# Archaeology Wales

# Land at Craig Y Don Estate, Amlwch, Anglesey

Desk Based Study and Watching Brief



By Francesca Ward Phil Wilson

Report No. 1824



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### *Non-technical Summary*

Archaeology Wales Ltd carried out an archaeological desk top study and watching brief from the 14<sup>th</sup> to the 29<sup>th</sup> of March 2019 in association with contaminated land remediation at Craig Y Don Estate, Amlwch. The site is centred on NGR SH 44751 93225.

The development area is currently defined by 112 residential properties, situated on land of the former Mona Smelting Works. The smelter was built around 1786 and served the copper industry centred on Parys Mountain. Smelting ceased by 1897 but the company continued to manufacture fertilisers until the factory closed around 1910. An archaeological trenching evaluation at the site in December 2018 revealed the remains of the factory foundations in four trenches.

The remains of the Mona Smelting Works survive below the ground spanning a variety of the plots subjected to remediation works. The remains were most commonly in the form of hard black tar surfaces, most likely outside surfaces for a yard, in Plots 92, 94, 105,106 and 109. The watching brief revealed that much of the archaeology found derived from the demolition of buildings previously existing in the study area. Some other structural remains from the Mona Smelting Works were also located however, including a drain and surfaces in Plot 03 and a cobbled surface in Plot 103. In Plot 95 Area H a brick floor surface and remains of a stone wall was revealed that is the internal floor and wall of the Mona Smelting Works. Further extant structural remains were also attested including the partial base of a wall located in the area straddling the boundary between Plots 94 and 95. Groundworks were very minimal in depth (0.1m) in Plots 26, 35, 36 and 38, and as such no archaeological remains of the smelting works were revealed within these plots. Remains of the old railway system that served the smelting works were not identified during the remediation works. The 1924 OS Map does not show the railway either, which was recorded on the 1889 OS Map, and therefore it is likely to have been cleared when the site went out of use.

All work conformed to Standard and Guidance for Archaeological Watching Briefs (CIfA 2014) and Standards and Guidance for Archaeological Artefact and Environmental Collection, Documentation Conservation and Research (CIfA 2014).

### Crynodeb Annhechnegol

Cynhaliodd Archaeology Cymru Cyf astudiaeth ddesg a briff gwylio archeolegol rhwng 14eg a 29ain Mawrth 2019 mewn cysylltiad â gwaith adfer ar dir halogedig ar Ystâd Craig y Don, Amlwch. Mae canol y safle wedi'i leoli yn NGR SH 44751 93225.

Mae'r ardal ddatblygu wedi'i diffinio ar hyn o bryd gan 112 o eiddo preswyl, sydd wedi'u lleoli ar dir y Gweithfeydd Smeltio blaenorol ym Mona. Adeiladwyd y smeltiwr tua 1786 ac fe'i defnyddiwyd ar gyfer y diwydiant copr, yr oedd ei ganolbwynt ar Fynydd Paris. Daeth y gwaith smeltio i ben erbyn 1897, ond parhaodd y cwmni i gynhyrchu gwrteithwyr nes i'r ffatri gau tua 1910. Datgelodd gwerthusiad cloddio ffosydd archeolegol ar y safle ym mis Rhagfyr 2018 weddillion sylfeini ffatri mewn pedair ffos.

Mae gweddillion Gweithfeydd Smeltio Mona yn goroesi islaw'r tir ac maent yn cwmpasu amrywiaeth o blotiau lle cafwyd gwaith adfer. Roedd y gweddillion gan fwyaf ar ffurf arwynebau tar du caled, a oedd, yn ôl pob tebyg, yn arwynebau awyr agored ar gyfer iard, ym Mhlotiau 92, 94, 105,106 a 109. Datgelodd y briff gwylio fod llawer o'r gweddillion archeolegol a ganfuwyd yn deillio o'r gwaith o ddymchwel yr adeiladau a oedd yn bodoli yn y gorffennol yn yr ardal astudiaeth. Cafodd rhai gweddillion strwythurol eraill o Weithfeydd Smeltio Mona eu canfod hefyd fodd bynnag, gan gynnwys draen ac arwynebau ym Mhlot 03 ac arwyneb coblog ym Mhlot 103. Yn Ardal H Plot 95, datgelwyd arwyneb llawr bric a gweddillion wal gerrig a oedd yn lawr mewnol a wal yng Ngweithfeydd Smeltio Mona. Canfuwyd gweddillion strwythurol eraill sydd wedi goroesi gan gynnwys darn rhannol o sylfaen wal a oedd wedi'i leoli yn yr ardal sy'n pontio'r ffin rhwng Plotiau 94 a 95. Roedd y gwaith tir o ddyfnder bach iawn (0.1m) ym Mhlotiau 26, 35, 36 a 38, ac, o'r herwydd, ni ddatgelwyd gweddillion archeolegol o'r gweithfeydd smeltio yn y plotiau hyn. Ni nodwyd gweddillion o'r hen system reilffordd a oedd yn gwasanaethu'r gweithfeydd smeltio yn ystod y gwaith adfer. Nid yw Map OS 1924 yn dangos y rheilffordd ychwaith, a gofnodwyd ar Fap OS 1889, ac felly mae'n debygol ei fod wedi'i glirio pan ddaeth y defnydd o'r safle i ben.

Roedd yr holl waith yn cydymffurfio â'r Safonau a'r Canllawiau ar gyfer Briffiau Gwylio Archeolegol (Sefydliad Siartredig yr Archeolegwyr 2014) a Safonau a Chanllawiau ar gyfer Casglu Arteffactau ac Amgylcheddol Archeolegol, Diogelu Dogfennau ac Ymchwil (Sefydliad Siartredig yr Archeolegwyr 2014).

### 1. Introduction

- 1.1. Archaeology Wales Ltd carried out an archaeological watching brief from the 14<sup>th</sup> of January to the 29<sup>th</sup> of March 2019 at the request of Isle of Anglesey County Council. This programme of works alongside a desk-top-study was recommended by GAPS in its capacity as archaeological advisors to the Isle of Anglesey County Council undertaken in association with the proposed development of Contaminated Land remediation at Craig Y Don Estate, Amlwch. The site is centred on NGR SH 44751 93225.
- The development area is currently comprised of 112 residential properties, 1.2. situated on land that had been previously been the Mona Smelting Works. The smelter was built around 1786 and served the copper industry centred on Parys Mountain. Smelting ceased by 1897 but the company continued to manufacture fertilisers until the factory closed around 1910. GAPS reviewed aerial photographs and cartographic sources and noted that the remains of building foundations and railway structures may survive in the development area. This conclusion was subsequently proven by an archaeological trenching evaluation at the site in December 2018 (see Ward et al 2018). This work revealed the remains of the factory foundations in four trenches. GAPS therefore recommended that a watching brief of the development area was undertaken during groundworks to mitigate the impact of the proposed development on the archaeological resource. GAPS also recommended that a desktop study was completed taking into consideration the results obtained during mitigation to enhance our understanding of the site.
- 1.3. The purpose of the archaeological watching brief was to provide the local planning authority with sufficient information regarding the nature of archaeological remains on the site of the development, the requirements for which are set out in Planning Policy (revised edition 9, 2016), Section 6.5 and Technical Advice Note (TAN) 24: The Historic Environment (2017). The work is to ensure that all buried artefacts and deposits are fully investigated and

recorded if they are disturbed or revealed as a result of activities associated with the development.

1.1. All work conformed to Standard and Guidance for Archaeological Watching Brief (CIfA 2014) and Standards and Guidance for Archaeological Artefact and Environmental Collection, Documentation Conservation and Research (CIfA 2014).

### 2. Site description

- 2.1. The development area is currently occupied by the Craig Y Don housing estate comprised of 112 residential properties. This site is situated on land that was previously occupied by Mona Smelting Works and later Gwaith Hills chemical works. To the immediate south the site is bounded by residential housing. A sparsely wooded area defines the western boundary of the site. Amlwch Sports and Social Club, Amlwch Port and Amlwch Port windmill are located to the north and northeast of site.
- 2.2. The underlying geology is defined by the New Harbour Group Mica Schist and Psammite. This group consists of metamorphic bedrock formed approximately 541 to 635 million years ago in the Ediacaran Period. These rocks were sedimentary in origin, possibly graded sediments or turbiditic flows in a deepmarine environment but have subsequently undergone metamorphism. No superficial soils are recorded (BGS 2019).

### 3. Aims, Objectives and methodology

### 3.1. Desktop study

3.1.1. A desktop study of all readily available primary and secondary sources was carried out in order to provide a historical framework for any surviving archaeological remains. The desktop study included:

- A historical map regression, including consultation of Tithe maps and all cartographic sources available for the area.
- All sources indexed in the County Archive and Bangor University Archives.
- Historic documents (e.g. Charters, registers, estate papers).
- Other relevant sources such as local industrial heritage organisations, and published sources.

### 1.1. The Watching Brief

- 1.1.1. The watching brief was undertaken to allow the preservation by record of any archaeological deposits, the presence and nature of which could not be determined in advance works.
- 3.2.2. The watching brief included Plots 3, 11, 26, 35, 36, 38, 92, 94, 95, 103, 105-10.
- 3.2.3. The watching brief monitored the removal and replacement of exposed soft surface areas up to 0.3m-0.6m in depth and the subsequent installation of driveways, patios and paths.
- 3.2.4. The watching brief also provided an opportunity, if needed, for the watching archaeologist to signal interested parties, before the destruction of the material in question, that an archaeological find was for which the resources allocated to the watching brief itself are were enough to support treatment to a satisfactory and proper standard (CIfA, 2014).

### 2. Desktop study

### 2.1. Historic Background

- 2.1.1. With the discovery of the copper in Parys Mountain in 1768 the village of Amlwch was transformed from a small fishing village into a large industrial town. The site location is situated on the site of the Mona Smelting Works, an industry that developed alongside the mining industry in the town.
- 2.1.2. Smelting in the area is believed to have been initiated by the Romans. A large chunk of copper baring the roman character for L was found in Llanvaethlu, suggesting smelting was occurring in the nearby area (Lewis 1849). It wasn't

until 1762 Sir Nicholas Bayley (a proprietor) and Mr. Alexander Frazier conducted experiments on sinking shafts in the mountain that copper-ore was 'discovered' operations began to extract the metal (Lewis 1849). After a legal battle against Sir Nicolas Bayley the mines, and subsequent smelting works, became the property of the Earl of Uxbridge and the Rev. Mr. Hughes, and the management was committed to Mr. Thomas Williams, who was native of Anglesey.

- 1.1.1. It is difficult to tell when the Mona Smelting Works were initially founded but the first smelters are believed to have been built in 1778 (Anglesey Mining plc 1991). It is thought that the initial smelters were built alongside the Afon Amlwch in an area now known as Craig y don. The original building was 112 feet long by 50 feet wide. The river was diverted to make a small reservoir to be used in the works (http://amlwchhistory.co.uk/).
- 1.1.2. In the 1790's a Thomas Williams was in control of a large portion of the countries smelting industry including works in Birmingham and Swansea which would compete with Mona Smelting Works in which he still owned a share (Lewis 1849) Mostly poor quality copper was smelted here, and good quality copper was sent to more advances smelting houses in south-Wales (Lewis 1849).
- 1.1.3. In 1797 Arthur Aikin describes 41 feet chimney flutes and nearly 31 furnaces, as well as a clay mill which was adjacent to the smelting works near the present day Craig y don housing estate. Adjoining to the smelting houses is a rolling mill, upon the same construction as malt mills, for grinding the materials for fire bricks: these consist of fragments of old brick, with clunch procured from near Bangor (http://amlwchhistory.co.uk/).
- 1.1.4. The demand for copper had risen thanks to advances in other industries such as ship building and coin manufacture and the demand from export to the East India Trading company (Symon 2003). By 1780 production was at nearly 2000 tons a year and on the rise. With Thomas Williams death in 1802 the industry began its decline (Carradic 2012).
- 1.1.5. At the beginning of the 19<sup>th</sup> century the smelting works was still owned in parts by the Earl of Uxbridge, Plas Newydd, and Owen and John Williams, the two

sons of Thomas Williams (Anglesey Antiquarian Society 1966). The works consisted of two main buildings controlled by the two different companies; the Mona Mining Company and the Birmingham Metal Company, both of which Thomas Williams had a share of (Lewis 1849). The plan for the works from 1840 shows the layout for these two structures (Figure 3). The Mona Mine Smelting Works is seen to also have a calcined ore shed, calcination and refinery shed, coal mine and cartway, and adjacent lime kiln and machine house. The Paris Mine Smelting Works to the immediate west also has a calcined ore shed, and a yard under lease. Adjacent, to the west, is a ClayMill.

- 1.1.1. In 1813 the Mona Smelting Works was in a state of depression with only 170 tons of metal being produced. In 1817 there were only four furnaces operating at the works. A second revival occurred with the instating of James Treweek as manager of the works. The closing of the Ravenhead smelt works in Lancashire probably also contributed to the increase in smelting in Amlwch (Graces Guide). His management saw an increase in production, although not to reaching the same potential as in its previous years. By 1820 sixteen furnaces were now in operation (Anglesey Antiquarian Society 1966).
- 1.1.2. The ore was raised, then broken up and sorted for quality before being sent to the smelting houses (Lewis 1849). In 1848 it was reported that there were 20 furnaces in operation built of the Beecher's system called cupol or supolpr, reverberatory furnaces. These furnaces are divided into different types namely roasters, ore furnaces, calciners, precipitates and refiners (Jones 1848).
- 1.1.3. In a leaflet written by Enoch Jones in 1848 the smelting process is described as follows: The ores were first calcined then melted. The resulting metallic mixture is calcined and melted again. Purer metal from the process is further calcined and melted. The resulting copper from the process is roasted and coarse or blistered copper is then refined (Ibid). A large amount of coal was needed for this smelting process which had to be shipped in. The process would have impacted the surrounding environment.
- 1.1.4. Conditions in the smelting works were not favourable. In 1819 there was an unsuccessful strike regarding pay advances, followed by another in 1825 regarding working conditions. Pilfering of product seemed to be a constant

- hindrance to Treweek. By 1837 the smelting industry in Amlwch was booming, with ore coming in from all over the country to be smelted at the works. Between 1836 and 1837 nearly 250 tons of metal had been smelted at the works (Anglesey Antiquarian Society 1966).
- 1.1.1. This industry began to decline again after the death of Treweek in 1851. The works at Amlwch could not seem to compete with the more established smelting works in Swansea (ibid).
- 1.1.2. In 1889 OS County Series Anglesey identified that part of the works was now being used as a chemical works. By 1924 the OS Map records the site as cleared.

### 4.2. Historic Map Regression

### Tithe Map of the Parish of Amlwch in the County of Anglesey, 1841, scale 1:6336 (Figure 4)

- 42.1. The study area is depicted on the tithe map in Field 291 which contains an elongated structure and associated yards in its central area.
- 422. These structures, used for smelting, were owned and occupied By Henry Prichard Esq. Field 300, positioned to the north of the study area, contains an extant windmill which was worked by John Paynter and owned by the Bishop of Bangor; the field is called 'windmill and rock' in the tithe apportionment. Similarly, Field 299 named Plas Y Amlwch, was also owned by the Bishop of Bangor and was positioned to the northwest of the study area along with Field 292, Rhosyn Cottages and gardens. These sites were set within agricultural land close to the town of Amlwch.

### OS County Series Anglesey 1889, scale 1:2500 (Figure 5)

- 423. By 1889, the elongated structure in the study area had partially changed function and is recorded as a chemical works and the Mona Smelting Works. To the south of the site the Mona Foundry iron works can be observed on this map, whilst to its north a mill called the Mona Corn Mill is located.
- 424. A series of buildings are also identified resting just to the southeast of the study area and are thought to be residential structures. By 1889 there appears to be

a significant increase in residential development within Amlwch and its immediate vicinity.

### OS County Series Anglesey 1900, scale 1:2500

425. The map dating to 1900 again refers to the elongated structure as a 'chemical works' whilst the Mona Corn Mill to the north and the foundry to the south are also still present and in use. The series of residential buildings noted to the southeast of the site are again identified though they are now named Pentre Vivian. Little change occurs to development in and surrounding Amwlch during this period.

### OS County Series Anglesey 1924, scale 1:2500 (Figure 6)

42.6. Other than the Mona Mill and foundry, which by this time had become redundant, the other structures in the study area are only discernible by their foundations and footprints. The series of buildings identified as Pentre Vivian however are still clearly observed and are still in use. No changes can be observed in the cartography at this time to the development of Amwlch.

### OS Map of 1963, scale 1:2500

42.7. By 1963 the study area was supplanted by the Craig Y Don Estate and the series of buildings identified as Pentre Vivian no longer present. The surrounding area remained little changed, though the Mona Corn Mill is still recorded on this map positioned to the north.

### OS Map of 1971, scale 1:2500

428. Craig Y Don Estate is clearly illustrated the map dating to 1971, though a further chemical works appears to have been erected to the north of the study area by this time.

### 4.3. Aerial Photographs

- 4.3.1. Photography from 1945 (Figure 7. 4534 RAF106GUK\_655 3295) clearly illustrates the study area including the smelting works and its impact on the landscape. Traces of these structures, along with the work's boundary are observed. The cottages positioned to the southeast of the study area are still extant at this time, and the remains of the old Mona Corn Mill are noted positioned to the north of them. Further residential development is recorded to the east of Amwlch and to the west of the study area.
- 4.3.2. The following photograph dating to 1948 (Figure 8. 1948 4889 002) is more panoramic than the previous one and again reveals the cottages to the southwest of the study area as extant. The Mona Corn Mill however has been demolished by this time and is not evident on this photograph. Residential development around the town of Amlwch appears to have stabilised at this time.
- 4.3.3. An aerial photograph taken in 1948 (Figure 9. 1948 4841 RAF 540\_39 157) provides a view of the study area from the north. This includes the remains of the Mona Corn Mill, though the cottages positioned to the south-east of the study area and the remains of the Mona Smelting Works are not as clearly defined. By this period a row of houses had developed to the south of the site and the photograph illustrates the development of mainly residential quarters in and around Amwlch.
- 4.3.4. The Ordnance Survey photograph taken in 1968 (Figure 10. 6837 OS 68 169 265) reveals the Craig Y Don housing development covering the study area with the preceding structural remains at this location no longer evident. However, the remains of the Mona Corn Mill positioned to the north of the study area are still evident. Notably residential development increases by this time along the roads leading in to Amlwch and also to the east of the study area. A row of residential properties can also be observed to the south of the study area on this photograph and beyond these green field plots. The chemical works identified on the 1963 Ordnance Survey map is also illustrated on this photograph positioned to the north.

- 4.3.5. The following photograph was also taken by the Ordnance Survey in 1971 (Figure 11. 7168 OS71\_163 264). Graig Y Don housing estate still dominates the study area and its immediate vicinities. The chemical works to the north of the development site can also be clearly be observed on this photograph, though the site of the Mona Corn Mill is not as evident.
- 4.3.6. The air photograph taken in 1978 (Figure 12. 7851 OS78\_092 013) details Graig Y Don occupying the study area and the Mona Corn Mill tower can be seen to the north of the site location. The chemical works positioned further to the north is also visible as is increased development along the roadways surrounding Amlwch.
- 4.3.7. A colour air photograph taken in 1992 (Figure 13. 1992 Amlwch 99205 ADAS5552) again reveals the extent of the Craig Y Don estate though in more detail than in previous photographs. This photograph however does not include images of the chemical to the north of the site though the tower previously belonging to the Mona Corn Mill is evident.
- 4.3.8. The final photograph in this series was taken in 2009 (2009 CIR Amlwch) and shows much of the same details as the previous photograph with Graig Y don in clear view and the tower of the Mona Corn Mill also easily visible.

### 4.4. LiDAR

- 4.4.1. LiDAR imaging 1m DTM was processed during the stage of research.
- 4.4.2. The LiDAR does not identify any structures that are not associated with the housing estate constructed in the 1950s (Figure 14).

### 1. Watching Brief results

### 1.1. Plot 3 (Plates 1-6) (Figure 15)

1.1.1. Plot 3 was subjected to an intense watching brief as it was cartographic sources dating to the late 19<sup>th</sup> century document possible remains of a former railway located to the southern end of the plot. Remediation works comprised groundworks to a depth of between 0.3m and 0.6m.

