheel hub soil blocks containing the nave-hoops, hub-rings and linch-pins (Cat. Nos. 8-17, 31-34 & 47, *below*) were also lifted as four discrete soil blocks. Once the tyre fragments and wheel fittings were removed, the wheel slots and grave area was photographed. Checks were also made that the remaining soils were naturally formed, rather than archaeological and that there were no further artefacts and archaeological features still to

be located and investigated. At this stage, soil samples were taken from beneath the central area between the tyres, where the burial was once thought to have been placed. Here surface encrustations of a purple-brown deposit, later identified as manganese (Lewis 2019), were found to have precipitated on the surface of the stony sub-soil, providing some supporting chemical evidence for a body once having been placed immediately above.

Surrounding the central burial pit was a penannular ditch 10m in internal diameter, with a wide entrance on the south-eastern side. The ditch was 0.5-0.75m wide and 0.25-0.4m deep and with a U-shaped profile. This was excavated in short sections, with baulks left in at intervals to permit section drawings to be made and recorded before the baulks were also removed. The ditch was filled with a homogenous deposit of a stony silty-clay. There were no artefact finds, deposits of animal or human bone or deposits of charcoal within this ditch fill. On the south side, a small and shallow pit was found to cut through the fill of the ditch, on the interior side, and it contained a layer of charcoal at its base.

The entrance terminals of the ring-ditch were difficult to define, but the entrance was around 2.8m wide. Two large elongate and intercutting pits, probably both representing secondary human inhumation graves were placed across the entrance to the circular enclosure soon after the central chariot burial. A small pit, possibly a posthole, lay close to the northern terminal of the ring-ditch on the inner side. On the northern side, just outside the ring-ditch was an oval pit containing a layer of capping boulders and a soil fill containing charcoal. The base fill of this pit was found to contain enhanced levels of phosphate and manganese suggesting this once contained a crouched burial.

Following completion of all recording and photography of the excavated trench, the soil was infilled back into the trench by machine. The retained grass turfs were replaced over the trench and the area compacted by machine. Grass seed was also distributed over the trench to aid the re-growth of grass over the disturbed area.

4.0 Conservation lifting, care and X-ray analysis (LM, ML)

The sword was closely associated with three copper-alloy rings and four unidentified iron objects, with traces of organic materials. The whole assemblage was block-lifted encased in three layers of plaster bandage, closely wrapped and taken to the conservation laboratory, where it was heat sealed into moisture & oxygen barrier film to keep it stable until it could be micro excavated. The sword fragments, rings and iron objects were subsequently removed, dried out, x-rayed for identification and put in dry storage.

The tyres, in the numerous pieces into which they had broken in the ground, were partially encased in three layers of plaster bandage and removed onto lightweight boards, closely wrapped and taken to the conservation laboratory, where they were heat-sealed into moisture & oxygen barrier film to keep them stable. They were then taken to TWI Technology Centre in Port Talbot to be x-rayed, after which the plaster casing was partially removed to facilitate rapid drying before they were put into to dry storage.

The hubs of the wheels were identified by four very corroded and fragmentary copper alloy hoops and on the outside of each wheel two lynchpins, with many traces of associated organic materials. These were block-lifted in four blocks, closely wrapped and taken to the conservation laboratory, where they were heat-sealed into moisture & oxygen barrier film

and refrigerated. They were taken to TWI Technology centre with the tyres to be CT-scanned, which revealed four iron axle-rings inside the blocks. They were returned to refrigerated storage.

All other iron objects were kept damp and wrapped to include air after excavation and transported back to the museum as soon as possible. Once in the lab, they were examined for associated organics, then dried out immediately, x-rayed for identification and stored at low relative humidity. The copper alloy objects were put into dry storage immediately unless associated organics were suspected, in which case they were closely wrapped and refrigerated.

All objects and block-lifts are regularly checked and remain stable.

5.0 Summary listing of artefacts, samples and animal bone (AG)

The following summary listing includes all artefacts, samples and animal bone retrieved from Trench 1 of the archaeological excavation, centring over the chariot grave. None of the material retrieved from Trenches 2, 3 & 4 are included, as they relate to different archaeological features and monuments and are therefore not associated with the artefacts from the chariot grave.

Metalwork finds

1. **Copper alloy bridle-ring fragment** (Small Find 37; Fill 1004 of plough furrow 1005; displaced to south-south-east of east end of grave-pit)
2. **Copper alloy bridle-bit terminal fragment, with late La Tène art style design and red glass insets** (Small Find 31; Fill 1004 of plough furrow 1005; displaced to north-north-west of east end of grave pit)
3. **Copper alloy bridle-ring fragment** (Small Find 38; Ploughsoil 1001 – discovered unstratified in spoil during machining - probably from south-east quadrant of Trench 1, to south-east of grave pit)
4. **Copper alloy bridle-bit link fragment** (Small Find 36; Ploughsoil 1001 – discovered unstratified in spoil during machining - probably from central south side of Trench 1, south of the grave pit)
5. **Copper alloy bridle-bit link** (Small Find 35; Ploughsoil 1001; discovered unstratified c. 2m east of grave-pit on east side of Trench 1)
6. **Copper alloy strap-union fragment, decorated with late La Tène art style design and red glass insets** (Small Find 26; Ploughsoil 1001 – found in base of ploughsoil displaced on west side of Trench 1, west of grave pit)
7. **Copper alloy strap-union fragment, decorated with late La Tène art style design and red glass insets** (Small Find 33; Ploughsoil 1001 – discovered unstratified during machining in north-west quadrant of Trench 1, north and west of the grave pit)
8. **Copper alloy outer nave-hoop of south tyre** (Small Find 90 – block lifted – fragile & fragmentary; Context 1031)
9. **Copper alloy inner nave-hoop of south tyre** (Small Find 82 – block lifted – fragile & fragmentary; Context 1031)
10. **Copper alloy small sheet fragment of inner nave hoop of south tyre** (Small Find 89; Context 1031)

11. **Copper alloy small fragments (9), part of inner nave hoop of south tyre** (Small Find 80; Context 1031) – includes edge fragments with groove defined border, interior circumferential groove and curved incised decoration pattern.
12. **Small copper alloy fragments (2), part of inner nave hoop of south tyre** (Small Find 81 – in same bag as SF 80 and part of SF 80; Context 1031)
- 13a. **Copper alloy outer nave-hoop of north tyre** (Small Find 85A– block lifted – fragile & fragmentary; Context 1030).
- 13b. **Small fragment of copper alloy outer nave-hoop of north tyre.** (Small Find 85B; Context 1030)
14. **Copper alloy inner nave hoop of north tyre** (Small Find 65- block lifted – fragile & fragmentary; Context 1030).
15. **Copper alloy and iron linch-pin of outer south tyre** (Small Find 68/69 -block lifted; Context 1031)
16. **Copper alloy and iron linch-pin of outer north tyre** (Small Find 43/64 – block lifted; Context 1030)
17. **Copper alloy small sheet fragments (6), probable nave hoop fragments – uncertain whether from inner or outer side** (Small Find 44 – north tyre pit, located centrally over top of tyre; Context 1030)
18. **Copper alloy scabbard suspension-ring – two-thirds surviving (5 fragments, very corroded)** (Small Find 47, located on north side of sword at upper blade/hilt end – block lifted with sword (SF 45); Context 1002).
19. **Copper alloy scabbard suspension-ring – one third of ring visible, very fragile/corroded** (Small Find 48, located on south side of sword at upper blade/hilt end – block lifted with sword (SF 45); Context 1002).
20. **Copper alloy scabbard suspension ring – one third of ring visible, very fragile/corroded** (Small Find 54, located north of sword at lower blade end – block lifted with sword (SF 45); Context 1002).
21. **Copper alloy fragments (3) – main fragment of curved bar form with oval cross-section, with two small, perforated ring fragments** (Small Find 46; located in black organic soil patch north of the sword hilt; Context 1003).
22. **Copper alloy circular wire, small fragment** (Small Find 98; Context 1002 – block-lifted with sword SF 45; associated with curved iron binding strips with mineralised wood – binding for spear shaft; SF 50).
23. **Iron sword - long sword with straight hilt end – Group D; Type iv** (Small Find 45, Context 1002 – block lifted with CuA SFs 47, 48 & 54 and Fe SFs 50, 52, 53 & 58)
Lenticular sectioned blade; complete but broken into nine joining fragments:-
 - a. Tang fragment
 - b. Upper blade / lower hilt fragment
 - c. Upper blade fragment
 - d. Mid blade fragment
 - e. Mid blade fragment
 - f. Mid blade fragment
 - g. Mid blade fragment
 - h. Lower blade fragment
 - i. Blade tip fragment
 - j. Very small iron sword fragments removed while lifting sword.

- k. Small hilt plate fragments removed while removing sword from soil block.
24. **Iron socketed ferrule, with copper alloy rivet** (Small Find 57; Context 1002); tapering iron object with rounded tip and with socket at wider end; copper alloy rivet visible through wall of socket
25. **Curved iron strips (2), with mineralised wood – binding for spear shaft** (Small Find 50; Context 1002 – block-lifted with sword SF 45; associated with copper alloy circular wire SF 98). Probably associated with and part of SFs 52, 53, 58; socketed iron ferrule SF 57 may be part of the same original spear.
26. **Circular and possibly spiralled iron strip(s) surrounding core of mineralised wood – binding for spear shaft** (Small Find 52; Context 1002 – block-lifted with sword SF 45); Probably associated with and part of SFs 50, 53, 58; socketed iron ferrule SF 57 may be part of the same original spear. Fragment collapsed into many fragments after careful lifting as iron was nearly entirely corroded.
27. **Circular and possibly spiralled iron strip(s) surrounding core of mineralised wood – binding for spear shaft** (Small Find 53; Context 1002 – block-lifted with sword SF 45); Probably associated with and part of SFs 50, 52, 58; socketed iron ferrule SF 57 may be part of the same original spear.
28. **Circular and spiralled iron sheet strip surrounding core of mineralised wood core – binding for spear shaft** (Small Find 58; Context 1002 – block-lifted with sword SF 45); Probably associated with and part of SFs 50, 52, 53; socketed iron ferrule SF 57 may be part of the same original spear.
29. **Iron chariot wheel tyre – north tyre** (Small Find 22, 42, 71 & 84; Context 1030 – lifted in discrete plaster-bandaged sections); Complete, but crushed and with breaks.
- a. Fragment 22U – large base section fragment
 - b. Fragment 22Va – upper east end, bent fragment (separated from 22Vb during stabilisation, already broken in ground)
 - c. Fragment 22Vb – upper east end, bent fragment (separated from 22Va during stabilisation, already broken in ground)
 - d. Fragment 22W – upper section, west end, small fragment
 - e. Fragment 22 X (= Small Find 42) – upper east end
 - f. Fragment 22Y – upper section, central, small fragment
 - g. Fragment 22Z – upper section, central, small fragment
 - h. Fragment - Small Find 71 – corrosion blister from tyre
 - i. Fragments (6) – Small Find 84 – small fragments, probably from north tyre
30. **Iron chariot wheel tyre – south tyre** (Small Find 23 & 59; Context 1031 – lifted in discrete plaster-bandaged sections); Complete, but crushed and with breaks.
- a. Fragment 23A – west end, upper section, small fragment
 - b. Fragment 23B (= Small Find 59) – upper section, east end, large fragment
 - c. Fragment 23C – west end, top of base section, small fragment
 - d. Fragment 23D – west end, top of base section, one small fragment
 - e. Fragment (Small Find 93) – iron rivet or nail, west end, top of base section
 - f. Fragments 23Ea – top bent section, large fragment (separated from 23 Eb during stabilisation, already broken in ground)
 - g. Fragment 23Eb – top bent section, large fragment (separated from 23 Ea during stabilisation, already broken in ground)
 - h. Fragment 23F – large base section fragment

- i. Fragment 23G – small tyre fragment, found after lifting of other fragments in base of western end of tyre pit
31. **Iron hub-ring** (Small Find 94; Context 1030 – north tyre, outer, associated with nave-hoop 85)
32. **Iron hub-ring** (Small Find 95; Context 1030 – north tyre, inner, associated with nave-hoop 65)
33. **Iron hub-ring** (Small Find 96; Context 1031 – south tyre, outer, associated with nave-hoop 90)
34. **Iron hub-ring** (Small Find 97; Context 1031 – south tyre, inner, associated with nave-hoop 82)
35. **Iron bolt fitting** (Small Find 62; Context 1002); one head/end is expanded
36. **Iron bolt fitting** (Small Find 51; Context 1002); broken at one end; corrosion product shows mineralised grain structure of wood to which the bolt was once attached
37. **Iron bolt fitting** (Small Find 70; Context 1031 – upper fill of south tyre pit, inner / north side); two expanded heads; corrosion product shows mineralised grain structure of wood to which the bolt was once attached
38. **Iron bolt fitting** (Small Find 78; Context 1031 – upper fill of south tyre pit, inner/ north side; located beneath SF 66); two expanded heads; corrosion product shows mineralised grain structure of wood to which the bolt was once attached
39. **Iron bolt fitting** (Small Find 66; Context 1031 – upper fill of south tyre-pit, inner / north side; located above SF 78), two expanded heads; corrosion product shows mineralised grain structure of wood to which the bolt was once attached
40. **Iron oval-shaped ring** (Small Find 55; Context 1031, upper fill of south tyre pit – block-lifted with SFs 56 & 63); found paired with Small Find 56
41. **Iron oval-shaped ring** (Small Find 56; Context 1031 – upper fill of south tyre pit - block-lifted with SFs 55 & 63); found paired with Small Find 55
42. **Pair of iron circular-shaped rings, joined with iron link** (Small Find 49; Context 1002 – block-lifted); two circular-shaped rings joined by link with loop-ends and pinched double bar; rings are of different sizes; mineralised wood visible adjacent to ring; possible mineralised leather within one ring.
43. **Iron socketed ferrule** (Small Find 79A; Context 1031 – upper fill of south tyre pit, inner/ north side); tapering iron object with socket at wider end; corrosion attached to Small Find 79B [probable spear ferrule]
44. **Iron socketed ferrule or chape containing iron tip** (Small Find 79B; Context 1031 – upper fill of south tyre pit, inner / north side); tapering iron object with socket at wider end; corrosion attached to Small Find 79A.
45. **Iron fragment** (Small Find 67; Context 1031 – upper fill of south tyre-pit, inner / north side); small, curved iron fragment with convex outer surface and flat inner surface; width complete, as side edges visible.
46. **Iron panning, naturally formed** (Small Find 92; Context 1031) – found after lifting of tyre fragments in base of south tyre pit. No discernible shape or structure on X-ray.
47. **Iron strip with slightly curved cross-section and a vertical projection on one end** – wood grains in surface corrosion products (Small Find 99; Context 1030). Located projecting from outer face in interior hoop area of north tyre outer nave-hoop (Small Find 85) as potential axle component.