- 1.1.1. Plot 3 was divided into two parts. The most easterly (Area F) was excavated to a depth of 0.60m and revealed a linear feature [03/004] crossing the area, its southern side containing a row of suspected hand-made bricks (Plates 1-3). It was noted that the bricks had been largely removed from the northern side of the cut with examples only apparent at its eastern and western ends. The area within the centre of cut [03/004] was slightly depressed and contained three fills. The first of these was a deposit of fine grey silt (03/012) measuring 0.20m wide and 0.10m deep. Stratified above this was a compact horizon of carbonised material attaining a depth of 0.10m and a width of 0.20m and was sealed by a layer of compact orange/brown clay (03/013); the orange clay attained a depth of 0,15m and a width of 0.50m. A further small deposit of carbonised material (03/014) was located above the clay (03/013). This linear feature [03/004] is likely part of the Mona Smelting Works, possibly the remains of a drain.
- 1.1.2. To the south of cut [03/004] the eastern part of Plot 003 was sealed by a deposit of iron stained clay mixed with stones (03/006) and above this a horizon of compact carbonised material (03/010) that was similar to deposits (03/012 and 03/014)(Plate 4). The iron stained clay (03/006) and stones measured 1.2m wide with a depth of 0.20m whilst the carbonised material (03/010) was 1.2m wide and 0.20m deep. To the north of cut [03/004] the trench was floored by a deposit of compact lime mortar (03/002) and a deposit of crushed and broken pieces of limestone (03/001). The lime mortar was not observed in the west-facing section of the area, though the crushed limestone was with a depth of 0.20m and a width of 1.8m. Deposits of sub (03/0015) and topsoil (03/016) covered this part of the plot. (03/006) and (03/002) are likely remains of surfaces of the Mona Smelting Works.
- 1.1.3. The western part of the plot (Area G) contained no structural remains or any significant archaeological deposits. The stratigraphy comprised a 0.20m deep deposit of topsoil (03/016), a 0.20m deep deposit of subsoil (03/015) and a 0.20m deep deposit of angular pieces of stone rubble (03/017)(Plate ). The

removal of the top and sub soil from the front of Plot 03 yielded mixed deposits of stone, lime mortar and brown loam (03/018). No structural archaeology was encountered (Plates 5-6).

### 5.2. Plot 11 (Plates 7-9)

Plot 11 was of archaeological interest as the wall of the chemical works yard was known to be in the area of the rear garden. The works consisted of the removal of soil to a maximum depth of 0.4m below ground level. In Areas B and C, a mixed made ground (11/003) was removed from immediately adjacent to the house foundations, to a depth of 0.4m (Plate 6). In the rear garden, in Area E1, the stratigraphy comprised a 0.20m deep brown loam subsoil (11/002) below a 0.20m deep deposit of topsoil (11/001) (Plates 7-8). No archaeological features or finds were revealed in these groundworks.

### 5.3. Plot 26 (Plates 10-11).

Plot 26 was of archaeological interest as the reservoir serving the former factories was known to be in the area of the front garden. In the front garden in Area G the modern drive was lifted, with 0.2m of brown loam garden soil (26/001) beneath (Plate 9). In the back garden, Areas H and K, the modern surface and 0.05m of topsoil (26/002) was removed (Plate 10). No archaeological finds or features were revealed in either area of these minimal groundworks.

### 5.4. Plot 35 (Plates 12-13).

In Plot 35 the garden topsoil (35/001) was removed in Area A to a depth of 0.1m, to reveal made ground with gravel. In Area D the turf was removed to reveal sandy soil. No archaeological finds or features were revealed in the minimal groundworks.

### 5.5. Plot 36 (Plate 14).

In Plot 36 0.1m of loam topsoil (36/001) was removed. No archaeological finds or features were revealed in the minimal groundworks.

### 5.6. Plot 38 (Plate 15).

Plot 38 was of archaeological interest as the remains of the demolished chemical works had been identified in Trial Trench 1 of the archaeological evaluation. 0.1m of loam topsoil (38/001) was removed. No archaeological finds or features were revealed in the minimal groundworks.

### 5.7. Plot 92 (Plates 16-21).

- 5.7.1. Plot 92 was subjected to a strip and map and intensive watching brief. Plot 92 was defined by an end terrace property located on the southeast region of the estate close to the area of the former smelting works building. The remediation works divided the area into: (1) Area A comprising lawn and excavated to a maximum of 0.6m, (2) Area B comprising lawn and (3) Area D also comprising lawn to be excavated to a depth of 0.3m.
- 5.7.2. During the watching brief in Area A, archaeological remains were encountered on a depth of 0.2m below ground level.
- 5.7.3. The natural substrate was encountered at c 0.6m below the ground level. This deposit was characterised as being mid-orange brown clay and was only visible in patches due to the set depths of the excavation.
- 5.7.4. The natural substrate was overlain by the remnants of an indurated black surface (91/005) with cobble inclusions, adjacent to the eastern site boundary. The latter appeared to have been affected by heat and contained traces of melted metal. A series of rust deposits were identified on this surface (92/007, 92/008, 92/009) seemingly from metal objects that may have at one point laid on the surface. Lime mortar deposits (92/006, 92/012, 92/018) mid-grey white in colour, were also identified on top of the hard surface in various irregular patches.

- 5.7.5. Overlaying these deposits was a layer of debris material (92/002) consisting of mid-red brown clay silt with frequent inclusions of whole and broken bricks, medium cobbles and patches of lime mortar. This mixed deposit was found at an average of 0.15m below ground level and varied in depth across site.
- 5.7.6. Above this debris layer was the topsoil that had a depth of 0.15m below ground level. The topsoil (92/001) consisted of a dark brown clayey silt with a moderate amount of inclusions such as broken bricks, rounded medium size cobbles.
- 5.7.7. A number of pipes were cut through the deposits described above. Two large land drains [92/010] and [92/011] cut right down to the natural exceeding below the 0.6m excavation depth. Two water pipes [92/013] and [92/014] cut through the topsoil and were laid at irregular depths.
- 5.7.8. While Plot 92 contained remains associated to the smelting works, the latter were largely disturbed by modern action.

### 5.8. Plot 94

5.8.1. Excavation in Plot 94 reached a depth of 0.40m. The stratigraphy in its northern area comprised a 0.20m deep deposit of turf and topsoil (94/001), resting over a 0.20m deep horizon of demolition material mixed with a compact dark loam (94/002); the demolition material comprised fragmented stone, brick and patches of lime mortar. When excavations reached the central area the demolition material (94/002) faded to a spread of dark grey lime mortar (94/003). Again, this is thought to have been contaminated by the darker subsoils resting above (94/002). The southern part of garden Plot 94 was only reduced by 0.10m and very modern deposits were those encountered. These included bedding sand upon which cement flags had been lain, and the foundations of a greenhouse recently removed.

### 5.9. Plot 95 Area H (Plates 22-24) (Figure 16)

5.9.1. In Plot 95, Area H, a red brick surface (95/111) was revealed, measuring 4.75m N-S and 4.4m E-W. The bricks measured  $0.2m \times 0.1m$  and were laid with some areas orientated N-S and other areas E-W, indicating divisions and repairs over time.

- 5.9.2. To the immediate south of the red brick surface there was the remains of a stone wall [95/112], (95/113), which was on a rough E-W orientation, 0.8m in width and 3.5m in length. It was constructed from stone rubble with some patches of lime mortar. Brick surface (95/111) and wall (95/113) are the remains of the Mona Smelting Works, known from cartographic sources to be at this location.
- 5.9.3. To the immediate north of the wall (95/113), a spread of clay and loam containing stone fragments and cobbles measured 3.8m E-W and 1.5m N-S appeared to patch a depression in the internal brick surface. To the south of the wall was a loam soil (95/116), appearing as the exterior of the building.
- 5.9.4. Wall (95/113) was overlain by (95/115), a demolition deposit of pink sand with small fragments of stone rubble which spanned the SE corner of the site.
- 5.9.5. The NE corner of the brick surface had been truncated [95/117]. The site was overlain with topsoil (95/001) to a depth of 0.1m.

### 5.10. Plot 95

- 5.10.1. Excavation in the northern part of Plot 95, Area C-E, revealed a horizon of dark brown loam beneath series of concrete patio flags; the loam reached a depth of 0.20m (95/001). Mixed with the loam (95/001) was an accumulation of fragmented angular stone pieces containing a lesser component of brick (95/002). The stone and brick (95/002) covered the northern area of the garden and extended to the south reaching the plot's central region. At this point, a modern drain [95/006] crossed the area in an east-west direction and was revealed as the excavation deepened to 0.40m. It was observed that the accumulation of stone and brick (95/002) was also deposited in a developed subsoil (95/003) reaching a depth of 0.20m. A sample section excavated at the western margin the garden depicted this sequence and that the subsoil, stones and brick (95/002) were stratified over a buried surface of indurate red clay and patches of lime mortar (95/004 and 95/005); both the clay and mortar (95/004 and 95/005) remained undisturbed by ground working.
- 5.10.2. To the north of the modern drain [95/006] excavation continued at a depth of 0.40m, though at this point a horizon of dark grey lime mortar (95/007) was

revealed bedding the plot. The mortar spread (95/007) had been mixed with and coloured by the sub-soil (95/002) and continued to the southern termination of the garden. On its eastern flank, the grey mortar deposit (95/007) was truncated by a sub-ovate cut [95/008] orientated in a north-south direction. The cut [95/008] measured 3.6m long and 0.50m wide and enclosed an internal area 1.70m at its widest point. Containing patches of dark brown loam, lime mortar, angular stones, fragments of hand-made brick and a fragment of a copper ingot, (95/009) it enclosed an internal area comprising light brown sandy loam (95/010) measuring 1.7m at its widest point. This feature [95/008] remained unexcavated as it rested below the depth of the reduced site level of 0.60m.

### 5.11. Plots 94 and 95, Central Area (Figure 16)

5.11.1. An area reserved for the reintroduction of a fence was left unexcavated in the area between each garden plot. At the northern end of this area the stone footings of a wall (94/95 003) were discerned in its west facing section. This comprised two large stone blocks, the northerly measuring 1.6m long and 0.20m high and the southerly block measuring 1.1m long and 0.20m high; a smaller triangular stone block rested between them. The width of the masonry blocks could not be discerned however, as an upper 'course' of stone rubble (94/95 002) rested above them and spread some 2.0m to the east; a further, though less dense, accumulation of stone building material was also encountered immediately to the west of the wall footings (94/95 001) and included fragments of brick. A foundation cut for the wall footings (94/95 003) was not encountered and parts of the rubble spread (94/95 002) exhibited vestiges of lime mortar within it.

### 5.12. Plot 103 (Plates 25-6).

5.12.1. Plot 103 was subjected to an intermittent watching brief. Area C was only excavated to 0.05m below ground level. A cobbled surface (103/002) was revealed just below the topsoil. This surface consisted of small to medium size rounded cobbles. No visible mortar could be seen. As the surface was not excavated its depths were not recorded. The surface was 3.5m wide and 3.55m

long. Area E was also only excavated to a depth of 0.05m below ground level. No archaeology was found in this area, neither was any found in Area A. A cement surface (103/003) was discovering in area D at 0.6m below ground level. This cement surfaces had rust staining on it. It was 2.35m in length and 3.5m wide. Its depth is not known as the surface was not fully excavated. It is not clear if this surface is archaeological in nature as the cement seems more modern than the other surfaces uncovered during these works. This surface sat below a debris or demolition deposit (103/004) that is spans the whole area. This deposit consisted of a silty clay with frequent medium sub-angular cobble inclusions and few broken brick pieces. Above this deposit and above the cobble surface of (103/002) is a thin deposit of top soil (103/001). This consisted of a loam with few inclusions of sub-angular cobbles. No finds were recovered from this plot.

### 5.13. Plot 105 (Plates 27-8).

5.13.1. Area D in Plot 105 was excavated to a maximum depth of 0.6m below ground level. Compact surfaces (105/002 and 105/003) of black carbonised material were located at 0.2m depth and observed along the north, south and west margins of the excavated area. Above this surface was the top soil, a silty deposit with infrequent cobble and brick inclusions (105/001) that covered the area in Plot 105 and reached a depth of 0.2m. Finds in this fill included a spoon, glass bottles and pottery fragments all of an unclear date.

### 5.14. Plot 106 (Plate 29).

5.14.1. Excavations in Area A reached a maximum depth of 0.6m below ground level. The hard surface encountered in previous plots was also encountered in the north-east extent of Plot 106. This surface (106/002, 106/003) was the same hardness and consistency as that in the previous plots, being black in colour. It was found at 0.2m below ground level. Above this layer was top soil (106/001) varying in depths but reaching 0.6m where the hard surface was not encountered.

### 5.15. Plot 107 (Plate 30-31).

5.15.1. A 15m long and 2 m wide area was stripped along the eastern margin of Plot 107. It was excavated to a depth of 0.20m and comprised a dark brown silty loam mixed with broken brick and stone (107/001).

### 5.16. Plot 108 (Plate 32).

5.16.1. Plot 108 was excavated to a depth of 0.6m below ground level in Areas D, E and C. A debris deposit (108/002) was at this depth which consisted of broken bricks and rounded cobbles. Above this deposit was a loamy top soil (108/001) with few inclusions of medium cobbles, 0.1m in depth.

### 5.17. Plot 109 (Plate 33).

5.17.1. Plot 109 was excavated to a hard surface (109/002), a compact layer of black carbonised material and heat modified cobbles that was reached between 0.2–0.6m below ground level. This surface was the same hardness and consistency as those found in Plots 92 and 110. Above this surface was top soil (109/033), 0.2m in depth, with rare brick and cobble inclusions, finds of pottery and scrap metal and a cannon ball of uncertain date.

### 5.18. Plot 110 (Plate 34-5).

5.18.1. Plot 110 was also subject to an intensive watching brief. The works consisted of the removal of top soil (110/001) to a maximum depth of 0.6m below ground level. In areas where artificial turf and a foot path were to be laid the depths only reached 0.2m below ground level. Works began in the northern end of Area M and continued into Area J, P, K, O, L, N, and D. Areas H, E and G were left for access for the machine initially then excavated for a depth of 0.2m below ground level. The natural (110/002) was found in section towards the northern extent of Area M appearing as a firm mid-orange brown clay. Only a small amount of this clay could be seen and it is thought to be natural geology.

### 1. The Finds

- **1.1.** The archaeological watching brief recovered a finds assemblage dating from the late 18th-20th centuries from Plots 92, 95, 105, 106 and 109. The finds are both industrial and domestic in nature, relating to the smeltery and its workers.
- 1.2. One find of particular note is a possible cannon ball that is spherical in shape with a dark red-brown patina. The windage of the cannon ball is 5.3 inches in diameter and could have possibly been the ammunition from a 16th-17th century culverin gun, due to the size of calibre of shot. However, the PAS database holds two similar records from the Isle of Anglesey, GAT-DDF9D5, and GAT-064063. Both note that it is possible that the cannon balls are iron balls, used for crushing ore at the Parys Mountain Copper Mine. With the proximity to Parys Mountain, it is likely that this iron ball is associated with the mine.



Iron ball recovered from Plot 109 (033) scale 0.2m

| Context Number | Description                                     | Date  |
|----------------|---|---|
| 001            | 1 x Ink well.                                   | Late 19 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| 001            | 1 x green coloured glass, McNeil's beer bottle. | Late 19 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| 001            | 1 x clam shell.                                 | Unknown   |
| 001            | 1 x broken, glass<br>medicine bottle.           | Late 19 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| 001            | 1 x sherd of Buckley ware pottery.              | Late 19 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| 001            | 1 x lump of copper / iron? slag.                | Unknown.  |
| 001            | 1 x fragment of animal bone = ulnar             | Unknown.  |
| 001            | 1 x broken piece of old gas pipe.               | Late 19 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| 001            | 3 x lumps of coal.                              | Unknown.  |
| 003            | 1 x sherd of Buckley ware pottery.              | Late 19 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| Context Number | Description                                     | Date  |
| 002            | 2 x Cadburys glass<br>milk bottles.             | 20 <sup>th</sup> century  |
| 002            | 1 x glass jar.                                  | 20 <sup>th</sup> century  |
| 002            | 1 x paint / varnish glass bottle.               | 20 <sup>th</sup> century  |
| 002            | 1 x small pill bottle.                          | 20 <sup>th</sup> Century  |
| 002            | 1 x small glass baby food jar.                  | 20 <sup>th</sup> century  |
| 002            | 1 x Iron nail.                                  | Unknown   |
| 009            | 1 x fragment of a copper ingot.                 | Unknown   |
| 108            | 1 x handmade brick.                             | Late 18 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| 108            | 1 x handmade tile.                              | Late 18 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| Context Number | Description                                     | Date  |
| 040            | 1 x steel spoon                                 | Post - medieval   |
| Context Number | Description                                     | Date  |
| 039            | 1 x fragment of animal bone                     | Unknown   |
| Context Number | Description                                     | Date  |
| 033            | 1 x sherd of Buckley ware pottery.              | Late 19 <sup>th</sup> – early 20 <sup>th</sup> century.   |
| 033            | 1 x iron cannonball.                            | Post – medieval.  |
|                | 001 001 001 001 001 001 001 001 001 001         | 001         1 x Ink well.           001         1 x green coloured glass, McNeil's beer bottle.           001         1 x clam shell.           001         1 x broken, glass medicine bottle.           001         1 x sherd of Buckley ware pottery.           001         1 x lump of copper / iron? slag.           001         1 x fragment of animal bone = ulnar           001         1 x broken piece of old gas pipe.           001         3 x lumps of coal.           003         1 x sherd of Buckley ware pottery.           Context Number         Description           002         2 x Cadburys glass milk bottles.           002         1 x glass jar.           002         1 x small pill bottle.           002         1 x small glass baby food jar.           002         1 x lron nail.           009         1 x fragment of a copper ingot.           108         1 x handmade brick.           108         1 x steel spoon           Context Number         Description           039         1 x fragment of animal bone           Context Number         Description           033         1 x sherd of Buckley ware pottery. |

### 1. Discussions and Conclusions

- 1.1. The first smelters of the Mona Smelting Works are believed to have been built in 1778. In 1797 Arthur Aikin describes 41 feet chimney flutes and nearly 31 furnaces, as well as a clay mill which was adjacent to the smelting works. By 1813 the Mona Smelting Works was in a state of depression with only 170 tons of metal being produced. In 1817 there were four furnaces operating at the works. A second revival occurred with the instating of James Treweek as manager of the works. At the beginning of the 19th century the works consisted of two main buildings controlled by the two different companies; the Mona Mining Company and the Birmingham Metal Company. By 1889 the works are labelled Chemical Works, and by 1924 the site was cleared.
- 1.2. The remains of the Mona Smelting Works survive below the ground spanning a variety of the plots subjected to remediation works. The remains were most commonly in the form of hard black tar surfaces, most likely outside surfaces for a yard, in Plots 92, 94, 105,106 and 109. The surfaces were very hard and in most cases were not excavated. Where excavated, in Plot 92, the surface was constructed from heat affected stones, some with metal melted on to them, and a tar like substance. Their proximity to each other and similarities in construction fabric, including clay, lime mortar and carbonized material, suggests they formed part of the same yard surface.
- 1.3. The watching brief revealed that much of the archaeology found derived from the demolition of buildings previously existing in the study area. This included deposits of cobbles, broken stone, brick fragments and areas of lime mortar which were predominantly mixed with top and subsoils comprising dark silty loams. Some other structural remains from the Mona Smelting Works were also located however, including a drain and surfaces in Plot 03 and a cobbled surface in Plot 103.

- 1.1. In Plot 95 Area H a brick floor surface and remains of a stone wall was revealed that is the internal floor and wall of the Mona Smelting Works, known from cartographic sources to be at this location. Further extant structural remains were also attested including the partial base of a wall located in the area straddling the boundary between Plots 94 and 95. This comprised two large quartzite blocks of roughly dressed masonry and a deposit of rubble stratified over it; patches of lime mortar were also located within this rubble deposit. That no foundation cut was evident on either side of the wall base possibly indicated a greater depth, with further courses of masonry potentially positioned beneath those observed.
- 1.2. A sub-ovate linear cut was found in Plot 95, with angular blocks of stone and lime mortar located within and around it. This evidence suggests use as a wall base, though what function this possible structure served is hard to interpret. It may be a possible adjunct to smelting or a storage structure, supported by material including hand-made brick tile and part of a copper alloy ingot found within it.
- **1.3.** Groundworks were very minimal in depth (0.1m) in Plots 26, 35, 36 and 38, and as such no archaeological remains of the Smelting Works were revealed within these plots.
- **1.4.** Remains of the old railway system that served the smelting works were not identified during the remediation works. The 1924 OS Map does not show the railway either, which was recorded on the 1889 OS Map, and therefore it is likely to have been cleared when the site went out of use.