- 48. **Copper alloy dome-headed stud** (Small Find 30; Ploughsoil 1001- controlled metal detector find during machining in south-east quadrant of Trench 1)
- 49. **Copper alloy bullet cartridge** (Small Find 28; Ploughsoil 1001 – controlled metal detector find during machining in south-central area of Trench 1)
- 50. **Copper alloy bullet cartridge** (Small Find 34; Ploughsoil 1001 – discovered unstratified in spoil during machining – from north-central area of Trench 1)
- 51. **Iron circular sectioned shank fragment** (Small Find 39; Ploughsoil 1001 – discovered unstratified in spoil during machining – probably from southern-central side of Trench 1)
- 52. **Lead pellet** (Small Find 32; Ploughsoil 1001 – controlled metal detector find during machining – found in south-west quadrant of Trench 1)
- 53. **Lead fragment** (Small Find 27; Ploughsoil 1001 – controlled metal detector find during machining – found in south-west corner of Trench 1)
- 54. **Lead fragment** (Small Find 29; Ploughsoil 1001 – controlled metal detector find during machining – found in south-east corner of Trench 1)

Stone artefacts

- 55. **Flint, struck flake** (Small Find 41; Context 1002 – clay fill of grave cut on south side of grave)
- 56. **Stone grave-liner** (Small Find 74; Context 1024, fill of pit 1029 – small stone)
- 57. **Stone grave-liner** (Small Find 75; Context 1024, fill of pit 1029 – small stone)
- 58. **Stone grave-liner** (Small Find 76; Context 1024; fill of pit 1029 – small stone)
- 59. **Stone grave-liner** (Small Find 77; Context 1024; fill of pit 1029 – small stone)
- 60. **Stone grave liner / marker** (Small Find 72; Context 1024, fill of pit 1029 – large upper stone)
- 61. **Stone grave liner/ marker** (Small Find 73; Context 1024, fill of pit 1029 – large lower stone)
- 62. **Stone, natural (non-artefact)** (Small Find 87; Context 1031 – base of tyre pit on inner / north side) – initially thought to be possible iron tyre fragment, but found to be a stone upon X-raying
- 63. **Stone, natural (non-artefact)** (Small Find 88; Context 1031 – base of tyre pit on inner / north side) – initially thought to be possible iron tyre fragment, but found to be a stone upon X-raying

Conservation, soil & dating samples

- 64. **Black organic stain** – possible decayed leather strap (Small Find 83; Context 1031 – south wheel axle, between wheel tyre and crushed inner / north nave hoop; block-lifted)
- 65. **Wood / mineralised iron** (Small Find 86; Context 1030 – north tyre, west end, under tyre fragment SF 22W)
- 66. **Soil stain**, possibly in outline of former wooden wheel spoke (Small Find 91; Context 1030 – north tyre, west end, near base; block-lifted)
- 67. **Burnt bone fragments (3)** (Context 1035; small charcoal patch)
- 68. **Wood root - natural** - initially misidentified as an iron nail (Small Find 40; Ploughsoil 1001 – found in base of ploughsoil in south-east quadrant of Trench 1, displaced to south of grave pit)

69. Sample No. 201; Context 1012 – large bulk soil sample from fill of post-hole
70. Sample No. 202; Context 1003 – small organic deposit from stain near sword SF 45
71. Sample No. 203; Context 1002 – small corrosion deposit from sword SF 45
72. Sample No. 206; Context 1021 – small charcoal deposit
73. Sample No. 208; Context 1023 – very small charcoal fragments
74. Sample No. 209; Context 1024 – very small charcoal fragments
75. Sample No. 210; Context 1028 – small charcoal deposit
76. Sample No. 211; Context 1002 – medium sized soil sample
77. Sample No. 212; Context 1003 – samples taken on 10cm grid for phosphate analysis of soil stain near sword SF 45
78. Sample No. 213; Context 1003 – small sample of organic material near sword SF 45
79. Sample No. 214; Context 1003 – small sample of possible organic material between block lifted sword SF 45 and copper alloy stain north of the sword hilt
80. Sample No. 215; Context 1003 – small sample of possible organic material north of the sword SF 45 mid-blade section
81. Sample No. 216; Context 1034 – very small charcoal fragments
82. Sample No. 217; Context 1032 – very small charcoal fragments
83. Sample No. 218; Context 1024 – samples taken on a 10cm grid for phosphate analysis
84. Sample No. 219; Context 1024 – samples taken on a 10cm grid for phosphate analysis
85. Sample No. 224; Context 1030 – large bulk soil sample
86. Sample No. 225; Context 1031 – large bulk soil sample
87. Sample No. 226; Context 1032 – samples taken on a 10cm grid for phosphate analysis
88. Sample No. 227; Context 1003 – medium sample from organic stain near sword SF45
89. Sample No. 228; Context 1030 – small sample for possible pollen analysis
90. Sample No. 229; Context 1031 – small sample for possible pollen analysis
91. Sample No. 230; Context 1030 – small block sample from around SF 65
92. Sample No. 231; Context 1030 – large bulk soil sample
93. Sample No. 232; Context 1031 – large bulk soil sample
94. Sample No. 233; Context 1044 – medium sized bulk soil sample
95. Sample No. 234; Context 1030 – small sample of organic material relating to north tyre axle, between inner /south nave hoop and tyre
96. Sample No. 235; Context 1030 – small charcoal sample
97. Sample No. 236; Context 1030 – small black organic sample relating to north tyre axle at base of tyre near inner / south nave hoop
98. Sample No. 239; Context 1049 – large bulk soil sample in fill of pit
99. Manganese stained stones from 150mm beneath sword
100. Conservation sample 1 – organic sample with pattern, associated with ring SF 54
101. Conservation sample 2 – organic deposit opposite ring SF 54
102. Conservation sample 3 – charcoal / organic deposit north of ring SF 54
103. Conservation sample 4 – fragment adjacent to ring SF 54
104. Conservation sample 5 – black material between tyre and Small Find 65.
105. Conservation sample 7 – wood fragments, charcoal and black organic- associated with join between iron tyre 22Va & 22Vb
106. Conservation sample 8 – wooden traces of scabbard under sword (Small Find 45)
107. Conservation sample 9- from soil associated with Small Find 49
108. Conservation sample 10 - possible leather under larger belt-ring (Small Find 49)

- 109. Conservation sample 11 – wood from between Sword (Small Find 45) and belt-ring (Small Find 45)
- 110. Conservation sample 13 – wood under inner south nave hoop (Small Find 80)
- 111. Conservation sample 14 – charcoal associated with black layer under inner north nave hoop (Small Find 65)