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http://amlwchhistory.co.uk/smelting/

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• Phil Carradic, (2012) Copper kingdom at Parys Mountain

http://www.bbc.co.uk/blogs/waleshistory/2012/02/copper kingdom parys mountain amlwch.html

• Enoch Jones Pamphlet printed in Beaumaris (1848)\_

http://angleseymining.co.uk/ParysHeritage/Enoch%20Jones%201868%20pamphlet.htm

Gazetteers – Amlwch

https://www.genuki.org.uk/big/wal/AGY/Amlwch/Gaz1868

Leaflet on Parys Mountain prepared in 1991 by Anglesey Mining plc

http://angleseymining.co.uk/ParysHeritage/leaflet91.htm

British Geological Survey: Geology of Britain viewer:

www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

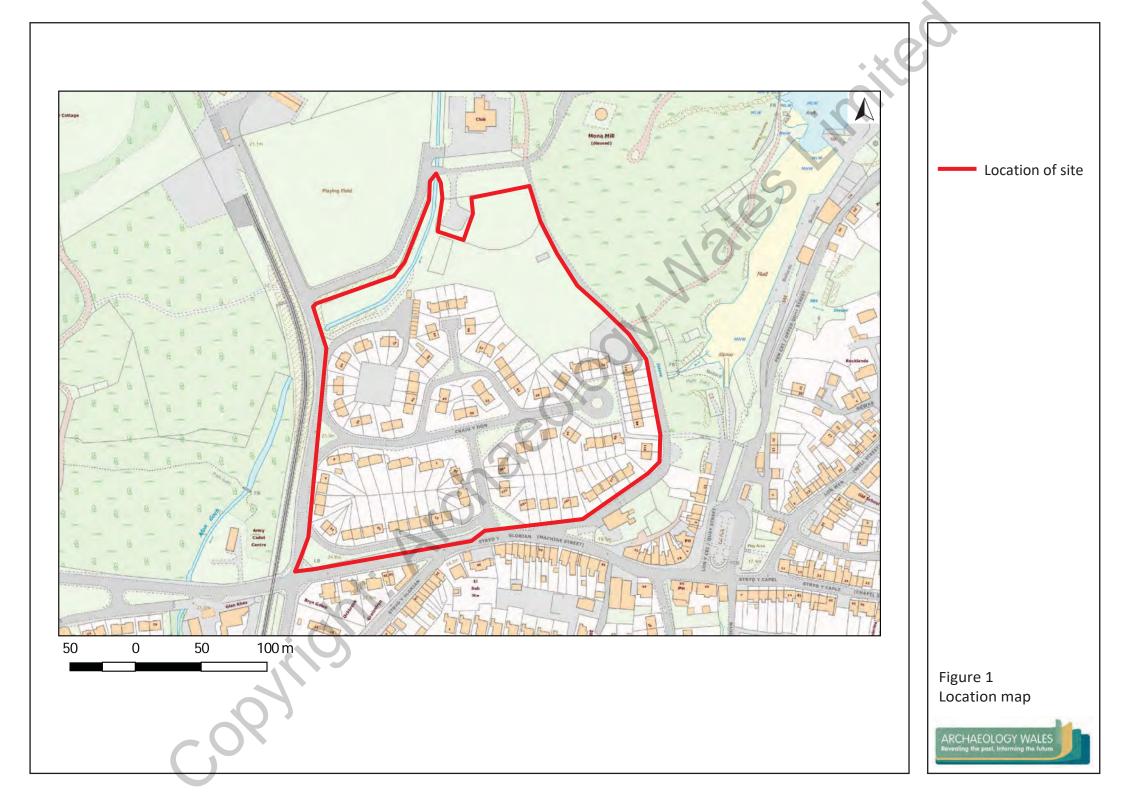
### 1.1. Maps consulted

- Rough draught of the Paris and Mona Smelting Works. Copy of an original by Mr Ellis.
   W. G. Treweek 1840
- Tithe Map of the Parish of Amlwch 1841
- 1889 OS County Series Anglesey 1:2500
- 1900 OS County Series Anglesey 1:2500
- 1924 OS County Series Anglesey 1:2500
- 1963 OS map 1:2500
- 1971 OS map 1:2500

### 1.2. Aerial Photographs

- 1945 4534 RAF106GUK\_655 3295
- 1948 4889 002
- 1948 4841 RAF 540\_39 157
- 1968 6837 OS 68 169 265
- 1971 7168 OS71\_163 264
- 1978 7851 OS78\_092 013
- 1992 Amlwch 99205 ADAS5552
- 2009 CIR Amlwch

# haeology Wales APPENDIX I: Figures



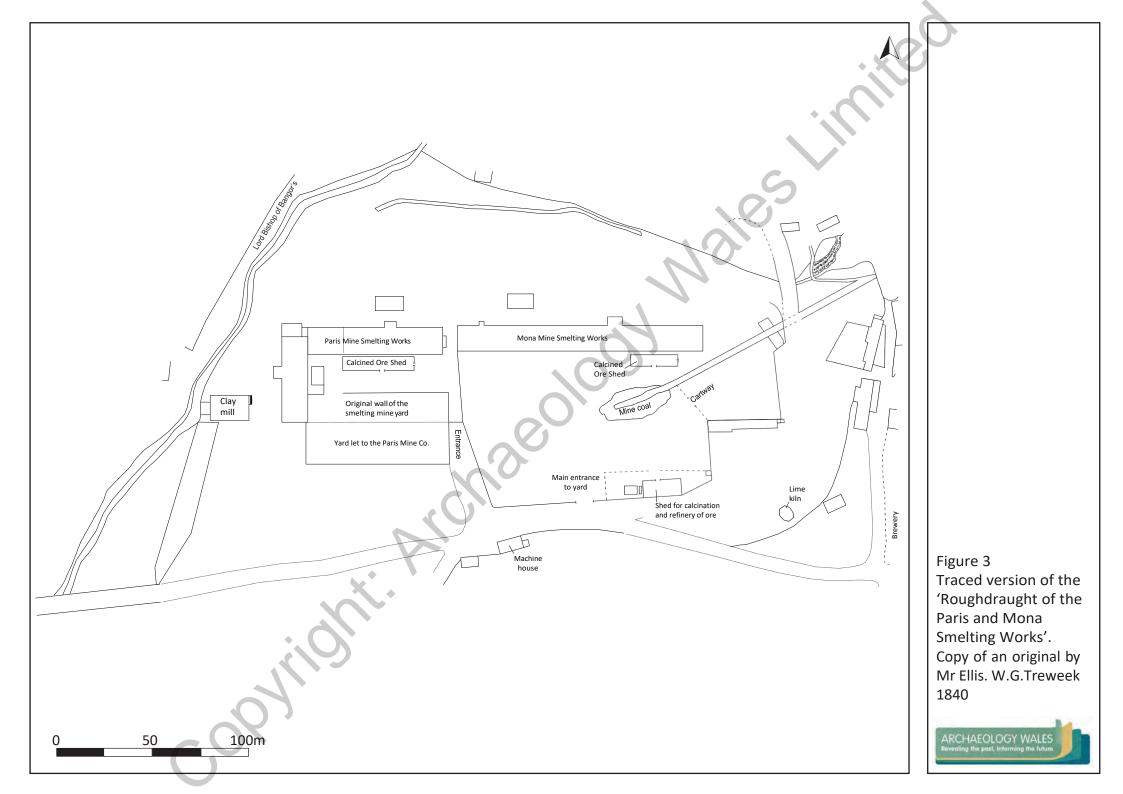


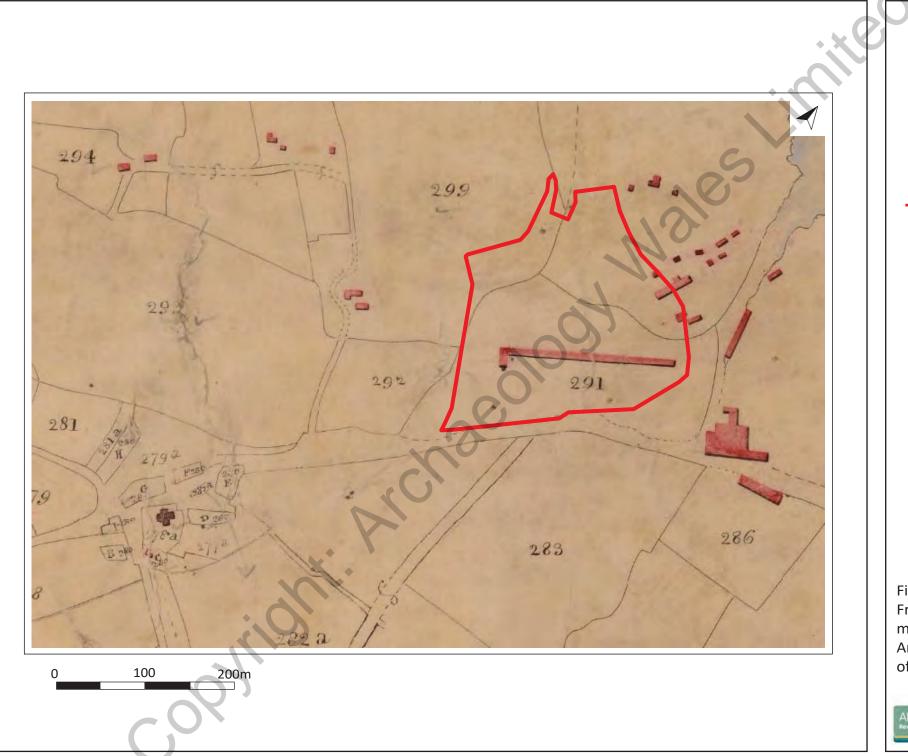
A: Area of Plot 3; Area F with recorded archaeology (Fig. 15) B: Area of Plot 95; Area H with recorded archaeology (Fig. 16)

Original drawing by ESI Consulting

Figure 2 Site location plan



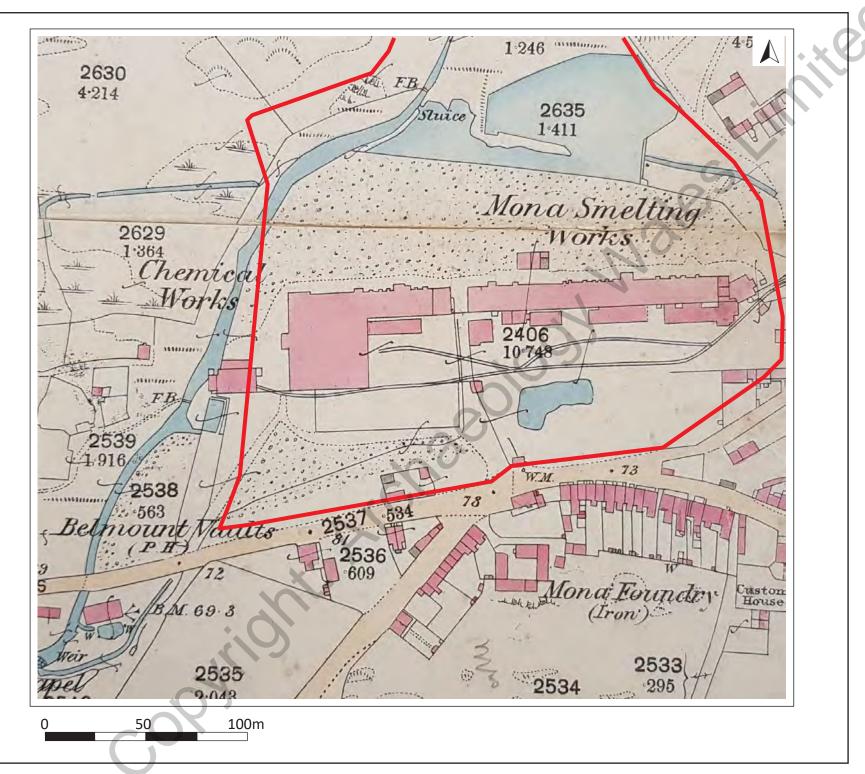




Approximate location of site

Figure 4
Fragment of the Tithe map of the Parish of Amlwch in the County of Anglesey 1841

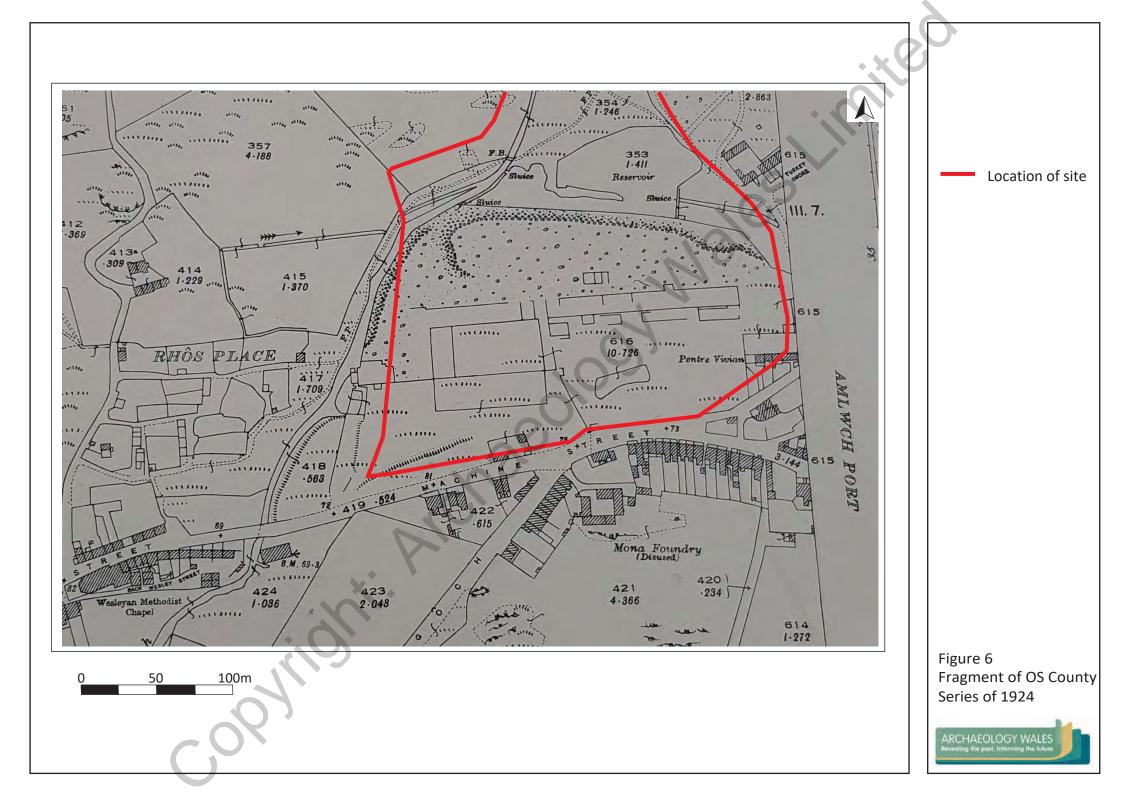




 Approximate location of site

Figure 5
Fragment of the OS
County Series of 1889







Location of site

Figure 7 Fragment of Aerial Photograph, 1945. 4534 RAF106GUK\_655 3295





Approximate location of site

Figure 8 Aerial Photograph, June 1948. 4889 002



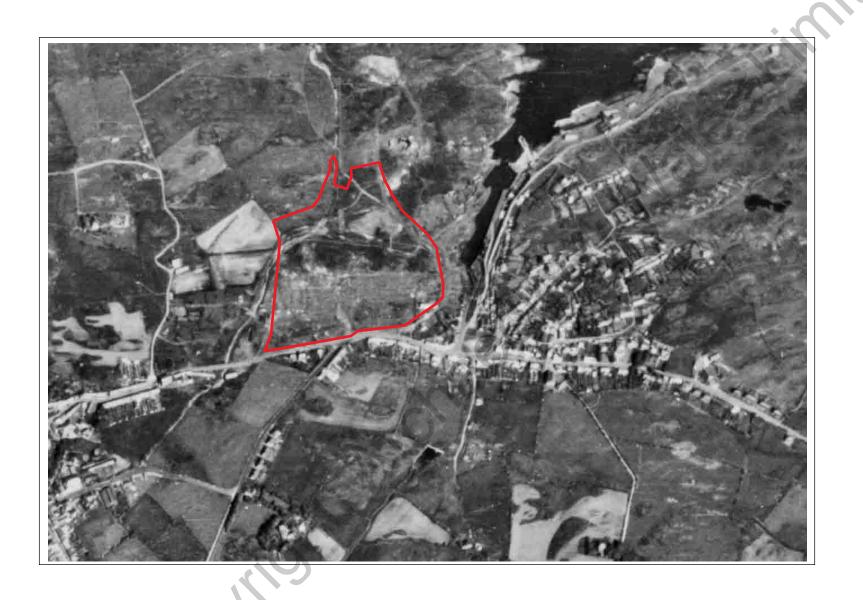


Figure 9
Fragment of
Aerial Photograph,
1948.
4841 RAF540\_39 157





Figure 10 Fragment of Aerial Photograph 1968. 6837 OS 68\_169 265





Figure 11 Fragment of Aerial Photograph 1971. 7168 OS71\_163 264



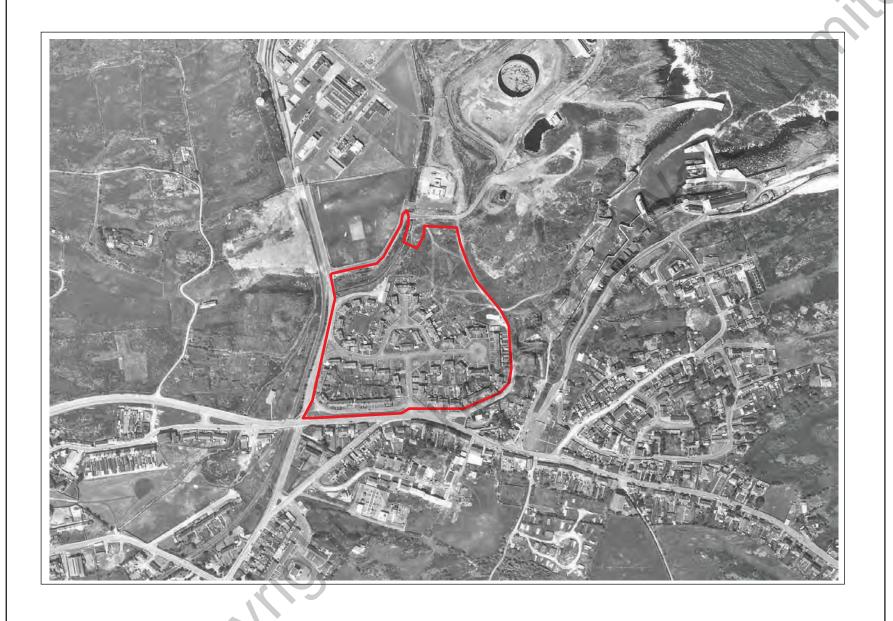


Figure 12 Fragment of Aerial Photograph 1978. 7851 OS78\_092 013



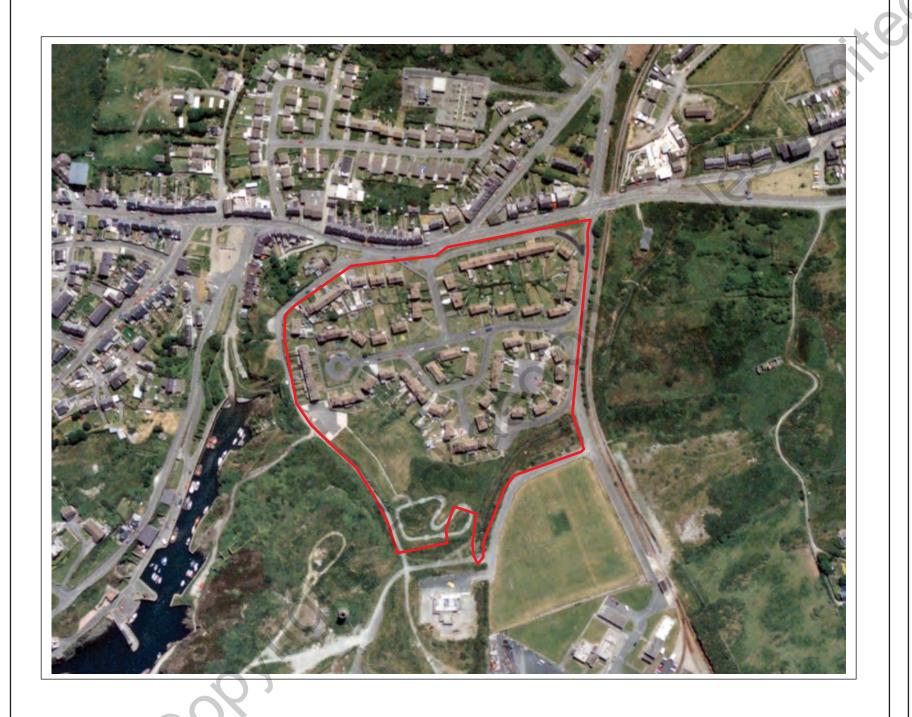


Figure 13 Aerial Photograph 1992 17 June Amlwch 9205 ADAS555 225



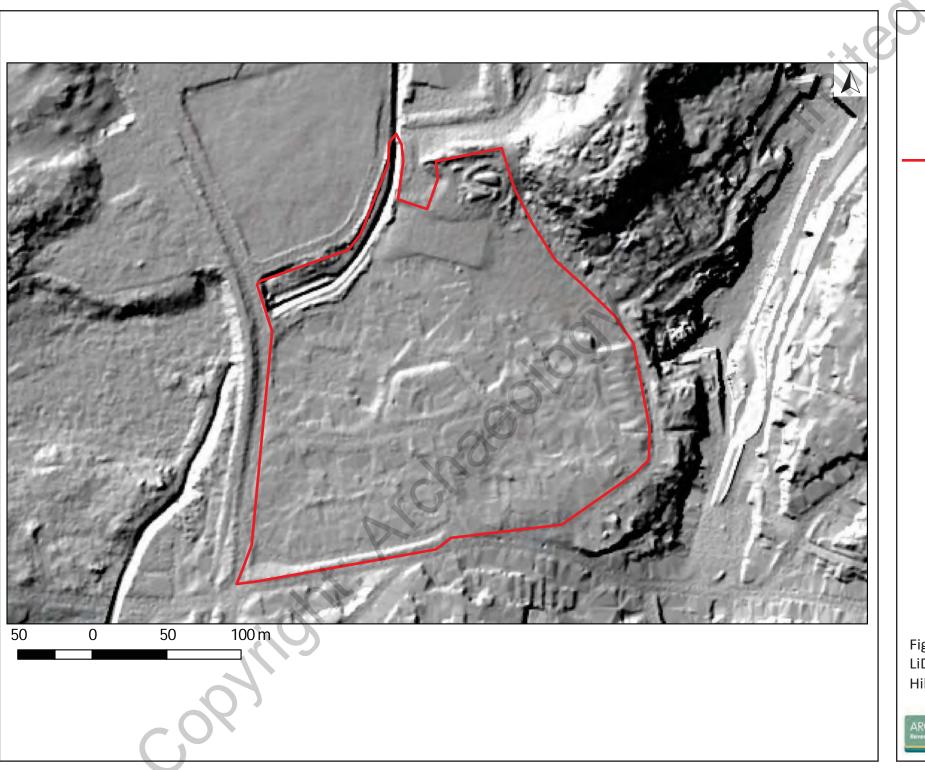
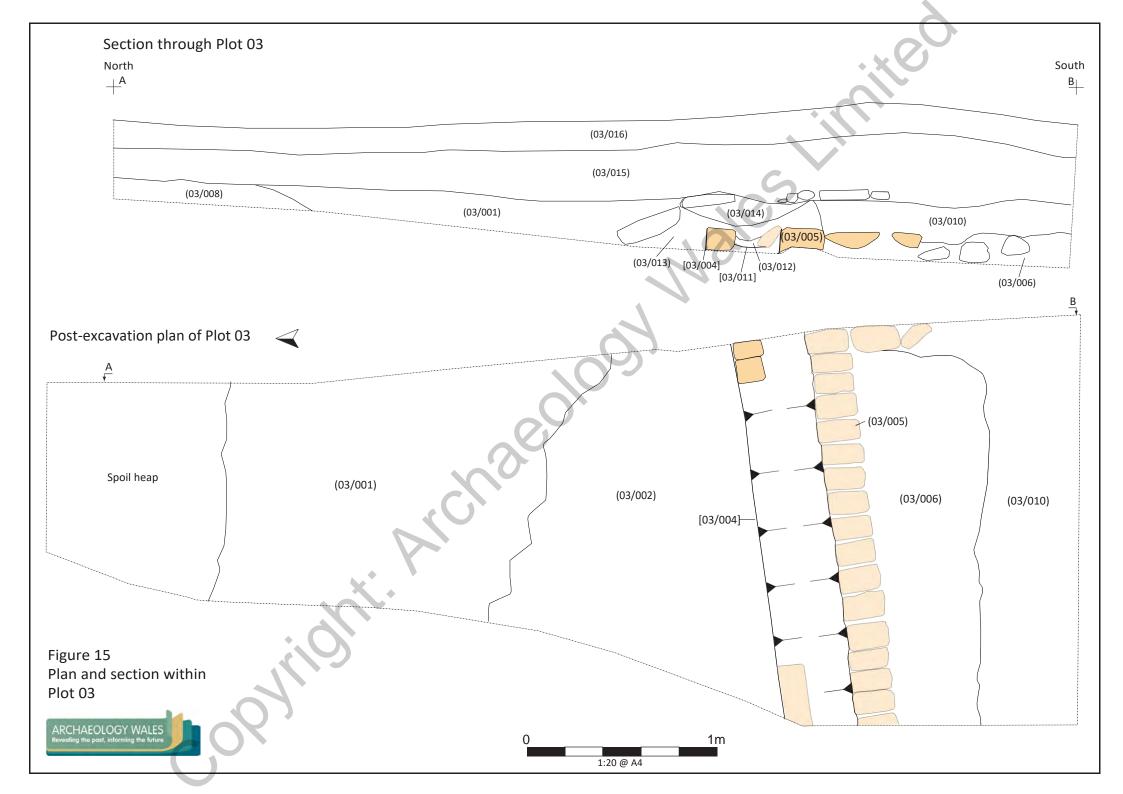
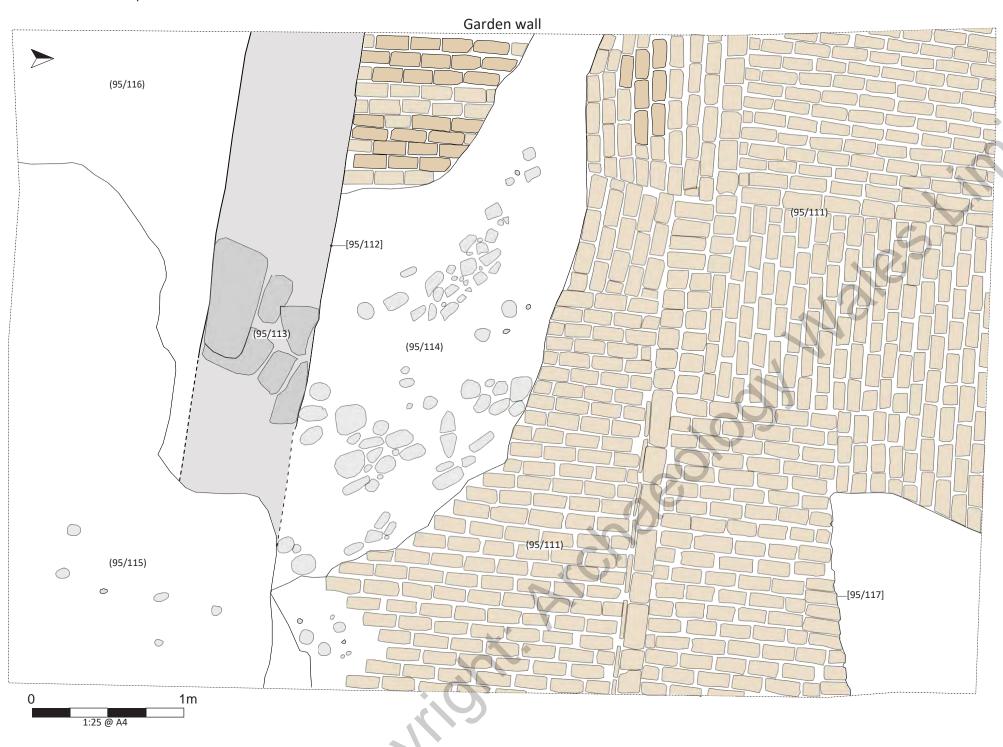


Figure 14 LiDAR 1mDTM, Hillshade





## Post-excavation site plan of Plot 95



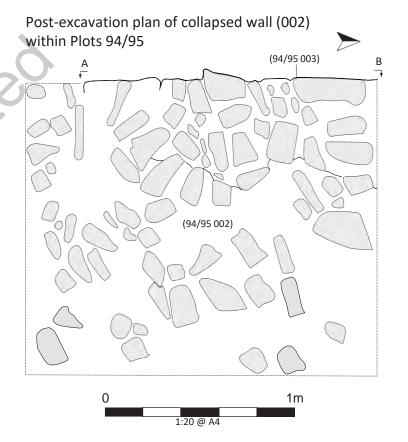


Figure 16
Post-excavation site plan of Plot 95,
Plan of collapsed Wall (94/95 002),
Section of Wall Footings of (94/95 003)



Section of wall (94/95 003) within Plots 94/95
South

North

B<sub>+</sub>

(94/95 002)

Concrete wall footings

# haeology Wales APPENDIX II: Plates



Plate 1. Plot 3 east. Linear feature [03/004]. View S. 1m scales.



Plate 2. Plot 3 east. Linear feature [03/004]. View E. 1m scale.





Plate 3. Plot 3 east. Linear feature [03/004]. View E. 0.5m scale.



Plate 4. Plot 3 east. Linear feature [03/004] with deposit (03/006) to the N. View E. 1m scale.





Plate 5. Plot 3 west. View E. 1m & 2m scales.



Plate 6. Plot 3 west, Area G. 1m scales.





Plate 7. Plot 11 Area E1. View W



Plate 8. Plot 11 Area E1. View E





Plate 9. Plot 11 Areas B and C. View E



Plate 10. Plot 26 Area K. View W





Plate 11. Plot 26 Areas C & D. View E



Plate 12. Plot 35 Area A. View E





Plate 13. Plot 35 Area D3 & D2. View SE



Plate 14. Plot 36 Area A. View E





Plate 15. Plot 38 Areas F & G. View W



Plate 16. East facing section of deposits (92/001 and 92/002). Scale 0.3m





Plate 17. Deposits (92/002) viewed from the south-east. Scales 1m  $\&\ 2m$ 



Plate 18. Deposit (92/005) viewed from the west. Scales 1m & 2m





Plate 19. Deposit (92/005) viewed from the north. Scale 0.3m



Plate 20. Plot 92. Surface (92/005). View N. Scale 1m





Plate 21. Plot 92. Surface (92/005). View S. Scale 1m



Plate 22. Plot 95, View NW





Plate 23. Plot 95. View SE. 1m & 2m scales



Plate 24. Plot 95. Wall [95/109],(95/110). View W. Scale 1m





Plate 25. Cobble spread (103/002) viewed from the south. Scale 2m



Plate 26. Deposit of silty loam mixed with cobbles (103/004) viewed from the north-east. Scale 2m





Plate 27. Compact bed of carbonised material (105/002) viewed from the south. Scale 1m



Plate 28. Compact bed of carbonised material (105/003) viewed from the west. Scale 1 m





Plate 29. Compact clay and black carbonised material (106/002) viewed from the south. Scale 1m



Plate 30. Deposit of dark brown silty loam mixed with broken brick and stone (107/001) viewed from the north. Scale 1m





Plate 31. Deposit of dark brown silty loam mixed with broken brick and stone (107/001) viewed from the south. Scale 1m



Plate 32. Deposit of mid brown silty loam (108/002) containing cobbles and brick fragments viewed from the south. Scale 1m





Plate 33. Compact layer of black carbonised material (109/1002) and heat modified cobbles viewed from the south. Scale 1m



Plate 34. Plot 110 Surface (110.028). View N. Scale 1m





Plate 35. Plot 110. Wall (110 027). Plan view. Scale 1m



## Archaeology Wales

## **APPENDIX III:**

Written Scheme of Investigation



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## WRITTEN SCHEME OF INVESTIGATION

# FOR AN ARCHAEOLOGICAL WATCHING BRIEF AND DESKTOP STUDY AT Land adjacent to at Craig Y Don Estate, Amlwch

Prepared for:

Isle of Anglesey County Council

Project No: 2684

22.01.2019



Archaeology Wales Limited The Reading Room, Town Hall, Great Oak Street Llanidloes, Powys SY18 6BN Tel: +44 (0) 1686 440371

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| 10.2                    |                                      | 12                                    |  |
| 11.<br>12.              |                                      | 13                                    |  |
| 12.<br>13.              |                                      | 13                                    |  |
| 1 <b>3</b> .<br>13.1    |                                      |                                       |  |
| 13.1<br>13.2            |                                      |                                       |  |
| ⊤ວ.∠<br><b>14</b> .     |                                      |                                       |  |
| 1 <del>4</del> .<br>15. |                                      |                                       |  |
|                         | 110101011003                         | · · · · · · · · · · · · · · · · · · · |  |

Figure 1. Site location

Figure 2. Detailed plans of the site, showing areas of proposed investigation

**Appendix 1**. Detailed works for each area

## **Summary**

This Written Scheme of Investigation (WSI) details a programme of archaeological mitigation to be undertaken by Archaeology Wales at the request of Isle of Anglesey County Council.

The archaeological mitigation will consist of a watching brief and will be undertaken during ground works associated with the proposed development of Contaminated Land remediation at Craig Y Don Estate, Amlwch. The latter will combine the removal and replacement of exposed soft surfaced areas up to 300/600mm in depth and the installation of driveways, paths and patios with minimal excavation to provide footings. The site is centred on NGR SH 44751 93225. The results obtained during the watching brief will subsequently be historically contextualised through a desktop study.

The development area is currently comprised of 112 residential properties, and it is situated on land that had been previously been occupied by the Mona Smelting Works. The smelter was built around 1786 and served the copper industry centred on Parys Mountain. Smelting ceased by 1897 but the company continued to manufacture fertilisers until the factory closed around 1910. GAPS reviewed aerial photographs dating to the 1940s and cartographic sources, concluding that the remains of building foundations and railway structures may survive in the development area. This conclusion was subsequently proven by an archaeological trenching evaluation at the site in December 2018 (see Ward 2018). This work revealed the remains of the factory foundations all trenches.

All work will be undertaken in accordance with the standards and guidelines of the Chartered Institute for Archaeologists (2014).

## 1. Introduction and planning background

This WSI details the methodology for archaeological watching brief and a desktop study to be undertaken in association with the proposed development of Contaminated Land remediation at Craig Y Don Estate, Amlwch. The site is centred on NGR SH 44751 93225.

The development area is currently comprised of 112 residential properties. The area is situated on land that had been previously been the Mona Smelting Works. The smelter was built around 1786 and served the copper industry centred on Parys Mountain. Smelting ceased by 1897 but the company continued to manufacture fertilisers until the factory closed around 1910. GAPS reviewed aerial photographs and cartographic sources and noted that the remains of building foundations and railway structures may survive in the development area. This conclusion was subsequently proven by an archaeological trenching evaluation at the site in

December 2018 (see Ward et al 2018). This work revealed the remains of the factory foundations in four trenches.

This WSI has been prepared by Dr Irene Garcia Rovira MCIfA, Project Manager, Archaeology Wales Ltd (henceforth - AW) at the request of Isle of Anglesey County Council.

The methodology set out in this WSI has been agreed with GAPS in its capacity as archaeological advisors to the Isle of Anglesey County Council. GAPS has recommended that a watching brief of the development area is undertaken during groundworks to mitigate the impact of the proposed development on the archaeological resource. GAPS has also recommended that a desktop study is completed taking into consideration the results obtained during mitigation to enhance our understanding of the site.

The purpose of the archaeological watching brief is to provide the local planning authority with sufficient information regarding the nature of archaeological remains on the site of the development, the requirements for which are set out in Planning Policy (revised edition 9, 2016), Section 6.5 and Technical Advice Note (TAN) 24: The Historic Environment (2017). The work is to ensure that all buried artefacts and deposits are fully investigated and recorded if they are disturbed or revealed as a result of activities associated with the development.

All work will be undertaken to the standards and guidance set by the Chartered Institute for Archaeologists (2014). AW is a Registered Organisation with the CIfA.

## 2. Site Description

The development area is currently comprised of 112 residential properties. The area is situated on land previously occupied by Mona Smelting Works. The site is bounded by residential housing to the immediate south. Amlwch Sports and Social Club is located to the north. A sparsely wooded area is located to the west, and Amlwch Port and Amlwch Port windmill are located to the north and northeast of the site (Figure 1).

The underlying geology is defined by the New Harbour Group - Mica Schist and Psammite. This group consists of metamorphic bedrock formed approximately 541 to 635 million years ago in the Ediacaran Period. These rocks were sedimentary in origin, possibly graded sediments or turbiditic flows in a deep-marine environment but have subsequently undergone metamorphism. No superficial soils are recorded (BGS 2018).

## 3. Archaeological background

Craig Y Don Estate is situated on land that had been previously been the Mona Smelting Works. The smelter was built around 1786 and served the copper industry centred on Parys Mountain. Around 1887 Henry Hills and Son took over the lease of the site and although smelting had ceased by 1897 the company continued to manufacture fertilisers until the factory closed around 1910. The site was affectionately known as "Gwaith Hills" for a number of years and this remains in living memory of many Amlwch residents.

GAPS reviewed OS maps dating from 1889 to 1924 as well as aerial photographs dating to the 1940s. Building foundations as shown on the 1924 overlay survived up until the construction of Craig y Don Estate. Therefore, it seemed likely that remains may survive at very shallow depths within some of the gardens.

In December 2018, Archaeology Wales carried out a trenching evaluation at the site to ascertain the presence/absence of remains associated with the smelting works. Four trenches were positioned at targeted locations. All trenches revealed structural elements associated with the factory (see Ward et al 2018).

## 4. Objectives

## **Watching Brief**

This WSI sets out a program of works to ensure that the watching brief will meet the standard required by The Chartered Institute for Archaeologist's *Standard and Guidance for Archaeological Watching Briefs (2014)*.

The objective of the watching brief will be:

- to allow a rapid investigation and recording of any archaeological features that are uncovered during the proposed groundworks within the application area.
- to provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard.

A written report will be compiled following the fieldwork (see below).

## **Desktop Study**

The report will include the results of the watching brief which will be contextualised through a desktop study of all readily available primary and secondary documentary, cartographic, pictorial, aerial/ground photographic and oral sources in order to provide a historical framework for any surviving archaeological remains. This will incorporate:

- Assessment of all relevant extant aerial photographic (AP) evidence. This will include those held by the regional HER and the RCAHMW, Aberystwyth.
- All sources indexed in the County Archive and Bangor University Archives.

- Historic documents (e.g. Charters, registers, estate papers).
- Other relevant sources such as local industrial heritage organisations, and published sources.

## 5. Timetable of works

## 5.1. Fieldwork

The programme of mitigation will be undertaken during ground works associated with the proposed development. The work is proposed to start on the 28<sup>th</sup> of January 2019. Archaeology Wales will update GAPS with the exact date. The Desk Top Study will begin as soon as the WSI has been approved to coincide with the reporting phase of the watching brief.

## 5.2. Report delivery

The report will be submitted to Isle of Anglesey County Council and to GAPS within three months of the completion of the fieldwork. A copy of the report will also be sent to the regional HER.

## 6. Fieldwork

## 6.1. Detail

The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologist's *Standard and Guidance for Watching Briefs* (2014).

Plans for remediation works envisage the removal and replacement of exposed soft surfaced areas up to 600mm in depth. Groundworks will also occur prior the installation of driveways, paths and patios. Details of the proposed works can be seen in Appendix 1 (Figure 2).