6.0 Identifications (AG, ML & LM)

This report forms an addendum to Treasure Case 18.04, comprising a set of chariot fittings discovered by metal-detectorist Mike Smith in February 2018 and also retrieved during a preliminary archaeological excavation at the findspot in June 2018 (Gwilt *et al* 2018a & b). These were subsequently declared treasure by H.M. Coroner for Pembrokeshire, Mr Mark Layton, in January 2019. The copper alloy and iron artefacts included within the scope of this report (*above*) were retrieved during the subsequent complete archaeological excavation of this chariot burial, undertaken in March-April 2019 by Dyfed Archaeological Trust and Amgueddfa Cymru – National Museum Wales. This fieldwork was part of the *Discovering Ancient Heritage: the first Celtic Iron Age Chariot Burial in Wales project* with the support of significant grant funding from Cadw, Amgueddfa Cymru and the National Lottery Heritage Fund in Wales (Grant Ref. OH-18-05414). As the area of the burial and neighbouring Iron Age promontory fort was scheduled by Cadw and protected by law, following the initial excavation discovery on 31st October 2018 (Scheduled Ancient Monument Ref. PE 572), this second excavation of the burial monument was undertaken with scheduled ancient monument consent provided by Cadw (Harris 2019).

The artefacts listed in this report were specifically discovered in the chariot grave or displaced into ploughsoil in the immediate vicinity of the grave and burial monument by recent deep ploughing activity. They were once buried in direct association with the artefacts included in the first treasure report for this find. Therefore, all the dating evidence previously cited in the first report (Treasure Case 18.04) is also directly relevant in support of the specific and contemporary dating of these additional discoveries made in 2019. To review this established evidence briefly, amongst the group of artefacts first discovered by the finder, and subsequently augmented by further discoveries during the preliminary excavation at the find-spot, were found a coherent group of cast bronze and iron chariot and horse harness fittings of Late Iron Age date (Gwilt *et al* 2018a, Nos. 1-7; 12-27), which were probably made during the mid-first century AD (*circa* AD 25-75) in the decades immediately preceding the Roman invasion and during the period of Campaigning of the Roman army in western Britain. Many are decorated with design motifs in the late La Tène art style, which can be identified as belonging to art Styles/Stages V and VI (Stead 1985, 25-36; 1995, 95; 1996, 34-5; 2006, 15; Macdonald 2007a; Davis & Gwilt 2008, 166-77), with negative recesses infilled with red glass decoration, a characteristic Iron Age technique (Hughes 1972; Henderson 1989, 47-9; Freestone *et al* 2004; Rigby 2006; Davis & Gwilt 2008, 155-6; Davis 2014; 2017). Elsewhere in Britain, groups and objects exhibiting Style VI art designs are dated to the first century AD (e.g. Stead 2006, 68-9; Davis & Gwilt 2008, 166-77). The absence of polychrome enamelling amongst these horse-pieces and the absence of early Roman cavalry fittings amongst this group has provided a consistently Iron Age technology and signature for this material. Polychrome enamel appears in Britain around AD 50 at

earliest, while the earliest burial of Roman cavalry fittings dates to the invasion and Campaigning period of the Roman army in Wales from the late 40s AD until the late 70s AD.

Included amongst the finds in this report are two fragments of a quadrilobed strap-union with Style VI La Tène art decoration with red glass inlays (Cats. 6-7, *above*). These were found displaced a few metres to the north and north-west of the chariot grave, as a result of modern ploughing. They are additional missing pieces of the fragmentary strap-union discovered during the preliminary 2018 excavation (Gwilt *et al* 2018a&b, Cats. 21-3) and it is clear that the design forms a matched and identical pair with the complete strap-union discovered by finder Mike Smith in February 2018 (Gwilt *et al* 2018a&b, Cat. 3). These belong to a known class of large lobed and decorated strap-unions of Iron Age technology, often found in pairs, found across East Anglia, southern England, south Wales and northern France, dating to the second and third quarters of the first century AD (e.g. Clarke 1940, 68-9 & Pls. XV-XVII; Spratling 1972, 311-2; 2009, 65-71; Brailsford 1975, 228, 232-4 & Pl. XXIIIa; Feachem 1991, Fig. 3; Davis & Gwilt 2008, 164; Slarke 2009).

A circular decorated terminal fragment, from a two-link bridle-bit decorated in late La Tène art style and with red glass inlay decoration was discovered in the base of plough furrow fill displaced to the north-north-west of the chariot grave pit (Cat. 2, *above*). Four further fragments of bronze bridle-rings and fluted bridle-links (Cats. 1, 3-5, *above*) were discovered displaced within plough furrow fill and ploughsoil in the vicinity of the grave. It is apparent that these form the majority of the missing fragments of a matching pair of decorated bridle-bits discovered by the finder (Gwilt *et al* 2018a&b, Cats. 4-6) and during the June 2018 excavation (Gwilt *et al* 2018a&b, Cats. 15-18). These may be identified as having close affinities with a common form of two-link bridle bit of the Polden Hill Subtype (e.g. Macdonald 2007b, 72-8 & Table 8). The flat circular and decorated terminals on this pair are difficult to closely parallel amongst the known literature, although the fluted link form is witnessed on parallels from the Polden Hill, Somerset hoard (Spratling 1972, 455-8, Cats. 171-8, Figs 66-73; Davis 2014, 103-6 & 332-3, Figs 6.34-42 & A9.6) and the Santon, Norfolk hoard (Spratling 1972, 459, Cat. 179, Fig., 63; 2009, 28-9, Cat. 28 & Fig 12; Davis 2014, 196-7, Fig 8.42). Bridle-bits of the Polden Hill Subtype are generally thought to be dated to the first century AD, with a probable focus during the second and third quarters of this century (e.g. Spratling 1972, 99-100; Brailsford 1975, 224-7, Figs. 2-3; Pls. XX-XXI; Macgregor 1976, 30; Macdonald 2007b, 74). In Wales, two associated examples of the Polden Hill subtype are known from Hengwm, near Llanaber, Merionethshire (RCAHMW 1921, 50, Entry 136B; Smith 1925, 143; Ward-Perkins 1939, 175 & Fig. 2; Bowen & Gresham 1967, 175 & Fig. 74; Spratling 1972, 454, Cat. 168). An 'eared' link terminal fragment of another bridle bit of this type is known from Llancarfan (Vale of Glamorgan) (Lodwick & Gwilt 2015). Another link terminal of the same type was discovered during excavations of the Roman small-town settlement at Cowbridge (Vale of Glamorgan) and highlighted as a notable find of first century AD date (Lloyd-Morgan & Webster 1996, 185-6, Cat. 17 & Fig 56.17), but from a poorly dated archaeological context: a gully forming part of a network of enclosures whose broad occupation evidence spanned the second to fourth centuries AD (Parkhouse & Evans 1996b). It is likely that this artefact was old when buried and may have been redeposited when an earlier feature was disturbed by the main settlement occupation.