All groundworks will be subjected to watching brief conditions, and will be executed using a tracked 360 degree excavator equipped with a flat-bladed bucket. However, the degree of monitoring will differ between properties. A summary of the required work can be found on the table below:

| Property<br>No. | Expected archaeology               | Area<br>affected                  | Mitigation recommendation   |
|-----------------|------------------------------------|-----------------------------------|-----------------------------|
| 3               | Remains of former railway          | Southern<br>end of Areas<br>F & G | Intensive watching brief    |
| 11              | Wall of chemical works yard        | Rear garden                       | Intensive watching brief    |
| 26              | Reservoir serving former factories | Front<br>garden                   | Intermittent watching brief |
| 35              | None anticipated                   | Whole property                    | Intermittent watching brief |
| 36              | None anticipated                   | Whole                             | Intermittent watching brief |

|     |   | property                            |   |
|-----|---|-------------------------------------|---|
| 38  | Remains of demolished chemical works building identified in Trial Trench 1  | Area B<br>(front lawn)              | Intensive watching brief  |
| 92  | Remains of smelting works identified in Trial Trench 2 at shallow depth (0.13m) as a patchy hard surface          | Area D<br>(front lawn)              | Strip turf and topsoil, record remains, then either rebury, or maintain intensive watching brief if further soil removal is required. |
|     |   | Area B<br>(small patch<br>of grass) | Intensive watching brief  |
|     | Remains of former railway   | Area A (rear<br>lawn)               | Intensive watching brief  |
| 94  | Remains of smelting works identified in Trial Trench 3 as a complex floor surface                                 | Areas C & D<br>(front<br>garden)    | Strip turf and topsoil, record remains, then either rebury, or maintain intensive watching brief if further soil removal is required. |
|     | Remains of former railway   | Area A (rear<br>lawn)               | Intensive watching brief  |
| 95  | Remains of smelting works identified in Trial Trench 4 at shallow depth (0.10m) as a well-preserved floor surface | Areas F & H<br>(front lawn)         | Strip turf and topsoil, record remains, then either rebury, or maintain intensive watching brief if further soil removal is required. |
|     | Remains of former railway   | Area E (rear<br>lawn)               | Intensive watching brief if deturfing or any soil removal is required.  |
| 103 | None anticipated  | Whole property                      | Intermittent watching brief   |
| 105 | None anticipated  | Whole property                      | Intermittent watching brief   |
| 106 | None anticipated  | Whole property                      | Intermittent watching brief   |
| 107 | None anticipated  | Whole property                      | Intermittent watching brief   |
| 108 | None anticipated  | Whole property                      | Intermittent watching brief   |
| 109 | None anticipated  | Whole property                      | Intermittent watching brief   |
| 110 | Boundary wall associated with<br>Pentre Vivian cottages   | Areas C, D<br>and E                 | Intensive watching brief  |

The site archaeologist undertaking the watching brief will be afforded the required access by the main contractor in order to observe and where necessary to record any archaeological remains revealed. Groundwork will not be undertaken without the presence of the site archaeologist. The site archaeologist will record finds and less significant archaeological deposits and features without significant delay to the work program.

Where significant or complex archaeological deposits or features are encountered there will be a requirement for those areas to be fenced off and highlighted to all contractors employed on the site. Machines or contractors shall not enter this area until archaeological recording has been completed. If significant archaeological

features are revealed during the work a meeting between the client, GAPS and AW will be called at the earliest convenience.

To comply with professional guidelines, a contingency for a maximum of three days' uninterrupted access to each such area and for a team of up to two further archaeologists to be employed should be provided. Contingency costs will be agreed in advance before any extension to the programme commences and will follow a site meeting between Archaeology Wales, the client and GAPS.

## 6.2. Recording

Recording will be carried out using AW recording systems (pro-forma context sheets etc) using a continuous number sequence for all contexts.

Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.

All features identified will be tied in to the OS survey grid and fixed to local topographical boundaries.

Photographs will be taken in digital format with an appropriate scale, using a 12MP camera with photographs stored in Tiff format.

The archaeologist undertaking the watching brief will have access to the AW metal detector and be trained in its use.

#### 6.3. Finds

The professional standards set in the Chartered Institute for Archaeologists' Standard and guidance for the collection, documentation, conservation and research of archaeological (2014) will form the basis of finds collection, processing and recording.

All manner of finds regardless of category and date will be retained.

Finds recovered that are regarded as Treasure under *The Treasure Act 1996* will be reported to HM Coroner for the local area.

Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (normally Phil Parkes at Cardiff University).

## 6.4. Environmental sampling strategy

Deposits with a significant potential for the preservation of palaeoenvironmental material will be sampled, by means of the most appropriate method (bulk, column etc). Where sampling will provide a significant contribution to the understanding of the site AW will draw up a site-specific sampling strategy alongside a specialist environmental archaeologist. All environmental sampling and recording and will

follow English Heritage's *Guidelines for Environmental Archaeology* (2<sup>nd</sup> Edition 2011).

#### 6.5. Human remains

In the event that human remains are encountered, their nature and extent will be established and the coroner informed. All human remains will be left *in situ* and protected during backfilling. Where preservation *in situ* is not possible the human remains will be fully recorded and removed under conditions that comply with all current legislation and include acquisition of licenses and provision for reburial following all analytical work. Human remains will be excavated in accordance with the Chartered Institute for Archaeologist's *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993).

A meeting with GAPS, the client and AW will be called if the human remains uncovered are of such complexity or significance that the contingency arrangement (6.1 above) would not be of sufficient scope.

## 6.6. Specialist advisers

In the event of certain finds, features or sites being discovered, AW will seek specialist opinion and advice. A list of specialists is given in the table below although this list is not exhaustive.

| Artefact type                            | Specialist  |
|--|---|
| Flint                                    | Kate Pitt (Archaeology Wales)   |
| Animal bone                              | Richard Madgwick (Cardiff University)                                     |
| CBM, heat affected clay,<br>Daub etc.    | Rachael Hall (APS)  |
| Clay pipe                                | Hilary Major (Freelance)  |
| Glass                                    | Rowena Hart (Archaeology Wales)   |
| Cremated and non-<br>cremated human bone | Malin Holst (University of York)/Richard<br>Madgwick (Cardiff University) |
| Metalwork                                | Kevin Leahy (University of Leicester)/ Quita<br>Mold (Freelance)          |
| Metal work and metallurgical residues    | Dr Tim Young (GeoArch)  |
| Neo/BA pottery                           | Dr Alex Gibson (Bradford University)                                      |
| IA/Roman pottery                         | Jane Timby (Freelance)  |

| Roman Pottery                         | Rowena Hart (Archaeology Wales)/ Peter<br>Webster (Freelance) |
|---------------------------------------|---|
| Post Roman pottery                    | Stephen Clarke (Monmouthshire Archaeology)                    |
| Charcoal (wood ID)                    | John Carrot (Freelance)                                       |
| Waterlogged wood                      | Nigel Nayling (University of Wales – Lampeter)                |
| Molluscs and pollen                   | Dr James Rackham  |
| Charred and waterlogged plant remains | Wendy Carruthers (Freelance)                                  |

## 6.6.1. Specialist reports

Specialist finds and palaeoenvironmental reports will be written by AW specialists, or sub-contracted to external specialists when required.

# 7. Monitoring

GAPS will be contacted approximately five days prior to the commencement of archaeological site works, and subsequently once the work is underway.

Any changes to the WSI that AW may wish to make after approval will be communicated to GAPS for approval on behalf of Planning Authority.

Representatives of GAPS will be given access to the site so that they may monitor the progress of the field evaluation. No area will be back-filled, until GAPS has had the opportunity to inspect it, unless permission has been given in advance. GAPS will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

# 8. Post-fieldwork programme

## 8.1. Archive assessment

### 8.1.1. Site archive

The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution, usually the relevant Local Authority museums service. Arrangements will be made with the receiving institution before work starts.

Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than six months after completion of the work.

Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to GAT HER.

## 8.1.2. Analysis

Following a rapid review of the potential of the site archive, a programme of analysis and reporting will be undertaken. This will result in the following inclusions in the final report:

- Non-technical summary in Welsh and English
- Location plan showing the area/s covered by the watching brief, all artefacts, structures and features found
- Plan and section drawings (if features are encountered) with ground level, ordnance datum and vertical and horizontal scales.
- Written description and interpretation of all deposits identified, including their character, function, potential dating and relationship to adjacent features.
   Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate.
- An indication of the potential of archaeological deposits which have not been disturbed by the development
- A discussion of the local, regional and national context of the remains by means of reviewing published reports, unpublished reports, historical maps, documents from local archives and the regional HER as appropriate.
- A detailed archive list at the rear listing all contexts recorded, all samples finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

## 8.2. Reports and archive deposition

#### 8.2.1. Report to client

Copies of all reports associated with the watching brief together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted to Isle of Anglesey County Council and GAPS upon completion.

#### 8.2.2. Additional reports

After an appropriate period has elapsed, copies of all reports will be deposited with the relevant county Historical Environment Record, the National Monuments Record and, if appropriate, Cadw.

#### 8.2.3. Summary reports for publication

Short archaeological reports will be submitted for publication in relevant journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal.

#### 8.2.4. Notification of important remains

Where it is considered that remains have been revealed that may satisfy the criteria for statutory protection, AW will submit preliminary notification of the remains to Cadw.

## 8.2.5. Archive deposition

The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution, usually the relevant Local Authority museums service. Arrangements will be made with the receiving institution before work starts.

Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than six months after completion of the work.

Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to GAT HER.

## 8.2.6. Finds deposition

The finds, including artefacts and ecofacts, excepting those which may be subject to the Treasure Act, will be deposited with the same institution, subject to the agreement of the legal land owners.

### 9. Staff

The project will be managed by Dr Irene Garcia Rovira MCIfA (AW Project Manager) and the fieldwork undertaken by Francesca Ward (Archaeology Wales). Any alteration to staffing before or during the work will be brought to the attention of GAPS and Isle of Anglesey County Council.

# **Additional Considerations**

# 10. Health and Safety

#### 10.1. Risk assessment

Prior to the commencement of work AW will carry out and produce a formal Health and Safety Risk Assessment in accordance with *The Management of Health and Safety Regulations* 1992. A copy of the risk assessment will be kept on site and be available for inspection on request. A copy will be sent to the client (or their agent as necessary) for their information. All members of AW staff will adhere to the content of this document.

## 10.2. Other guidelines

AW will adhere to best practice with regard to Health and Safety in Archaeology as set out in the FAME (Federation of Archaeological Managers and Employers) health and safety manual *Health and Safety in Field Archaeology (2002)*.

# 11. Community Engagement and Outreach

AW will undertake a community engagement, which will involve a day drop in session at the Town Hall, to inform the local community and any interested parties of the results of the site investigation work. The date of this event is to be confirmed with the client. This may occur during the site investigation work or following completion of the work. The form of other potential outreach activities may include lectures and talks to local groups, interested parties and persons, information boards, flyers and other forms of communication (social media and websites), and press releases to local and national media. The form of any outreach will respect client confidentiality or contractual agreements. As a rule, outreach will be proportional to the size of the project.

Where outreach activities have a cost implication these will need to be negotiated in advance and in accordance with the nature of the desired response and learning outcomes.

#### 12. Insurance

AW is fully insured for this type of work, and holds Insurance with Aviva Insurance Ltd and Hiscox Insurance Company Limited through Towergate Insurance. Full details of these and other relevant policies can be supplied on request.

# 13. Quality Control

#### 13.1. Professional standards

AW works to the standards and guidance provided by the *Chartered Institute for Archaeologists*. AW fully recognise and endorse the Chartered Institute for Archaeologists' *Code of Conduct, Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* and the *Standard and Guidance for archaeological watching briefs* currently in force. All employees of AW, whether corporate members of the Chartered Institute for Archaeologists or not, are expected to adhere to these Codes and Standards during their employment.

## 13.2. Project tracking

The designated AW manager will monitor all projects in order to ensure that agreed targets are met without reduction in quality of service.

#### 14. Arbitration

Disputes or differences arising in relation to this work shall be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' *Arbitration Scheme for the Institute for Archaeologists* applying at the date of the agreement.

## 15. References

Chartered Institute for Archaeologists, 2014. Standards and guidance for the collection, compilation, transfer and deposition of archaeological archives.

Chartered Institute for Archaeologists, 2014. Standards and guidance for the collection, documentation, conservation and research of archaeological materials.

Chartered Institute for Archaeologists, 2014. Standards and guidance for excavation.

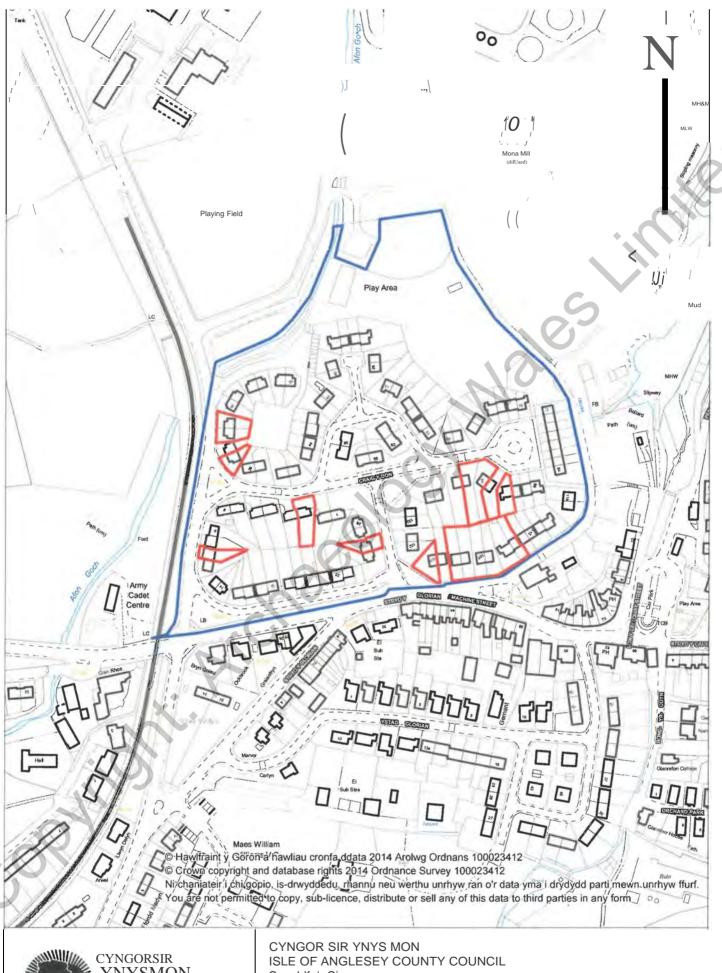
Chartered Institute for Archaeologists, 2014. Standards and guidance for an archaeological watching brief.

English Heritage, 2002. Guidelines for Environmental Archaeology.

English Heritage, 2006. Management Of Research Projects in the Historic Environment (MORPHE).

McKinley, J., Roberts C., 1993, Excavation and post-excavation treatment of cremated and inhumed human remains, Technical Paper 13.

Ward et al. 2018. Land adjacent to Craig Y Don Estate, Amlwch, Anglesey. Archaeological Evaluation. AW Report 1750.





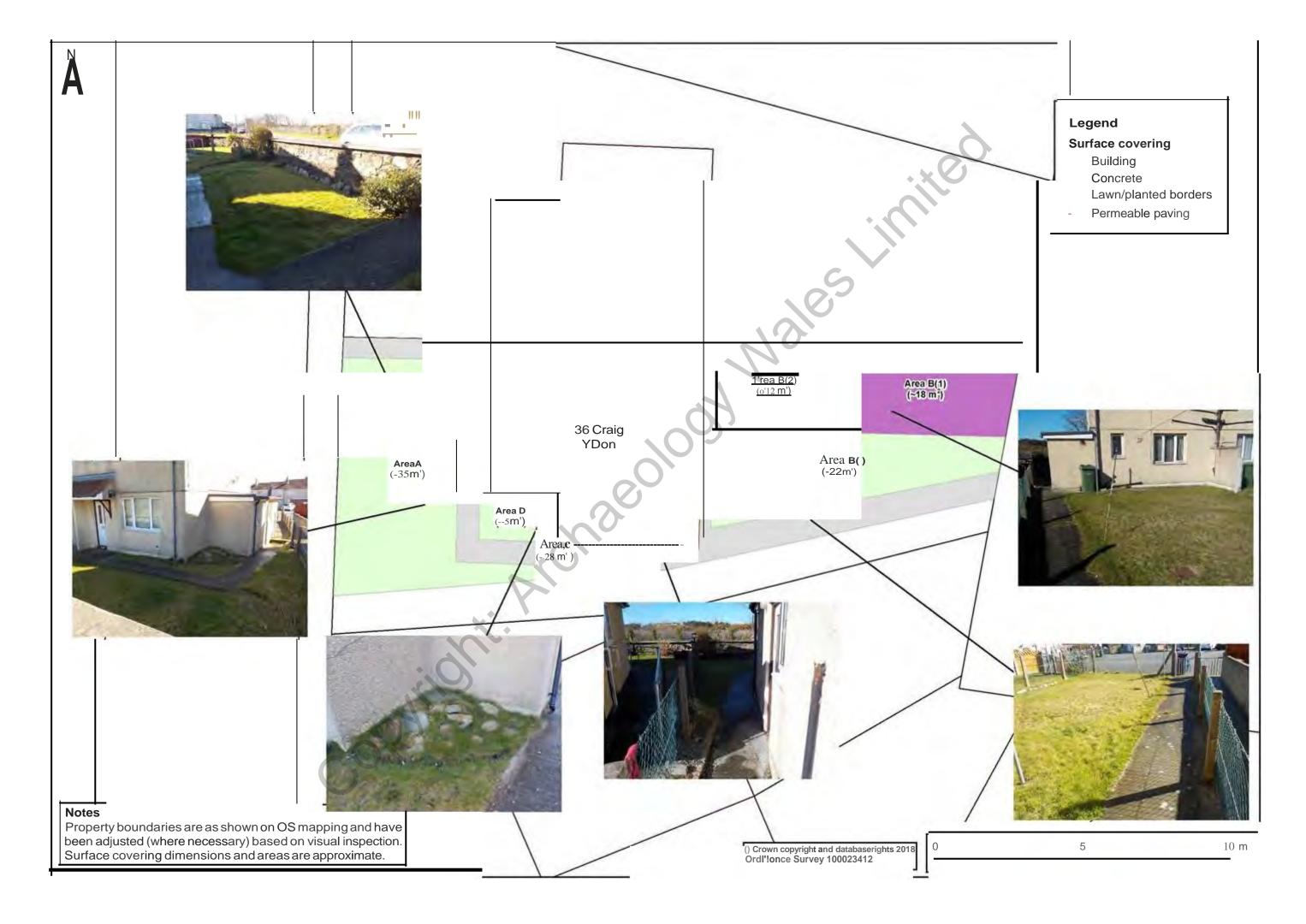
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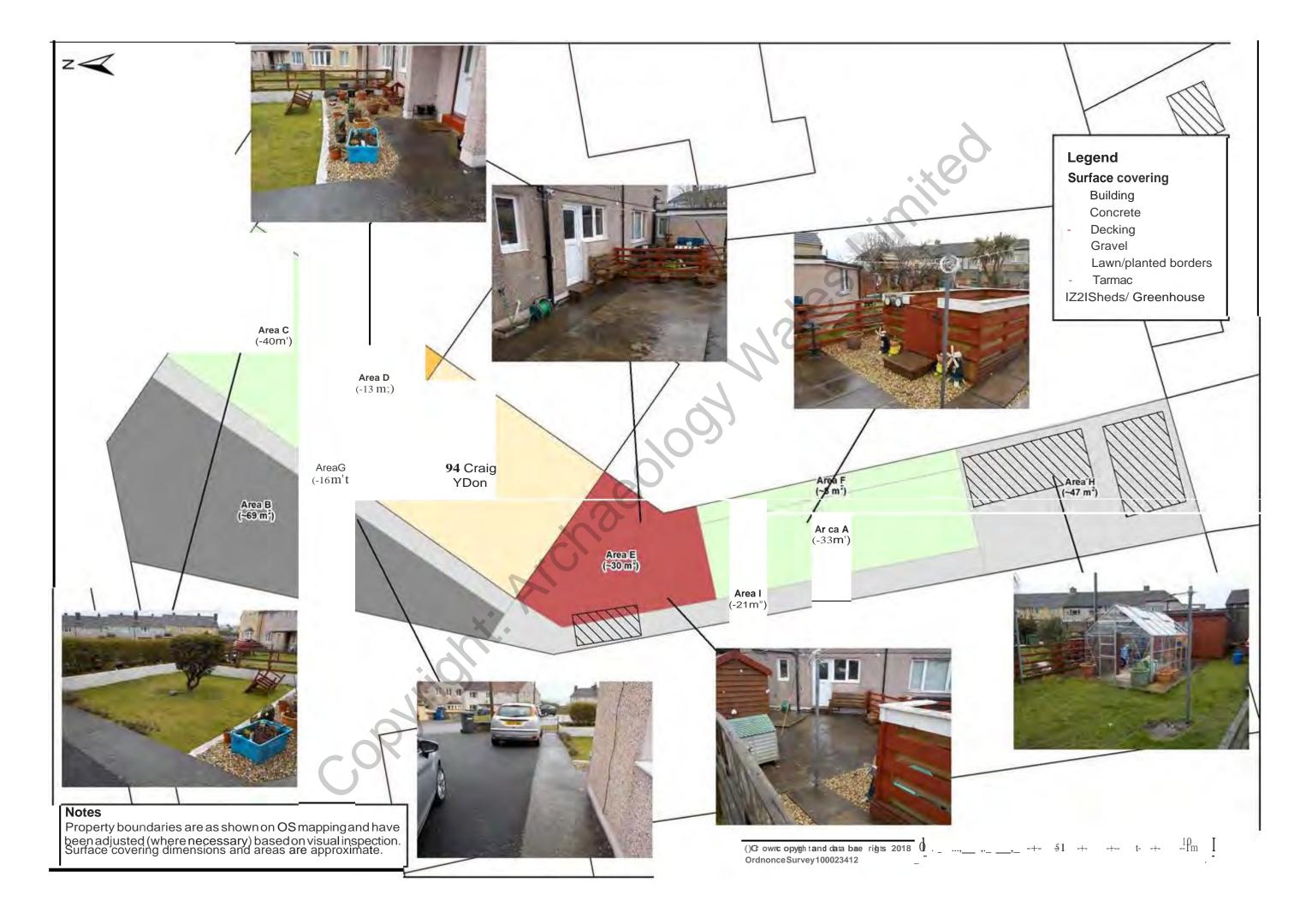










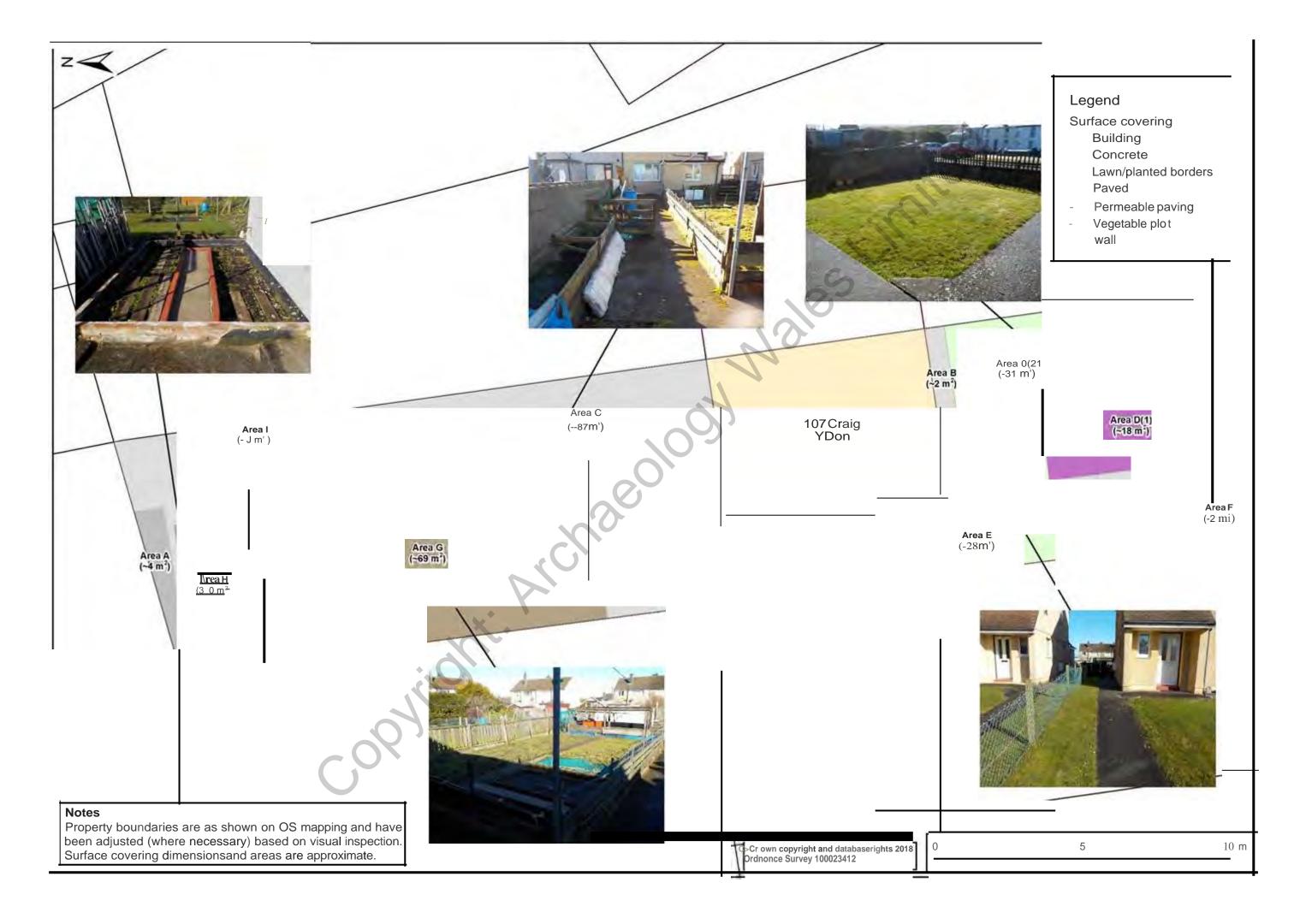




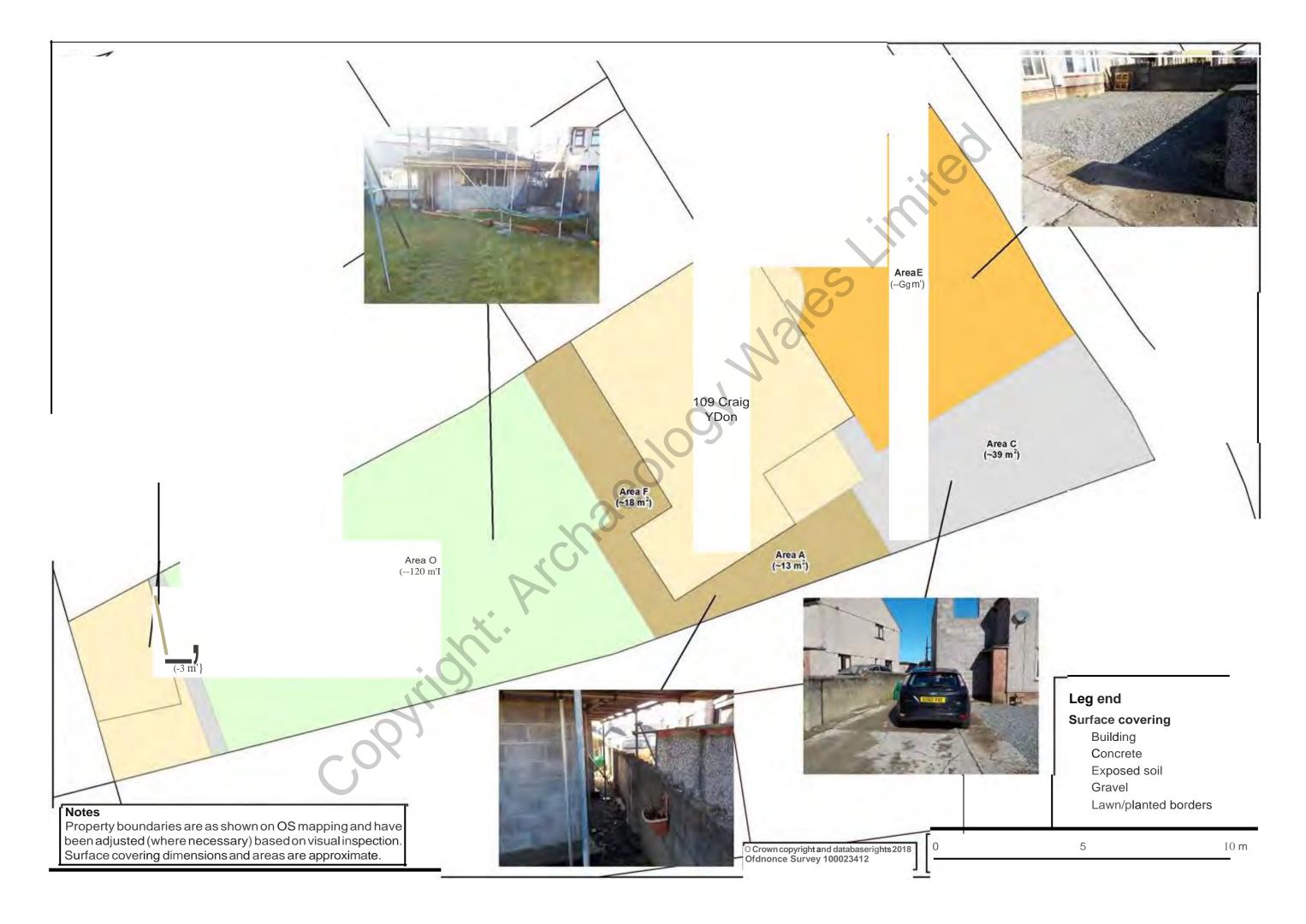














#### **GWAITH ADFER**

## 3 Craig Y Don

Tŷ preswyl pâr sy'n eiddo i'r Cyngor yw hwn. Fe'i lleolir yn ne-orllewin y stad yn eithaf agos at adeilad yr hen weithfeydd (a allai fod o ddiddordeb i'r archeolegwyr). Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Nid yw mynediad i gefn y tŷ ond yn bosibl ar hyd llwybr sy'n rhedeg ar hyd ochr y tŷ a gellir ei weld mewn ffotograff yn Ffigwr B y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal B: Lawnt yw'r ardal hon. Mae'r ardal yn ddigon mawr i greu llwybr neu 'ddreif' (gan ddefnyddio deunyddiau hydraidd), er y bydd rhan o'r ardal yn cael ei chadw fel lawnt yn dilyn y gwaith adfer.
  - Byddai angen cael gwared â digon o bridd yn ardal y dreif er mwyn sicrhau y byddai modd ffurfio'r dreif ar y drychiad priodol. Cafwyd caniatâd eisoes i osod y cyrbin isel ond bydd raid i'r contractwr gael y drwydded angenrheidiol gan yr awdurdod priffyrdd i ymgymryd â'r gwaith yn y lôn. Yn ardal y lawnt, bydd angen cloddio i ddyfnder o 300mm i wneud y gwaith adfer ac yna ail-osod y lawnt.
- Ardal C: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer, bydd y gwaith adfer yn cael ei wneud i ddyfnder o 300mm o lefel y ddaear.
- Ardal D: Llwybr graean sydd yn yr ardal hon ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 600mm o lefel y ddaear.
- Ardal E: Ardal wedi ei graeanu gyda wal addurnol isel yn ei hamgylchynu ar waelod yr ardd. Cynigir creu patio concrit yn yr ardal hon a fydd yn creu rhwystr rhag unrhyw amlygiad i lygredd yn yr ardal hon yn y dyfodol. Ni ddisgwylir y byddai angen symud unrhyw bridd yn yr ardal hon ac ni ddylai fod angen tynnu'r wal chwaith. Bydd y patio'n cael ei godi o fewn yr ardal honno sydd wedi cael ei hamgylchynu gan y wal.
- Ardaloedd F & G: Mae'r ardaloedd hyn yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 600mm o lefel y ddaear.
- Ardal H: Mae'r ardal hon wedi ei phalmantu ar hyn o bryd a bydd concrit tywallt yn cymryd lle'r cerrig pafin ac ni fydd angen gwneud unrhyw waith adfer o dan y llain concrit newydd. Tybir y bydd angen gwneud i ffwrdd â rhywfaint o'r pridd o'r ardal hon, fodd bynnag, ni ddylai fod angen tynnu'r wal i lawr.

## **REMEDIATION WORKS**

## 3 Craig Y Don

This is a Council owned semi-detached residential property. It is in the south west quarter of the estate quite close to the former works building (which may be of interest to the archaeologists). The property includes garden areas to the front and rear. Access to the rear of the property is only possible via a pathway to the side of the house which can be seen in a photo in Figure B1 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

Area B: This area is lawn. The area is large enough to create a driveway (using permeable materials), although some of the area will remain as lawn following remediation.

In the driveway area soil removal would be required sufficient to form the driveway at the appropriate elevation. Permission to install the drop kerb has been obtained but the contractor will be required to obtain the necessary licence from the highway authority to undertake the work in the road. In the lawn area the depth of remediation will be 300mm followed by reinstatement to lawn.

- Area C: This area comprises lawn and remediation is required, the depth of remediation will be 300mm from ground level.
- Area D: This is a gravel path and remediation is required, the depth of remediation will be 600mm from ground level.
- Area E: This is a gravelled area bordered by a low decorative wall at the bottom of the garden. Creation of a concrete paved patio which will form a barrier to future exposure is proposed for this area. No soil removal is expected to be necessary in this area and the wall should not require removal. The patio will be formed within the walled area.
- Areas F & G: These areas comprise lawn and remediation is required, the depth of remediation will be 600mm from ground level.
- Area H: This area is currently paved, it will be replaced with poured concrete, no remediation will be required below the new concrete hardstanding. Some soil removal has been assumed necessary in this area however. The existing wall should not require removal.

### **GWAITH ADFER**

## 11 Craig Y Don

Mae hwn yn eiddo preswyl preifat mewn teras. Fe'i lleolir yn ne-orllewin y stad yn eithaf agos at adeilad yr hen weithfeydd (a allai fod o ddiddordeb i'r archeolegwyr). Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyd llwybr cul wedi'i orchuddio wrth ochr y tŷ a gellir ei weld mewn ffotograff yn Ffigwr B2 y Gwerthusiad o'r Opsiynau Adfer. Mae'r ardaloedd hynny yn yr eiddo hwn y mae angen eu hadfer wedi eu disgrifio isod.

- Ardal B: Stribedyn cul o gerrig pafin dan y ffenestr ffrynt yw'r ardal hon ac mae mainc wedi cael ei gosod yma. Bwriedir creu llain o goncrit hydraidd yn yr ardal hon, bydd yn lletach na'r ardal cerrig pafin ac yn ymestyn i Ardal C ond ni fydd yn fwy na 5m² i gyd. Bydd angen cael gwared ar bridd er mwyn codi'r patio ar y drychiad priodol a chan sicrhau bod digon o le rhyngddo a'r DPC.
- Ardal C: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 300mm o lefel y ddaear. Bydd rhan o'r llain goncrit yn Ardal B yn ymestyn i Ardal C.
- Ardal D: Ardal laswelltog fechan yw hon wrth ochr y drws ffrynt gyda llwybr concrit yn arwain ati. Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 300mm o lefel y ddaear.
- Ardal E: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 600mm o lefel y ddaear. Bydd ardal ger y llwybr yng nghefn yr eiddo'n cael ei throi'n batio concrit ac ni fydd angen gwneud gwaith adfer o dan y patio hwnnw.

#### **REMEDIATION WORKS**

## 11 Craig Y Don

This is a privately owned terraced residential property. It is in the south west quarter of the estate quite close to the former works building (which may be of interest to the archaeologists). The property includes garden areas to the front and rear. Access to the rear of the property is via a narrow covered pathway to the side of the house which can be seen in a photo in Figure B2 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area B: This is a narrow strip of paving below the front window, there is a bench situated on it presently. It is proposed to create an area of permeable concrete hardstanding in this area, it will be wider than the current area of paving, extending into Area C, but no more than 5m² in total. Soil removal will be required sufficient to form the patio area at the appropriate elevation allowing for sufficient space from the DPC.
- Area C: This area comprises lawn and remediation is required, the depth of remediation will be 300mm from ground level. Part of proposed concrete hardstanding in Area B will extend into Area C.
- Area D: This is a small grassed area to the side of the front door which has a concrete path leading to it. This area comprises lawn and remediation is required, the depth of remediation will be 300mm from ground level.
- Area E: This area comprises lawn and remediation is required, the depth of remediation will be 600mm from ground level. An area adjacent to the path at the rear of the property will be formed into a concrete patio, this will not require remediation below it.

#### **GWAITH ADFER**

### 26 Craig Y Don

Mae hwn yn eiddo preswyl preifat mewn pâr. Fe'i lleolir yn ne-orllewin y stad ychydig ymhellach o'r hen adeilad gwaith na'r eiddo uchod. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ni cheir mynediad i gefn yr eiddo ond drwy'r eiddo ei hun fel y gellir gweld yn Ffigwr B3 y Gwerthusiad o'r Opsiynau Adfer. Disgrifir isod yr ardaloedd hynny yn yr eiddo hwn y mae angen eu hadfer.

- Ardal A: Mae'r ardal hon wedi cael ei chloddio ar gyfer sylfeini ystafell wydr, fodd bynnag, nid yw'r preswylydd yn bwriadu adeiladu'r ystafell wydr mwyach ac o'r herwydd bydd yr ardal yn cael ei chynnwys yn y llain galed o goncrit hydraidd gydag Ardaloedd H, K ac I. Ni fydd angen cael gwared ag unrhyw bridd oherwydd mae'r gwaith cloddio a wnaed eisoes yn ddigon dwfn. Bydd y lefel derfynol yn ddigon isel oddi wrth DPC yr adeilad ar waelod yr ardd a wal gefn y tŷ.
- Ardal B: Llwybr concrit sy'n arwain o'r giât ffrynt i'r drws ffrynt yw hwn. Bwriedir ymgorffori'r ardal yn y dreif o goncrit hydraidd gydag Ardal C & D. Bydd angen gwneud i ffwrdd â digon o bridd i sicrhau y gellir ffurfio'r dreif ar y drychiad priodol. Mae cyrbin isel eisoes ar gael.
- Ardal C: Ardal fechan o gerrig pafin yr ardd ffrynt yw hon ger llwybr concrit sy'n arwain o'r giât ffrynt i'r drws ffrynt (Ardal B). Bwriedir ymgorffori'r ardal yn y dreif o goncrit hydraidd gydag Ardal B & D. Bydd angen gwneud i ffwrdd â digon o bridd i sicrhau y gellir ffurfio'r dreif ar y drychiad priodol. Mae cyrbin isel eisoes ar gael.
- Ardal D: Ardal o raean sy'n cael ei defnyddio fel lle i barcio trelar. Bwriedir ymgorffori'r ardal yn y dreif o goncrit hydraidd gydag Ardal B & C. Bydd angen gwneud i ffwrdd â digon o bridd i sicrhau y gellir ffurfio'r dreif ar y drychiad priodol. Mae cyrbin isel eisoes ar gael.
- Ardal E: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 300mm o lefel y ddaear.
- Ardal H: Mae hon yn ardal balmentog anghyflawn. Y cynnig yw gorchuddio'r ardal gyfan gyda llain o goncrit hydraidd a'i lledu i ymgorffori Ardaloedd K, A ac I hefyd. Bydd angen gwneud i ffwrdd â digon o bridd i sicrhau y gellir ffurfio'r patio o goncrit hydraidd ar y drychiad priodol ac y bydd yn ddigon isel o dan DPC yr adeilad ar waelod yr ardd a wal gefn y tŷ.
- Ardal I: Roedd yr ardal hon i fod yn rhan o ystafell wydr, fodd bynnag, nid yw'r preswylydd yn bwriadu adeiladu'r ystafell wydr mwyach ac o'r herwydd bydd yr ardal yn cael ei chynnwys yn y patio o goncrit hydraidd gydag Ardaloedd A, H, a K. Bydd angen cael gwared â digon o bridd i ffurfio'r

patio o goncrit hydraidd ar y drychiad priodol gan ganiatáu iddo fod yn ddigon isel oddi wrth DPC yr adeilad ar waelod yr ardd a wal gefn y tŷ.