A closely dated two-link bridle-bit fragment of Polden Hill subtype with fluted links is known from Abergavenny, Monmouthshire (Lloyd-Morgan 1995, 38 & 40, Cat. 4 & Fig.). The outer rings for attaching to the rein-rings are fragmented, with each outer circuit missing, therefore unfortunately any evidence for either any possible circular decorated terminals or alternatively 'eared' decoration on the outer rings is also absent. This was discovered in early burnt deposits located immediately outside the auxiliary Roman fort, constructed around AD 52-60 (Evans 1995, 13-4; Burnham & Davies 2010, 40). Associated finds included a coin of Nero (AD 64-7), three coins of Claudius (AD 50-4) and Neronian/early Flavian pottery (AD 60-80) (Lloyd-Morgan 1995, 9 & 14), suggesting a date of their burial together *circa* AD 65-80, contemporary with the early fort and its surrounding early settlement. This tight date of deposition within a phased stratigraphic sequence provides strong supporting evidence for the manufacture of these bridle-bits of Polden Hill subtype during the second and third quarters of the first century AD. While manufactured in a distinctly Iron Age style, its eventual burial adjacent to an early Roman fort is consistent with this period of conflict and campaigning on the expanding western Roman frontier in Britain.

The complete iron long sword was carefully removed from its soil block in nine main fragments (Cat. No. 23a-i, *above*) and was found located in the area between the two chariot wheel slots, with its tip extending into the upper fill of the south tyre slot. The sword was a grave-good carefully buried adjacent to the burial, seemingly originally laid out on the platform of the chariot. Initial conservation X-raying and assessment of this artefact indicates evidence for a segmented horn handle grip, with mineralised wood surviving on the lower surface, suggesting it was originally buried in a wooden scabbard, now largely decayed and only surviving as mineralised traces in the outer iron corrosion surfaces of the blade. Three copper alloy rings, a pair located at the upper blade end (Cat. Nos. 18-19, *above*) and one located at the lower blade end on the north side (Cat. No. 20, *above*) are scabbard strap-rings or suspension-rings, further evidence that the sword was buried in its scabbard and with associated leather suspension straps, now entirely decayed and lost in the soil over time.

A combination of diagnostic features permits an identification of this sword to its known type within the wider body of Iron Age swords from Britain. Firstly, the estimated combined length of the sword (890-895mm including tang, 760-765mm blade length), identifies it within the range of 703-870mm more widely observed for a British Iron Age long sword type. Secondly, its straight hilt end and lenticular shaped blade section are indicative of a Type iv sword (Stead 2006, 8-9 & Fig. 3.iv), typical of Group D long swords and scabbards with straight mouths found across southern Britain (Stead 2006, 15 & 43-54). The traces of a wooden scabbard associate it with Type v scabbards (Stead 2006, 45). The available dating evidence for Group D swords indicates they first appeared towards the end of the second century BC but continued in use as a form for two centuries (Stead 2006, 54). The presence of Style VI art motifs on the scabbards of Group D long swords with decorated copper alloy scabbards from Bardney (Lincolnshire), Congham (Norfolk) and Battersea (London) confirm their currency extended into the mid to later first century AD (Stead 2006, 175-7, 242-4, Cats. 102-4, Figs. 76-8). Accordingly, a date of AD 25-75 for the making of this long sword, placed in the chariot burial and contemporary with the chariot and its decorated fittings, is confirmed. Similar sets of scabbard suspension-rings, as found in association with this long sword and scabbard fragments, have been discovered with Group D swords and scabbards within burials and hoards at Essendon (Hertfordshire), Whitcombe (Dorset), Owslebury

(Hampshire), St Lawrence (Isle of Wight) and Coleford (Gloucestershire) (Stead 2006, 178-81, 246-8, Cats. 110,112,114,116-8,128, Figs. 80-2).

From Wales, one other Iron Age burial containing an iron sword is known from Gelliniog Wen on Anglesey (Hughes 1909; RCAHMW 1937, lxix; lxxix; lxxxix; Piggott 1950, 22 & 28; Lynch 1991, 282-4 & Fig. 81; Stead 2006, 50 & 182, Cat. 142, Table 6). The sword is a Group D long sword, once 81cm long, which was buried sheathed in an iron scabbard, fragments of which survive, including a suspension loop. Two fragments of an iron suspension ring also survive. The burial was discovered in 1909 as an extended inhumation in a stone lined cist with three capstones. In addition, a number of Group D long swords are included within the religious lake votive artefact assemblage from Llyn Cerrig Bach, Anglesey (Fox 1946; Macdonald 2007b). These include one complete iron sword, two iron hilt and upper blade fragments, two rounded sword blade end fragments and a copper alloy scabbard fitting identified to this sword type (Fox 1946, 73-4, 90-1; Cats. 4, 6, 11, 93-5; Plate XVI; XXXIII & XXXIV; Stead 2006, 50 & 180-1, Cats. 121, 131-4 & 137). This sacred lake assemblage was created and added to over a number of centuries spanning the Middle Iron Age to the early Roman period between 350 BC- AD 150 (Macdonald 2007, 157-62), the swords being cast into the lake at some time between the later second century BC and the middle of the first century AD (Macdonald 2007, 167).

Buried beside the sword and burial, as grave goods, were three iron tapering and socketed objects (Cats. 24, 43-4, *above*), which were located at the sword blade tip end to the west, two in the upper fill of the southern chariot tyre wheel slot and one in the same soil layer as the sword and burial. Two of these have been identified as spear ferrules (Cats. 24 & 43), the non-blade butt-ends of spears, while the third (Cat. 44) may be a sword or dagger chape or a third spear chape, a matter requiring further future conservation investigation. Also buried in a line along the northern side of the sword blade were found four discrete fragments of curved iron strips (Cats. 25-8, *above*), which when X-rayed showed as iron strips bound around an original wooden core, now showing as mineralised wood remains preserved by the surrounding iron strips. These are identified as binding strips around a wooden spear shaft, now largely lost and decayed through time. One of the spear ferrules was once attached to this wooden spear shaft, adorned with these iron binding strips along its length. Also discovered during the X-raying of one of the binding strips (Cat. 25) was a small fragment of copper alloy wire (Cat. No. 22, *above*), whose original function is not currently known.

Unfortunately, no spearhead blades were discovered surviving in the grave: their shape and form would have been allowed closer dated parallels than possible for than the surviving ferrules and binding strips. Iron spears have been found as grave goods in a range of weapon burials in Britain spanning the Middle to Late Iron Age and the Roman Campaigning period (300 BC-AD 78), sometimes alone as weapon types and sometimes with swords, shields and within chariot burials from East Yorkshire (e.g. Stead 1991; 2006, 50; Giles 2012). Iron spearheads have been associated with five inhumation burials across southern Britain containing Group D swords at Kelvedon (Essex), Whitcombe (Dorset), Brisley Farm (2) (Kent) and Owslebury (Hampshire) (Stead 2006, 50, 177-9, 182-3, Cats. 105,114,115,116 & 146, Table 6). Also known from Late Iron Age and early Roman military and civilian sites, are iron conical spear ferrules (e.g. Manning 1985, 140-1 & Pl. 66; Macdonald 2000, 126, Cats. 30, 65, 74-5 Figs. 60 & 63). Good parallels for the curved iron binding strips are to be found amongst the so-called collar and spiral ferrules from Late Iron Age and Campaigning

period deposits of the early to mid-first century AD from Hod Hill Iron Age hillfort and Roman fort, Dorset and the massacre deposit at the south-west gateway of South Cadbury hillfort, Somerset (Manning 1985, 141-2 & Pl. 67; Macdonald 2000, 130, Cat. 60 & Fig. 63). These have diameters in the range of 18-38mm, in comparison with diameters of 27mm and 30mm observed for examples in this grave. The very particular linear layout of the iron binding strips in relation to iron spear ferrules here, suggest that similar observed examples on these other sites may actually have functioned as spear shaft bindings, rather than ferrules. It seems equally possible that the coiled copper alloy strips from Llyn Cerrig Bach, Anglesey, with perforation holes for rivets could also have functioned as spear shaft bindings, rather than bindings for religious staffs or wands (Macdonald 2007, 110-5, 229-32, Cats. 35-43, Fig. 22). Six iron spearheads were also included in this religious lake assemblage, providing some supporting evidence for the possibility of spear shaft bindings also being included in the deposit (Fox 1946, 74, & 91, Cats. 13-6 & 96-7, Pls. XIX & XXXV).

Further small copper alloy fragments were discovered to the north of the sword hilt (Cat. No. 21, *above*) in the area of the central burial. These are difficult to identify at present to a known artefact type, though possibilities remain a fitting associated with the sword, scabbard and suspension fittings or perhaps a dress fitting such as a brooch, adorning the body of the deceased. Further conservation and post-excavation research will be required in future to test these possibilities further.

A number of other iron artefacts were also discovered within the central chariot platform area or slumped into the upper fill of the south chariot wheel slot. These probably all represent metal fittings and components of the chariot. Five iron bolt fittings (Cat. Nos. 35-9, *above*), with adjacent evidence for mineralised wood attached, discovered during X-raying, probably served to join components of the wooden chariot platform structure. In addition, a small and curved iron fragment (Cat. No. 45, *above*), whose function is presently unknown was found in the upper fill of the upper fill of the south chariot wheel slot. Also, from the upper fill of the south chariot wheel-slot, a pair of oval-shaped iron rings were discovered (Cat. Nos. 40-1, *above*). With maximum external diameters of 59 and 60mm and with bar thicknesses of 6-7mm, these may once have functioned as a plain side pair of terrets, once strapped to the yoke of the chariot, or alternatively may have acted as harness fittings. Similar plain iron terrets of circular form were discovered as part of an Early Iron Age chariot burial discovered at Newbridge, Edinburgh (Hunter 2010, 54). A similar plain set of circular terrets, made from leaded tin bronze covering silt cores were found as part of a chariot burial at Ferry Fryston, West Yorkshire (Boyle *et al* 2007, 138-40 & Fig. 98). If true, then these would stand in stark contrast with the highly elaborate central bronze terret also found in the grave (Gwilt *et al* 2018a&b, Cat. No. 2), however might help to explain the seeming absence of two expected lateral pairs of terrets on the eastern side of the grave cut, corresponding with the location of the yoke. Most British Iron Age chariots are found to have a five terret array along the yoke, two lateral pairs for smaller terrets each corresponding with a pony and one large central terret (*e.g.* Stead 1991, 49-52 & Fig. 42; Hill 2002; Boyle *et al* 2007, 138-40 & Fig. 98; Giles 2012, 193-4).

A pair of circular iron rings joined by an iron link was discovered from the central area, approximating with the location of the burial and between the two chariot wheel slots (Cat. No. 42, *above*). In contrast with the oval-ring pair of similar shape and diameter, these rings are circular in shape, with one ring having an external diameter of 51mm and a thickness of

6mm and the other having an external diameter of 43-45mm and a ring thickness of 7.5mm. They are joined by an iron link with looped terminals, with a pinched double-bar stem measuring a total length of 105mm and with a maximum distance of 98mm between the two rings. At the present time, a variety of possibilities must be considered for their function and use: firstly, it is possible that they might have once been a linked pair of plain small terrets, of contrasting and mismatching shape with the oval pair, although their linkage with a looped bar would be highly unusual. Secondly, they may have been handle- or strap-fittings for an object buried in the grave, now virtually entirely decayed through time. Thirdly, they may have been structural chariot components located near the chariot platform and in front of the axle, whose function remains to be identified. Traces of possible mineralised timber adjacent to one ring and possible mineralised leather within one ring are observed presences requiring further future study, analysis and conservation. Notwithstanding this current lack of certainty in their identification and function, their association with the other items in the grave is observed and assured, making them part of this treasure find.

Having covered all the artefacts located within the central grave area between the two chariot wheel slots, it is necessary to identify and cover the closely matching paired sets of artefacts representing the remains of the two chariot wheels and their wheel-hub fittings discovered and retrieved from the north and the south chariot wheel slots during the archaeological excavation. The two iron wheel tyres, first uncovered during the preliminary archaeological excavation in 2018 (Gwilt *et al* 2018a, Cat. Nos. 26-7; Gwilt *et al* 2018b, 28-9), were discovered to be complete in each wheel-slot, but fragmented, crushed and distorted from their original circular form by a weight of overlying deposits once overlying them. Both the north wheel tyre (Cat. No. 29, *above*) and south wheel tyre (Cat. No. 30, *above*) had closely similar characteristics – original wheel diameters of a little over 1.00m, upper surfaces with slightly curved edges, widths of approximately 48.5-53.2mm in their as excavated and corroded state. These find close parallel with the many chariot tyre fragments included within the Llyn Cerrig Bach, Anglesey Iron Age religious lake assemblage dating to between the Middle Iron Age to the early Roman period (Fox 1946, 11-13, 74-6 92-4 & Cat. Nos 19-34B & 100-124 & Pl. XVII; Macdonald 2007b, 166-8) and chariot tyres from other British Iron Age chariot burials dating from the Early to Middle Iron Age (*e.g.* Stead 1991, 40-4; Hill 2002, 411 & Fig.; Boyle *et al* 2007, 133-8; Hunter 2010, 44-53).

Towards the centre of each wheel tyre and towards the base of each wheel-slot, on both inner and outer sides of each wheel, were discovered two pairs of copper alloy nave-hoops (Cat. Nos. 8-14 & 17, *above*), once covering the wooden hubs of each wheel and now in highly fragile and fragmentary state. These were removed in plaster bandaged soil blocks for stabilising, X-raying and eventual future excavation and conservation in the conservation laboratory. During the conservation stabilisation process, small fragments of these were found to be detached and revealed surface incised decoration on outer surfaces (Cat. No. 11, *above*). Adjacent to one bordered edge-piece, were observed repeated incised rectangles forming a ladder design, running parallel to one edge of the nave-hoop (Mumford, *pers. comm.*). Within each rectangle is an arc running diagonally from outer to inner corners. The interior concave zones of each portion are infilled with diagonal linework, the lines parallel to each other. While only observed to date in one highly localised place, it seems likely that this decorative design is repeated down each side margin of the nave-hoop. Given the strong observed purpose-made ‘sets’ of chariot and harness fittings elsewhere in this grave, it is

possible that this decoration may well be repeated on all four nave-hoops of both wheels. However, the X-rays of these artefacts in their soil blocks confirms their very thin and highly fragmented state, only being held in shape by the soil around them. They remain to be investigated further and carefully conserved at a future date, after they have been acquired as treasure.