Ardal J: Mae gwely wedi'i godi yn cael ei adeiladu ar hyn o bryd yn yr ardal hon.

Mae'n cael ei godi o frics ond nid yw'r gwaith wedi'i orffen. Y cynnig yw i'r

gwely gael ei leinio a'i lenwi gyda phridd glân addas i ddyfnder o 600mm. I

sicrhau'r dyfnder hwn, efallai y bydd angen cloddio rhywfaint o'r pridd sydd
ar ei waelod ar hyn o bryd.

Bydd dyfnder y pridd glân yn y gwely wedi'i godi yn 600mm o dop y gwely wedi'i godi.

Ardal K: Lawnt yw'r ardal hon ar hyn o bryd. Y cynnig yw gorchuddio'r ardal gyfan gyda llain o goncrit hydraidd a'i lledu i ymgorffori Ardaloedd A, H ac I hefyd. Bydd angen gwneud i ffwrdd â digon o bridd i sicrhau y gellir ffurfio'r patio o goncrit hydraidd ar y drychiad priodol ac y bydd yn ddigon isel o dan DPC yr adeilad ar waelod yr ardd a wal gefn y tŷ.

#### **REMEDIATION WORKS**

## 26 Craig Y Don

This is a privately owned semi-detached residential property. It is in the south west quarter of the estate a little further from the former works building than the above properties. The property includes garden areas to the front and rear. Access to the rear of the property is only possible through the property itself as can be seen in Figure B3 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area A: This has been dug out for a foundation of a conservatory, however the resident is no longer building the conservatory and this area will therefore become encompassed within the permeable concrete hardstanding of Area H, K and I. No soil removal will be required due to the existing excavation being of sufficient depth. The final level will be sufficiently below the DPC of the building at the bottom of the garden and the rear wall of the house.
- Area B: This is a concrete path leading from the front gate to the door. It is proposed to incorporate the area into a permeable concrete driveway with Area C & D. Soil removal will be required sufficient to form the driveway at the appropriate elevation. A drop kerb is already present.
- Area C: This is a small paved area in front of the garden adjacent to the concrete path leading from the front gate to the door (Area B). It is proposed to incorporate the area into a permeable concrete driveway with Area B & D. Soil removal will be required sufficient to form the driveway at the appropriate elevation. A drop kerb is already present.
- Area D: This is a gravelled area being used as parking for a trailer. It is proposed to incorporate the area into a permeable concrete driveway with Area B & C. Soil removal will be required sufficient to form the driveway at the appropriate elevation. A drop kerb is already present.
- Area E: This area comprises lawn and remediation is required, the depth of remediation will be 300mm from ground level.
- Area H: This is an incomplete paved area. The proposal is to cover the area entirely in a permeable concrete hardstanding and widen it to incorporate Area K, A and I too. Soil removal will be required sufficient to form the permeable concrete patio at the appropriate elevation, allowing for it to be sufficiently below the DPC of the building at the bottom of the garden and the rear wall of the house.
- Area I: This area was to be part of a proposed conservatory, however the resident is no longer building the conservatory and this area will therefore become encompassed within the permeable concrete patio of Area A, H and K. Soil

removal will be required sufficient to form the permeable concrete patio at the appropriate elevation, allowing for it to be sufficiently below the DPC of the building at the bottom of the garden and the rear wall of the house.

Area J: A raised bed is currently being constructed in this area, it is brick built but unfinished. The proposal is for the bed to be lined and filled with suitable imported clean soils 600mm in depth. To achieve this depth it may be necessary to excavate some of the existing soils at the base.

Depth of clean soils within the raised bed shall be 600mm from the top of the raised bed.

Area K: This is a currently lawn. The proposal is to cover the area entirely in a permeable concrete hardstanding and widen it to incorporate Area A, H and I too. Soil removal will be required sufficient to form the permeable concrete patio at the appropriate elevation, allowing for it to be sufficiently below the DPC of the building at the bottom of the garden and the rear wall of the house.

### **GWAITH ADFER**

### 35 Craig Y Don

Tŷ preswyl pâr sy'n eiddo i'r Cyngor yw hwn. Fe'i lleolir yng ngogledd orllewin y stad ac ymddengys ei fod ar safle adeilad yr hen weithfeydd (a all fod o ddiddordeb i'r archeolegwyr). Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i'r eiddo ar hyn o bryd ar hyd llwybr sy'n rhedeg wrth ochr y tŷ ac sydd i'w weld yn Ffigwr B4 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal A: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud 600mm o lefel y ddaear er y gellir codi'r tir drwy adeiladu ymyl ar hyd y llwybrau yn ffrynt y tŷ. Bydd hyn yn lleihau dyfnder y gwaith cloddio pridd ond bydd angen proffilio lefel y ddaear er mwyn sicrhau ei fod yn goleddfu i lawr i ochr y tŷ.
- Ardal B: Ardal fechan o bridd agored ar y gornel yn ffrynt y tŷ sydd wedi ei hamgylchynu gan y llwybr concrit sy'n ymestyn o'r drws ffrynt rownd ochr yr eiddo. Cynigir codi patio o goncrit hydraidd yma. Bydd angen cloddio digon o bridd i sicrhau bod y patio ar yr un lefel â'r llwybr sydd gerllaw.
- Ardal D: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer, bydd dreif a phatio o goncrit hydraidd yn cael eu creu yn yr ardal hon a bydd rhywfaint yn cael ei chadw fel lawnt. Bydd dyfnder y gwaith adfer yn 600mm o lefel y ddaear yn ardal y lawnt

Ni fydd angen gwneud gwaith adfer dan y dreif a'r patio a bydd angen gwneud i ffwrdd â digon o bridd i adeiladu'r dreif a'r patio ar ddrychiad priodol sy'n goleddfu i ffwrdd o'r tŷ. Nid oes angen cyrbin isel oherwydd bod lle parcio ar gael yng nghefn yr eiddo. Ceir mynediad i'r dreif drwy agoriad yn y ffin yng nghefn y tŷ sy'n cysylltu i'r llecyn parcio a dylid cynnwys darpariaeth ar gyfer 2 o byst pren a giât ddwbl bren gyda chlo ar gyfer mynediad gyda'r pyst yn cael eu cysylltu i'r ffens gadwyn bresennol.

#### **REMEDIATION WORKS**

## 35 Craig Y Don

This is a Council owned semi-detached residential property. It is in the north west quarter of the estate and appears to be on the area of the former works building (which may be of interest to the archaeologists). The property includes garden areas to the front and rear. Access to the rear of the property is currently via a pathway to the side of the house which can be seen in a photo in Figure B4 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area A: This area comprises lawn and remediation is required, the depth of remediation will be 600mm from ground level although land raising can be achieved by constructing edging along the side of the paths to the front of the house. This will reduce the depth of excavation of existing soils but the ground level will need profiling to ensure it slopes down to the side of the house.
- Area B: This is a small area of exposed soil on the corner of the front of the house which is surrounded by the concrete path which extends from the front door around the side of the property. It is proposed to form a permeable concrete patio area here. Sufficient soil removal will be required, sufficient to form the patio flush with the adjacent path.
- Area D: This area comprises lawn and remediation is required, a permeable concrete driveway and patio will be created in this area in addition to a portion remaining as lawn. The depth of remediation will be 600mm from ground level in the lawn area.

The driveway and patio will not require remediation below them and soil removal will be required sufficient to form the driveway and patio at an appropriate elevation and sloping away from the house. A drop kerb is not required due to the car park area at the rear of the property. Access to the driveway would be via an opening in the rear boundary which joins the car parking area and provision should be included for 2 wooden posts and a lockable wooden access double opening gate, the posts are to be connected to the existing chain link fence.

#### **GWAITH ADFER**

## 36 Craig Y Don

Tŷ preswyl pâr preifat yw hwn. Fe'i lleolir yng ngogledd orllewin y stad ac ymddengys ei fod ar safle adeilad yr hen weithfeydd (a all fod o ddiddordeb i'r archeolegwyr). Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i'r eiddo ar hyn o bryd ar hyd llwybr sy'n rhedeg wrth ochr y tŷ ac sydd i'w weld yn Ffigwr B5 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal A: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud 300mm o lefel y ddaear.
- Ardal B: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer, bydd dreif a phatio o goncrit hydraidd yn cael eu creu yn yr ardal hon.

Ni fydd angen gwneud gwaith adfer dan y dreif a'r patio a bydd angen gwneud i ffwrdd â digon o bridd i adeiladu'r dreif a'r patio ar ddrychiad priodol sy'n goleddfu i ffwrdd o'r tŷ. Nid oes angen cyrbin isel oherwydd bod lle parcio ar gael yng nghefn yr eiddo. Ceir mynediad i'r dreif drwy agoriad yn y ffin yng nghefn y tŷ sy'n cysylltu i'r llecyn parcio a dylid cynnwys darpariaeth ar gyfer 2 o byst pren a giât bren gyda chlo ar gyfer mynediad gyda'r pyst yn cael eu cysylltu i'r ffens gadwyn bresennol.

Ardal D: Ardal fechan yw hon yn cynnwys lawnt gyda cherrig mawr arni yn y gornel yn ffrynt y tŷ sydd wedi'i hamgylchynu gan y llwybr concrit sy'n ymestyn o'r drws ffrynt rownd ochr yr eiddo. Bydd gwaith adfer yn cael ei wneud i ddyfnder o 300mm o lefel y ddaear a bydd yn cael ei ailsefydlu'n fordor pridd ar gyfer plannu.

#### **REMEDIATION WORKS**

## 36 Craig Y Don

This is a privately owned semi-detached residential property. It is in the north west quarter of the estate and appears to be on the area of the former works building (which may be of interest to the archaeologists). The property includes garden areas to the front and rear. Access to the rear of the property is via a pathway to the side of the house which can be seen in a photo in Figure B5 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area A: This area comprises lawn and remediation is required, the depth of remediation will be 300mm from ground level.
- Area B: This area comprises lawn and remediation is required, a permeable concrete driveway and patio will be created in this area.

The driveway and patio will not require remediation below them and soil removal will be required sufficient to form the driveway and patio at an appropriate elevation and sloping away from the house. A drop kerb is not required due to the car park area at the rear of the property. Access to the driveway would be via an opening in the rear boundary which joins the car parking area and provision should be included for 2 concrete posts and a lockable wooden access gate. The concrete posts are to be connected to the existing chain link fence.

Area D: This is a small area of lawn with large stones within it on the corner of the front of the house which is surrounded by the concrete path which extends from the front door around the side of the property. The depth of remediation will be 300mm from ground level and it will be reinstated to a soil planting border.

#### **GWAITH ADFER**

#### 38 Craig Y Don

Tŷ preswyl pâr preifat yw hwn. Fe'i lleolir yng ngogledd orllewin y stad acymddengys ei fod ar safle adeilad yr hen weithfeydd. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyn o bryd ar hyd llwybr sy'n rhedeg wrth ochr y tŷ ac sydd i'w weld yn rhannol mewn ffotograff yn Ffigwr B6 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal B: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 300mm.
- Ardal C: Mae'r ardal hon yn cynnwys graean a bwriedir creu llain galed o ddeunydd hydraidd yn yr ardal hon ac ni fydd angen gwneud gwaith adfer dan y llain galed.
- Ardal D: Mae'r ardal hon yn cynnwys graean a bwriedir creu llain galed o ddeunydd hydraidd yn yr ardal hon ac ni fydd angen gwneud gwaith adfer dan y llain galed. Mae angen codi giât bren newydd, pyst pren a ffens bren fer yn yr ardal hon yn y man lletaf rhwng y tŷ a'r wal derfyn a hynny yn lle'r ffens bren bresennol y bydd angen ei thynnu i lawr yn ôl pob tebyg fel y gellir gwneud y gwaith.
- Ardal E: Mae'r ardal hon yn cynnwys graean a bydd dyfnder y gwaith adfer 600mm o lefel y wyneb graean.
- Area F: Mae'r ardal hon yn cynnwys lawnt a bydd dyfnder y gwaith adfer 600mm o lefel y ddaear.
- Ardal G: Mae'r ardal hon yn cynnwys concrit ac mae oddeutu hanner yr ardal hon (sydd bellaf draw o'r tŷ) wedi datgymalu neu wedi cracio ac mae angen gosod wyneb newydd yn ei le. Bydd llain galed o ddeunydd hydraidd yn cael ei gosod yn lle'r concrit sydd wedi cracio ac ni fydd angen gwneud unrhyw waith adfer o dan y llain galed.

#### **REMEDIATION WORKS**

#### 38 Craig Y Don

This is a privately owned semi-detached residential property. It is in the north west quarter of the estate and appears to be on the area of the former works building. The property includes garden areas to the front and rear. Access to the rear of the property is via a pathway to the side of the house which can be partly seen in a photo in Figure B6 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area B: This area comprises lawn and remediation is required, the depth of remediation will be 300mm.
- Area C: This area comprises gravel and it is proposed to create permeable hardstanding in this area, remediation will not be required below the hardstanding.
- Area D: This area comprises gravel and it is proposed to create permeable hardstanding in this area, below which no remediation is required. A new wooden gate, wooden posts and short wooden fence needs to be erected in this area at the widest location between the house and the boundary wall, this will replace the existing wooden fence which is likely to require dismantling for the works.
- Area E: This area comprises gravel, the depth of remediation shall be 600mm from the level of the gravelled surface.
- Area F: This area comprises lawn, the depth of remediation shall be 600mm from ground level.
- Area G: This area comprises concrete, approximately half of this area (furthest away from house) is poorly jointed or cracked and is in need of replacement. A permeable hardstanding will replace the cracked concrete, no remediation will be required below the hardstanding.

#### **GWAITH ADFER**

#### 92 Craig Y Don

Tŷ preswyl ar ddiwedd teras yw hwn ac mae'n eiddo i'r Cyngor. Fe'i lleolir yn ne ddwyrain y safle ac mae'n agos at adeilad yr hen weithfeydd (a all fod o ddiddordeb i'r archeolegwyr). Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyn o bryd ar hyd llwybr sy'n rhedeg wrth ochr y tŷ ac sydd i'w weld yn rhannol mewn ffotograff yn Ffigwr B7 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal A: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 600mm. Bydd ardal 16m² yn cael ei throi'n batio. Dylai'r contractwr gymryd i ystyriaeth gorchudd twll archwilio sydd yn yr ardal hon a bydd angen gweithio o'i gwmpas. Ni fydd angen gwneud gwaith adfer dan y patio ond bydd angen gwneud i ffwrdd â digon o bridd er mwyn sicrhau y gellir creu'r patio ar ddrychiad priodol (ar yr un lefel â'r llwybr). Bydd lawnt yn cael ei hail-osod ar weddill yr ardal (heb gynnwys y patio).
- Ardal B: Mae'r ardal hon yn cynnwys lawnt a bwriedir ei hymgorffori yn y llwybr presennol (Ardal C) sy'n ei hamgylchynu. Bydd angen gwneud i ffwrdd â digon o bridd er mwyn sicrhau y gellir creu'r llwybr ar ddrychiad priodol.
- Ardal D: Mae'r ardal hon yn cynnwys lawnt ac mae angen gwneud gwaith adfer a bydd y gwaith adfer yn cael ei wneud i ddyfnder o 300mm.

#### **REMEDIATION WORKS**

#### 92 Craig Y Don

This is a Council owned end terrace residential property. It is in the south east quarter of the estate and is close to the area of the former works building (which may be of interest to the archaeologists). The property includes garden areas to the front and rear. Access to the rear of the property is via a pathway to the side of the house which can be partly seen in a photo in Figure B7 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area A: This area comprises lawn and remediation is required, the depth of remediation will be 600mm. An area 16m² will be formed into a patio. The contractor should allow for the existence of a manhole cover in this area, works will be required to take place around this feature. The patio will not require remediation below it, only soil removal will be required sufficient to form the patio at an appropriate elevation (flush with the path). The remaining area (not patio) will be restored to lawn.
- Area B: This area comprises lawn and it is proposed to incorporate it into the existing pathway (Area C) which surrounds it. Soil removal will be required sufficient to form the pathway at an appropriate elevation.
- Area D: This area comprises lawn and remediation is required, the depth of remediation will be 300mm.

#### **GWAITH ADFER**

#### 94 Craig Y Don

Tŷ preswyl pâr mewn perchenogaeth breifat yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae'n ymddangos ei fod yn rhannol ar safle'r hen weithfeydd (a all fod o ddiddordeb i'r archeolegwyr). Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyn o bryd ar hyd llwybr sy'n rhedeg wrth ochr y tŷ ac sydd i'w weld yn rhannol mewn ffotograff yn Ffigwr B8 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal A: Mae'r ardal hon yn cynnwys lawnt a bydd angen gwneud gwaith i ddyfnder o 600mm, dylai fod modd codi'r tir yn yr ardal hon er mwyn gostwng dyfnder y gwaith cloddio y byddai'n rhaid ei wneud. Bydd angen gosod cyrbin ar ymyl y lawnt ar hyd y ffiniau.
- Ardal C: Mae'r ardal hon yn cynnwys lawnt a bydd angen gwneud gwaith i ddyfnder o 300mm, dylai fod modd codi'r tir yn yr ardal hon er mwyn gostwng dyfnder y gwaith cloddio y byddai'n rhaid ei wneud. Bydd angen gosod cyrbin ar ymyl y lawnt ar hyd y ffiniau.
- Ardal D: Mae'r ardal hon yn cynnwys ardal sydd wedi cael ei graeanu a bydd angen gwneud gwaith adfer i ddyfnder o 300mm.
- Ardal E: Bydd decin yn cael ei osod yn yr ardal hon a bydd yn cael ei osod ar ben y llain galed sydd eisoes yn bodoli. Dylai'r *Contractwr* gymryd i ystyriaeth gorchudd y twll archwilio sydd wedi'i leoli yn ardal y patio. Ni fydd angen gwneud i ffwrdd ag unrhyw bridd. Mae'r preswylydd wedi mynegi awydd i ostwng y step i lawr o'r drws cefn (oddeutu 9 modfedd); o'r herwydd bydd y decin ar ddrychiad a fydd angen step sylweddol is i lawr.
- Ardal F: Bydd gwely wedi'i godi yn cael ei greu yn yr ardal hon.
- Ardal H: Llain galed yw'r ardal hon yn bennaf ac mae'r preswylydd yn dymuno cael llecynnau caled ychwanegol ar gyfer codi tŷ gwydr neu sied yn y dyfodol a fydd yn rhedeg ochr yn ochr â'r tŷ gwydr cyfredol ar y ffin yn y cefn. Ni fydd angen gwneud unrhyw waith adfer o dan y llain galed o goncrit; bydd angen cael gwared â digon o bridd er mwyn sicrhau y gellir ei ffurfio ar ddrychiad priodol. Mae'r preswylydd wedi dweud bod siambr ar gyfer mesurydd dŵr wedi'i lleoli yn yr ardal hon ac y bydd angen gwneud trefniadau er mwyn sicrhau y gellir parhau i'w defnyddio drwy creu ymyl o gwmpas y siambr archwilio.

#### **REMEDIATION WORKS**

#### 94 Craig Y Don

This is a privately owned semi-detached residential property. It is in the south east quarter of the estate and appears to be partly on the area of the former works building (which may be of interest to the archaeologists). The property includes garden areas to the front and rear. Access to the rear of the property is via a pathway to the side of the house which can be partly seen in a photo in Figure B8 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area A: This area comprises lawn and the depth of remediation will be 600mm, land raise should be possible in this area to reduce the depth of excavation required. Lawn edging kerbs will be required along boundaries.
- Area C: This area comprises lawn and remediation is required, the depth of remediation will be 300mm, land raise may be possible in this area to reduce the depth of excavation required. Lawn edging kerbs will be required along boundaries.
- Area D: This area comprises a gravel area, the depth of remediation will be 300mm.
- Area E: Decking will be created in this area, it will overlie the existing ground cover (hardstanding). The *Contractor* should allow for the existence of a manhole cover within the location of the patio area. No soil removal will be required. The resident has expressed the desire to reduce the step down from the back door (approximately 9 inches), therefore the decking will be at an elevation that requires a significantly smaller step down.
- Areas F: A raised bed will be created in this area.
- Area H: This area is primarily hardstanding, the resident wishes to have additional hard standing areas for a future greenhouse or shed running parallel to the existing greenhouse to the rear boundary. The concrete hardstanding will not require remediation below it; soil removal will be required sufficient to form an appropriate elevation. The resident has advised that a water meter chamber is located in this area and arrangements will need to be made to ensure its continued use by creating an inspection chamber surround.