In Wales, the most significant group of copper alloy and iron nave-hoops of Iron Age date is that from the religious lake assemblage at Llyn Cerrig Bach, Anglesey (Fox 1946, 13-5, 76, 95, Cat. Nos. 35-40, 125-7; Macdonald 2007b, 28-34, 218-9, Cat. Nos. 4-7 & Fig. 12). Included are four copper alloy and seven iron examples, thought to span from the third century BC to the mid first century AD (Macdonald 2007b, 25 & 34). The copper alloy nave-hoops of Britain have been classified into three groups; flat forms (Group I) examples with a single central cordon (Group II) and those with a double cordon (Group III), with examples from Llyn Cerrig Bach identified as of Group II and Group III forms (Macdonald 2007b, 26-7 & Table 4). In Britain, the known corpus of nave-hoops is dominated by finds from East Yorkshire, with its chariot grave burial tradition (Macdonald 2007b, 33), spanning the fifth to third centuries BC and with more recent finds from Newbridge, near Edinburgh and Ferry Fryston in West Yorkshire (Boyle *et al* 2007, 133-8, Figs. 90-1 & 95-6; Hunter 2010, 45, 50 & 54-5 & Fig. 9). However, first century AD examples have been found in hoard groups at Santon (Norfolk), Polden Hill & Read's Cavern (Somerset) and Stanwick (North Yorkshire) and within a possible hoard or burial group from Hunsbury hillfort, (Northamptonshire) (*e.g.* Macdonald 2007b, 27-8, 33-4 & Table 4). A further copper alloy nave-hoop decorated in a Roman Classical style was found in a rich cremation grave at Folly Lane Verulamium (Foster 1999a, 146-7 & Fig. 57) containing a mix of grave goods of Iron Age and Roman style and dating to circa AD 50-5 (Foster 1999b, 175-6; Rigby 1999, 190-2). While the precise identification of morphological characteristics of these copper-alloy nave-hoops from this chariot burial, and their ascription to typological grouping, awaits future investigation during their careful excavation and reconstruction, their dating to the middle to second half of the first century AD finds wider parallel amongst known, well-dated hoard and burial groups in England.

A matching pair of large copper alloy and iron linch-pins were discovered, one per wheel on each outer facing side of the chariot, located in alignment with and in front of the copper alloy nave-hoops surrounding the former wheel hubs (Cat. Nos. 15-6, *above*). The heads and feet of these were exposed during the excavation, however they were plaster bandaged and lifted within their soil blocks, in association with their respective nave-hoops and axle-rings. The linch-pins are of J-shaped form and with ring-heads (or looped-heads) and remarkably, the X-rays of these soil blocks show they are still located as they would have been originally placed on the chariot, securing the wheels onto the chariot axle. Their ring-heads and feet components are made of copper alloy, while their central shanks, of rectangular cross-section, are made of iron.

These linch-pins may be identified as examples of a known type of ring-headed form with a curving J-shaped shank, dating to the first century AD. Securely dated examples have been found in the Waltham Abbey (Essex) hoard, the Bigbury (Kent) hoard and from Worthy Down (Hampshire) (Fox 1946, 79 & Table; Spratling 1972, 55-6; Manning 1985, 72, Cat. H39 & Fig. 19; Saunders 1991, 144). A further possible example is included in the Polden Hill (Somerset) hoard, securely dated to the second to third quarter of the first century AD

(Brailsford 1975, 230 & 233, Fig. 7), although some researchers have previously questioned its function as a linch-pin, based on its size and lack of perforation below the ring for securing the pin into position (Spratling 1972, 55-6; Saunders 1991, 144). In Wales, an example of the same type is known in the Llyn Cerrig Bach, Anglesey religious lake assemblage (Fox 1946, 78 & Pl. XXXVIII; Macdonald 2007b, 34), which includes some artefacts of first century AD date. An example is also known from an archaeological excavation at The Breiddin Hillfort, Powys (Saunders 1991, 143-4, Cat. 194 & Fig. 58), being found in a disturbed quarry infilling deposit behind the rampart, whose precise dating within the Iron Age sequence could not be defined. However, the author ascribed a date between the 1st century BC and mid-1st century AD identifying this as a linch-pin of Iron Age form. Examples of composite and decorated linch-pins with ring-heads, with copper alloy heads and feet and iron shanks, are included in the Stanwick (North Yorkshire) hoard (Macgregor 1962, 46-8, Cats. 70-1 & 79, Figs. 10 & 11), securely dated to the middle to third quarter of the first century AD (Macgregor 1962, 56; 1976, 26). While these examples do not have the curved J-shaped iron shanks of this type, they may be considered as closely related and contemporary types.

During the X-raying of the four soil blocks containing the inner and outer wheel hub fittings for each wheel of the chariot, four additional unexpected artefact finds were made: a circular iron ring located in each soil block and positioned at the centre of each of the nave-hoops (Cat. Nos. 31-4, *above*), some still near complete and others now crushed and fragmented. These can be identified as internal hub-rings or linings, once inserted into the internal wall of the inner and outer wheel hubs to reduce the wear damage on the hub as the wheels rotated around the wooden axle of the chariot. Such fittings appear to be absent from earlier British chariot burials of the Early and Middle Iron Age. They have been discovered in a range of contexts in Britain spanning the early to late Roman periods (*e.g.* Manning 1964, 53-4, Cat. 3 & Fig. 2; 1985, 72 & Pl. 30), often as split circular bands with sharpened outer flanges driven into the internal wooden hub wall. The earliest dated examples, from Usk Roman fortress (Monmouthshire), Newstead Roman fort (Scottish Borders) and Bar Hill (Dumbartonshire), span the later first to mid-second centuries AD, with Usk occupied between AD 50-75, Newstead first occupied in the AD 80-90s and Bar Hill fort with its main occupation during the Antonine period in the AD 140-160s (Macdonald & Park 1906, 494-7 & Fig. 34; Curle 1911, 293, Pl. LXX, 9-10; Manning 1985, 72; 1995, 43-4, Cat. 34 & Fig. 16). Though these well-dated parallels were deposited on early Roman military sites, the wider cultural and historical context was one of conflict and frontier occupation by the Roman army when Iron Age peoples were still expressing their identities through material culture. Therefore, it is not currently possible to attribute them as a specifically Roman artefact type and technology, as opposed to an Iron Age and indigenous style. It is the case however, that this set of four hub-rings or linings does represent an early appearance of this artefact class in Britain, providing some chronological dating support for burial of the chariot during the third quarter (or even potentially as late as the fourth quarter), of the first century AD. Further detailed investigation and comparative research of this technological, cultural and chronological matter is merited, when it is possible to excavate and examine these artefacts in more detail.

One further iron artefact fragment was also discovered in association with the wheel hub soil block associated with the outer northern chariot wheel (Cat. No. 47, *above*). This was discovered during excavation of the outer side of the northern wheel slot and projected

outward from within the circular area defined by the nave-hoop (Cat. Nos. 13a & 13b, *above*). With a slightly curved profile in cross-section and with a rear projecting internal surface hook or bar, it is possible that this may represent a metal strengthening component of the largely wooden chariot axle, although this needs to be investigated and considered further when the wheel hub fittings are excavated and conserved.

One item, thought to be an artefact during excavation and found at the base of the south wheel pit (Cat. No. 46, *above*), proved upon X-raying to be a naturally formed iron panning or concretion with no discernible shape or structure. Therefore, it may now be deemed a non-treasure deposit within the chariot grave. Similarly, two further objects, found at the base of the northern wheel slot on the inner side, were initially recorded as artefacts (Cat. Nos. 62 & 63, *above*), but were later identified on X-raying to be made of stone and naturally formed. They are therefore now regarded as non-treasure items.

A number of metal artefacts were discovered in the upper ploughsoil in the area of the main excavation trench overlying the chariot grave. These include a copper alloy dome headed stud (Cat. No. 48, *above*) two copper alloy bullet cartridges (Cat. Nos. 49-50, *above*), three lead fragments (Cat. Nos. 52-4, *above*) and an iron circular sectioned shank fragment (Cat. No. 51, *above*). These are all probably Post-Medieval in date and introduced into the soil during recent agricultural cultivation events. As not contemporary with the prehistoric artefacts in the grave, they cannot be considered as associated treasure items.

One prehistoric worked flint flake was discovered incorporated into the clay fill of the central grave feature (Cat. No. 55, *above*). This is much older in date than the artefacts in the chariot grave, probably belonging to the Neolithic or Early Bronze Age (*ca.* 4200 – 1500 BC). While attesting to earlier human activity in the vicinity of the grave and promontory fort, it was probably disturbed from an earlier deposit at the time when the grave was created and incorporated as a redeposited item into the grave fill. As this flint artefact is not contemporary with the rest of the associated grave artefacts, it does not constitute a treasure item.

Blocking the south-east entrance to the ring-ditch burial monument, two intercutting grave features were discovered. These were probably inserted a short time after the central chariot burial was created, since their entrance blocking location suggests a recent memory of the grave and its surrounding ring-ditch. One of these graves contained lining and marker stones, which were retained as artefact components of the grave (Cat. Nos. 56-61, *above*). As they belong to a separate burial event, distinct from the central chariot grave, these grave lining and marker stones may not be deemed to be directly associated with the central grave event and therefore are not considered to be treasure items.

Within the catalogue listing of conservation, soil and dating samples retrieved from the chariot grave excavation, items of burnt and non-worked bone (Cat. No. 67, *above*), natural wood root (Cat. No. 68, *above*), charcoal fragments (Cat. Nos. 72-5, 81-2 & 96, *above*), soil samples (Cat. Nos. 69, 76-7, 83-94 & 98, *above*) and a natural stone sample (Cat. No 99, *above*) can all confidently be viewed as naturally formed and not humanly worked artefacts. Therefore, they are not considered to be treasure items.

Less certainty concerning treasure or non-treasure status can currently be ascribed to the remainder of the small soil samples and conservation samples listed (Cat. Nos. 64-6, 70-1, 78-80, 95, 97, 100-111, *above*), which were often carefully taken in places where remaining

traces of organic artefact components, made of wood, horn, bone and leather might survive in the vicinity or attached to metal artefacts retrieved from within the grave. Some of these may prove to represent remaining traces, as mineralised or replacement deposits of organic artefact components, when analysed further as part of future research on the chariot grave. It is proposed that, as scientific samples, comprising organic soil and mineralised corrosion deposits, these may now be classified as non-artefactual items, which are directly associated with the recognisable artefacts in the grave (Cat. Nos. 1-45 & 47, above). As such, it is suggested that they should be treated as non-treasure items, in strict legal terms, while allowing that some will contain evidence yielding further information about organic components of artefacts within the chariot grave.

Finally, it is worth noting that the landowners have signed over legal ownership of all artefacts and samples discovered during archaeological excavations of the chariot grave in 2018 and 2019, which are not recommended to be treasure and which were not discovered by the finder Mike Smith during early metal-detecting activity (*i.e.* Cat. Nos. 46, 48-111, above). Therefore, they will be retained as part of an excavation assemblage and archive at Amgueddfa Cymru – National Museum Wales.

7.0 Recommendations (AG)

It is my opinion that all the copper alloy and iron artefacts discovered during the 2019 archaeological excavation of the chariot grave and located within the central grave feature (Cat. Nos. 1-45 & 47), may be considered treasure within the reviewed definition of treasure (Treasure Act 1996 and the Treasure (Designation) Order 2002). The grounds for arguing this are that these have been identified as prehistoric base-metal artefacts of contemporary Late Iron Age manufacture, dating to the second or third quarter of the first century AD, with some items decorated in closely datable late Celtic (La Tène) art styles. Where the function or stylistic dating of certain artefacts has been slightly less clear, all are demonstrated as directly associated in the same grave feature and with the other more diagnostic artefacts, therefore are confidently treasure by association. Although the decorated bronze chariot fitting fragments (Cat. Nos. 1-7) were found dispersed in the ploughsoil above and around the grave due to more recent ploughing disturbance, they have been shown to represent parts of the same strap-union and bridle bit pair, as previously discovered during 2018. This recommendation is subsequent and additional to the artefacts discovered during 2018 (Treasure Case 18.04) and which were declared treasure in January 2019 (Gwilt *et al* 2018, Cat. Nos. 1-7, 12-27). ***Please refer to Section C, Paragraphs 6,8,11,12,14 & 16, of the Treasure Act 1996 Code of Practice (2nd edition); England & Wales (DCMS 2008 8-13).***

It is recommended that some of the artefacts listed (Cat. Nos. 48-61) are not treasure, by virtue of not being of contemporary prehistoric date as the artefacts in the chariot grave and because they were not directly associated within the central grave feature.

Some of the listed items (Cat. Nos. 46, 62-3, 67-9, 72-7, 81-94 & 96, 98-9) are recommended as not treasure, by virtue of their being naturally formed organic, stone or soil deposits, therefore not qualifying as artefacts. Finally, it is recommended that the scientific and conservation samples listed (Cat. Nos. 64-6, 70-1, 78-80, 95, 97, 100-111), now comprising organic soil and mineralised corrosion deposits rather than constituting recognisable artefacts, are also considered as non-treasure items. However, it is recognised that some samples will

contain evidence yielding further information about the organic components of artefacts, with which they were directly associated, within the chariot grave.

8.0 Declaration of interest (AG)

If declared as treasure, Amgueddfa Cymru- National Museum Wales would seek to acquire all artefacts deemed to be treasure within the scope of this report. They would therefore join the artefacts found in 2018 already declared treasure (Treasure Case 18.04) to ensure the grave assemblage was retained in one place for public benefit. All non-treasure artefacts and samples from the 2018 and 2019 excavations of this chariot grave have already been donated by the landowners to Amgueddfa Cymru – National Museum Wales.

This treasure case is the subject of a major ongoing heritage partnership project in Wales, led by Amgueddfa Cymru and involving Dyfed Archaeological Trust, Cadw, University of Manchester, PLANED, Pembrokeshire College and Pembrokeshire Coast National Park Authority. Following the determination of the legal status of this chariot grave group, a significant research and conservation programme will be required to enable the publication and care of this grave group of international significance, and to permit its culminating presentation to wide public audiences. Efforts are currently underway to seek enabling research funding for this to happen.

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