#### **GWAITH ADFER**

#### 95 Craig Y Don

Tŷ pâr mewn perchenogaeth breifat yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae'n ymddangos ei fod yn rhannol ar safle'r hen weithfeydd (a all fod o ddiddordeb i'r archeolegwyr). Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ni cheir mynediad i gefn yr eiddo ar hyn o bryd ond ar hyd llwybr sy'n rhedeg wrth ochr y tŷ ac sydd wedyn yn rhedeg rhwng adeilad bychan yn y cefn, gellir gweld hyn mewn ffotograff yn Ffigwr B9 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer. Mae'r hyn sy'n edrych fel deunydd toi sment rhychiog gydag asbestos wedi cael ei gladdu'n rhannol ger y sied yng nghefn y tŷ.

- Ardal B: Ardal o gerrig pafin yw hon a bwriedir gorchuddio'r ardal mewn llain galed goncrit i ffurfio patio a bydd angen gwneud i ffwrdd â digon o bridd er mwyn sicrhau y gellir ffurfio'r patio concrit ar y drychiad priodol gan gymryd i ystyriaeth y llwybr presennol sydd gerllaw. Ni fydd angen gwneud unrhyw waith adfer o dan y llain galed.
- Ardal C: Mae cerrig pafin wedi cael eu gosod ar yr ardal hon a bwriedir gorchuddio'r ardal mewn llain galed o goncrit i ffurfio patio (ynghyd â rhan o Ardal E), a bydd angen gwneud i ffwrdd â digon o bridd er mwyn sicrhau y gellir ffurfio'r patio concrit ar y drychiad priodol gan gymryd i ystyriaeth y llwybr presennol sydd gerllaw. Ni fydd angen gwneud unrhyw waith adfer o dan y llain galed.
- Ardal D: Mae cerrig pafin wedi cael eu gosod ar yr ardal hon a bwriedir gorchuddio'r ardal mewn llain galed o goncrit ar gyfer sylfaen y sied. Bydd angen gwneud i ffwrdd â digon o bridd er mwyn sicrhau y gellir ffurfio sylfaen ar gyfer y sied ar y drychiad priodol. Ni fydd angen gwneud unrhyw waith adfer o dan y llain galed.
- Ardal E: Lawnt yw'r ardal hon a bydd angen gwneud gwaith adfer i ddyfnder o 600mm (bydd rhan fechan yn cael ei defnyddio ar gyfer y patio lle bydd Ardal C yn cael ei hymestyn). Bydd angen codi'r tir drwy osod cerrig cyrbin ar hyd ymyl y lawnt er mwyn cynyddu'r uchder.

Bydd wal isel/gardd gerrig anffurfiol yn cael ei chodi ar y ffin yn y cefn a bydd yn goleddfu i lawr i'r ardd ar hyd y terfyn gyda Rhif 96. Bydd yn dilyn llinell y tir cyfredol (yn yr ardal hon) a bydd yn caniatáu i'r ardal sydd ar godiad gael ei lefelu a'i gorchuddio gyda deunydd gorchuddio glân wedi'i fewnforio. Gellir defnyddio unrhyw ddeunydd sydd dros ben ar ôl codi'r wal gerrig i ffurfio'r "clawdd" hwn os bydd angen. Mae deunydd toi sment rhychiog gydag asbestos wedi cael ei gladdu'n rhannol yn yr ardal hon. SYLWER bod asbestos wedi cael ei gladdu yn yr ardal sydd ar godiad yn Ardal E ac y bydd angen gwneud i ffwrdd ag ef.

Ardal F: Lawnt yw'r ardal hon a bwriedir creu dreif o goncrit hydraidd er y bydd rhan o'r ardal yn cael ei chadw fel lawnt yn dilyn y gwaith adfer.

Yn yr ardal ble bwriedir gosod dreif, byddai angen gwneud i ffwrdd â digon i bridd er mwyn sicrhau y gellid ffurfio'r dreif ar y drychiad priodol. Cafwyd caniatâd i osod y cyrbin isel ond bydd angen i'r contractwr gael y drwydded angenrheidiol gan yr awdurdod priffyrdd i wneud y gwaith yn y lôn. Bydd angen creu mynediad yn y wal garreg / gwrychyn yn ffrynt yr eiddo. Bydd ymylon y wal gerrig orffenedig yn cael eu gorffen yn daclus a'r llwybr tarmac yn cael ei drwsio i gyd-fynd â'r hyn sydd yno'n barod a hynny'n unol â gofynion yr Awdurdod Priffyrdd. Bydd cerrig o'r wal yn cael eu cadw fel y gellir eu defnyddio ar gyfer y cynllun ehangach. Yn ardal y lawnt, bydd gwaith adfer yn cael ei wneud i ddyfnder o 300mm gyda'r lawnt yn cael ei hail-osod wedyn.

Dywed y preswylydd bod hen lawr coblog un o'r hen adeiladau ar y safle wedi'i guddio efallai ar y safle hwn ac y gall hynny fod o ddiddordeb i'r archeolegwyr.

Ardaloedd G & H: Mae'r ardaloedd hyn yn cynnwys lawnt a bydd angen gwneud gwaith adfer i ddyfnder o 300mm.

#### **REMEDIATION WORKS**

#### 95 Craig Y Don

This is a privately owned semi-detached residential property. It is in the south east quarter of the estate and appears to be partly on the area of the former works building (which may be of interest to the archaeologists). The property includes garden areas to the front and rear. Access to the rear of the property is only possible via a narrow pathway to the side of the house which then runs between a small building to the rear, this can be seen in a photo in Figure B9 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below. What appears to be corrugated asbestos cement roofing material is partially buried in the garden near the rear shed.

- Area B: This area is paved and it is proposed to cover the area in concrete hardstanding to form a patio, soil removal will be required sufficient to form the concrete patio at the appropriate elevation taking account of the existing adjacent path. Remediation below the hardstanding will not be required.
- Area C: This area is paved and it is proposed to cover the area in concrete hardstanding to form a patio (along with a section of Area E), soil removal will be required sufficient to form the concrete patio at the appropriate elevation taking account of the existing adjacent path. Remediation below the hardstanding will not be required.
- Area D: This area is paved and it is proposed to cover the area in concrete hardstanding for the shed base. Soil removal will be required sufficient to form the concrete shed base at the appropriate elevation. Remediation below the hardstanding will not be required.
- Area E: This area is lawn, the depth of remediation will be 600mm (a small section will be given over to the patio where Area C is extended. Land raise using lawn edging kerbs will be required along boundaries of the lawn to create the increased height.

An informal low wall/rockery is to be constructed to the rear boundary sloping down into the garden along the boundary with No. 96. This will follow the line of the existing land formation (in this area and will allow the raised area to be levelled and covered with imported clean cover materials. Surplus stone walling material from the scheme may be used to assist in forming this "clawdd" (earth wall) if necessary. A partially buried corrugated asbestos cement roofing material is located in this area. N.B. the raised area at the rear of Area E has buried asbestos which will require removal.

Area F: This area is lawn and it is proposed to create a permeable concrete driveway, although some of the area will remain as lawn following remediation.

In the driveway area soil removal would be required sufficient to form the driveway at the appropriate elevation. Permission to install the drop kerb has been obtained but the contractor will be required to obtain the necessary licence from the highway authority to undertake the work in the road. An access will need to be created in the stone-wall / hedge at the front of the property. The edges of the finished stone-wall shall be cleanly finished and the tarmac pathway repaired to match existing as required by the Highway Authority. Stones from the wall shall be retained for use in the wider scheme. In the lawn area the depth of remediation will be 300mm followed by reinstatement to lawn.

The resident states that this area may hide a former cobbled floor of one of the old buildings on site which may be of interest to the archaeologists.

Areas G & H: These areas comprise lawn and the depth of remediation will be 300mm.

#### **GWAITH ADFER**

#### 103 Craig Y Don

Tŷ preswyl pâr sy'n eiddo i'r Cyngor yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae ychydig yn bellach oddi wrth adeilad yr hen waith na rhai o'r tai uchod ond ymddengys ei fod yn ymyl ardal ble yr oedd pwll mawr. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyn o bryd drwy giât ar y gornel yn ffrynt y tŷ ac sydd i'w gweld mewn ffotograff yn Ffigwr B10 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer. Bydd angen sgip yn yr eiddo hwn cyn cychwyn ar y gwaith fel y gellir cael gwared â deunydd garddio a theganau ac ati nad oes mwyach eu hangen.

- Ardal A: Lawnt yw'r ardal hon a bwriedir gorchuddio'r ardal gyda cherrig pafin concrit i ffurfio patio, disgwylir y bydd angen gwneud i ffwrdd â 0.1m (neu ddim) pridd ar yr amod bod y ddaear yn darparu sylfaen addas ar gyfer patio ac y gellir sicrhau pellter digonol o ran DPC yr eiddo. Ni fydd angen gwneud unrhyw waith adfer o dan y patio. Bydd angen symud sied sydd wedi'i lleoli yn yr ardal hon am gyfnod dros dro fel y gellir cwblhau'r gwaith hwn.
- Ardal C: Graean sydd yn yr ardal hon a bydd yn cael ei throi'n ôl yn lawnt. Bydd angen gwneud gwaith adfer i ddyfnder o 300mm, dylai fod modd codi'r tir yn yr ardal hon er mwyn gostwng dyfnder y gwaith cloddio y byddai'n rhaid ei wneud.
- Ardal D: Lawnt yw'r ardal hon a bydd oddeutu ei hanner yn cael ei throi'n ôl yn lawnt a'r rhan arall yn cael ei throi'n batio o gerrig pafin concrit hydraidd. Ni fydd angen gwneud unrhyw waith adfer o dan y patio. Bydd angen gwneud gwaith adfer i ddyfnder o 600mm, dylai fod modd codi'r tir yn yr ardal hon er mwyn gostwng dyfnder y gwaith cloddio y byddai'n rhaid ei wneud.
- Ardal E: Pridd noeth sydd yn yr ardal hon ar hyn o bryd a bydd patio o goncrit hydraidd yn cael ei godi yma ac ni fydd angen gwneud unrhyw waith adfer o dan y patio hwnnw.

#### **REMEDIATION WORKS**

#### 103 Craig Y Don

This is a Council owned semi-detached residential property. It is in the south east quarter of the estate and a little further from the former works building than some of the above properties, but does appear to be adjacent to an area formerly a large pond. The property includes garden areas to the front, side and rear. Access to the side and rear of the property is via a gate on the corner of the front of the house, this can be seen in the photo in Figure B10 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below. A skip will be needed at this property prior to commencing work in order that surplus garden materials and toys etc can be disposed of.

- Area A: This area is lawn and it is proposed to cover the area in concrete paving hardstanding to form a patio, 0.1m (or no) soil removal is expected to be required provided the existing ground is a suitable base to form the patio on and sufficient clearance with the DPC of the property can be achieved. No remediation is required below the formation of the patio. A shed currently positioned in this area will require moving temporarily to allow these works to be completed.
- Area C: This area is gravel and will be returned to lawn. The depth of remediation will be 300mm, land raise should be possible in this area to reduce the depth of excavation required.
- Area D: This area is lawn and approximately half will be returned to lawn, the other part will be formed into a permeable concrete paved patio, below which remediation is not required. The depth of remediation for the lawn will be 600mm, land raise is expected in this area to reduce the depth of excavation required.
- Area E: This area is currently bare earth, a permeable concrete patio will be formed here below which remediation is not required.

#### **GWAITH ADFER**

#### 105 Craig Y Don

Tŷ preswyl pâr sy'n eiddo i'r Cyngor yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae ychydig yn bellach oddi wrth adeilad yr hen weithfeydd na rhai o'r tai uchod ond ymddengys ei fod yn ymyl ardal ble yr oedd pwll mawr. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyd ochr y tŷ ac sydd i'w weld mewn ffotograff yn Ffigwr B11 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

Ardal C: Lawnt yw'r ardal hon a bwriedir creu dreif o goncrit hydraidd er y bydd rhan o'r ardal yn cael ei chadw fel lawnt yn dilyn y gwaith adfer

A - Yn yr ardal ble bwriedir gosod dreif, byddai angen gwneud i ffwrdd â digon i bridd er mwyn sicrhau y gellid ffurfio'r dreif ar y drychiad priodol. Cafwyd caniatâd i osod y cyrbin isel ond bydd angen i'r contractwr gael y drwydded angenrheidiol gan yr awdurdod priffyrdd i wneud y gwaith yn y lôn. Bydd angen creu mynediad yn y wal garreg / gwrychyn yn ffrynt yr eiddo. Bydd ymylon y wal gerrig orffenedig yn cael eu gorffen yn daclus a'r llwybr tarmac yn cael ei drwsio i gyd-fynd â'r hyn sydd yno'n barod a hynny'n unol â gofynion yr Awdurdod Priffyrdd. Bydd cerrig o'r wal yn cael eu cadw fel y gellir eu defnyddio ar gyfer y cynllun ehangach. Yn ardal y lawnt, bydd gwaith adfer yn cael ei wneud i ddyfnder o 300mm gyda'r lawnt yn cael ei hail-osod wedyn.

Ardal D: Lawnt yw'r ardal hwn a bydd angen gwneud gwaith adfer i ddyfnder o 600mm. Dylai fod modd codi'r tir yn yr ardal hon er mwyn gostwng dyfnder y gwaith cloddio y byddai angen ei wneud. Bydd angen gosod cerrig cyrbin ar hyd ymyl y lawnt er mwyn cynyddu'r uchder. Bydd wal isel / gardd gerrig anffurfiol tebyg i "glawdd" yn cael ei chodi ar hyd y wal derfyn yn y cefn ar hyd llinell yr ardal bresennol sydd ar godiad. Bydd hyn yn caniatáu i'r ardal gael ei lefelu a'i llenwi i mewn â deunydd gorchuddio glân. Gellir defnyddio deunydd sydd dros ben o'r wal garreg. Bydd rhywfaint o'r Ardal yn cael ei throi'n batio o goncrit hydraidd ac ni fydd angen gwneud gwaith adfer o dan y patio hwnnw. Bydd angen gwneud i ffwrdd â digon o bridd er mwyn sicrhau y gellir gosod y patio ar ddrychiad priodol ond ni fydd angen gwneud unrhyw waith adfer o dan y patio. Dylai'r contractwr fod yn ymwybodol o'r ffaith fod twll archwilio yn ardal y lawnt.

#### **REMEDIATION WORKS**

#### 105 Craig Y Don

This is a Council owned semi-detached residential property. It is in the south east quarter of the estate and a little further from the former works building than some of the above properties and close to an area formerly a large pond. The property includes garden areas to the front and rear. Access to the rear of the property is via the side of the house, this can be seen in the photo in Figure B11 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

Area C: This area is lawn and it is proposed to create a permeable concrete driveway, although some of the area will remain as lawn following remediation.

In the driveway area soil removal would be required sufficient to form the driveway at the appropriate elevation. Permission to install the drop kerb has been obtained but the contractor will be required to obtain the necessary licence from the highway authority to undertake the work in the road. An access will need to be created in the stone-wall / hedge at the front of the property. The edges of the finished stone-wall shall be cleanly finished and the tarmac pathway repaired to match existing as required by the Highway Authority. Stones from the wall shall be retained for use in the wider scheme. In the lawn area the depth of remediation will be 300mm followed by reinstatement to lawn.

Area D: This area is lawn and the depth of remediation will be 600mm. Land raise should be possible in this area to reduce the depth of excavation required. Lawn edging kerbs will be required along boundaries of the lawn to create the increased height. An informal low wall/rockery similar to a "clawdd" (earthwall) is to be constructed along the rear boundary wall along the line of the existing raised area. This will allow this area to be levelled and infilled with clean cover materials. Surplus stone walling material from the scheme may be used. Some of the Area will become a permeable concrete patio that will not require remediation below it. Soil removal will be required sufficient to form the patio at an appropriate elevation but no remediation is required below the patio. The contractor should be aware that there is a manhole within the lawn area.

#### **GWAITH ADFER**

#### 106 Craig Y Don

Tŷ preswyl pâr sy'n eiddo i'r Cyngor yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae ychydig yn bellach oddi wrth adeilad yr hen weithfeydd na rhai o'r tai uchod. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyd ochr y tŷ fel y gwelir mewn ffotograff yn Ffigwr B12 y Gwerthusiad o'r Opsiynau Adfer. Gellid, trwy drefniant gyda'r preswylwyr eraill, ei ddefnyddio i gael mynediad at rai o'r tai eraill ble mae mynediad yn fwy cyfyngedig yn enwedig o ystyried y ffaith y bydd gwaith adfer yn cael ei wneud ar nifer o'r tai yn yr ardal sydd union gyfagos. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

Ardal A: Lawnt yw'r ardal hon a byddai angen gwneud gwaith adfer i ddyfnder o 600mm. Dylai fod modd codi'r tir yn yr ardal hon er mwyn gostwng dyfnder y gwaith cloddio y byddai angen ei wneud. Bydd angen gosod cerrig cyrbin ar hyd ymyl y lawnt er mwyn cynyddu'r uchder. Bydd ardal 5m x 3m yn cael ei throi'n batio, ni fydd angen gwneud unrhyw waith adfer y dan y patio a chymerir yn ganiataol na fydd angen gwneud i ffwrdd ag unrhyw bridd i greu'r llain galed oherwydd bydd y patio yn uwch na lefel y lawnt.

Bydd wal isel / gardd gerrig anffurfiol tebyg i "glawdd" yn cael ei chodi ar hyd y wal derfyn yn y cefn ar hyd llinell yr ardal bresennol sydd ar godiad. Bydd hyn yn caniatáu i'r ardal gael ei lefelu a'i llenwi i mewn â deunydd gorchuddio glân. Gellir defnyddio deunydd sydd dros ben o'r wal garreg.

Ardal B: Lawnt yw'r ardal hon a bwriedir creu dreif o goncrit hydraidd er y bydd rhan o'r ardal yn cael ei chadw fel lawnt yn dilyn y gwaith adfer.

Yn yr ardal ble bwriedir gosod dreif, byddai angen gwneud i ffwrdd â digon i bridd er mwyn sicrhau y gellid ffurfio'r dreif ar y drychiad priodol. Cafwyd caniatâd i osod y cyrbin isel ond bydd angen i'r contractwr gael y drwydded angenrheidiol gan yr awdurdod priffyrdd i wneud y gwaith yn y lôn. Bydd angen creu mynediad yn y wal garreg yn ffrynt yr eiddo. Bydd ymylon y wal gerrig orffenedig yn cael eu gorffen yn daclus a'r llwybr tarmac yn cael ei drwsio i gyd-fynd â'r hyn sydd yno'n barod a hynny'n unol â gofynion yr Awdurdod Priffyrdd. Bydd cerrig o'r wal yn cael eu cadw fel y gellir eu defnyddio ar gyfer y cynllun ehangach. Yn ardal y lawnt, bydd gwaith adfer yn cael ei wneud i ddyfnder o 300mm gyda'r lawnt yn cael ei hail-osod wedyn.

Ardal C: Lawnt yw'r ardal hon a bydd angen gwneud gwaith adfer i ddyfnder o 300mm. Bwriedir gorchuddio rhan o'r ardal mewn llain galed o goncrit er mwyn ymestyn y llwybr presennol, Bydd angen gwneud i ffwrdd â rhywfaint o bridd i wneud hynny - digon i ffurfio'r llain galed goncrit ar y drychiad priodol ond ni fydd angen gwneud unrhyw waith adfer o dan y llain galed.

Ardal D: Lawnt yw'r ardal hon a bydd angen gwneud gwaith adfer i ddyfnder o 600mm.

Ardal F: Llwybr drwy'r lawnt yw'r ardal hon a bydd angen gwneud gwaith adfer i ddyfnder o 600mm a bydd yr ardal yn cael ei throi'n lawnt. Yr un modd ag Ardal A, rhagwelir y gellir codi'r tir er mwyn gostwng dyfnder y gwaith cloddio y bydd angen ei wneud.

Ardal G: Bydd yr ardal hon yn cael ei throi'n llain galed goncrit er mwyn darparu sylfaen ar gyfer sied.

#### **REMEDIATION WORKS**

#### 106 Craig Y Don

This is a Council owned semi-detached residential property. It is in the south east quarter of the estate and a little further from the former works building than some of the above properties. The property includes garden areas to the front and rear. Access to the rear of the property is via the side of the house, this can be seen in the photo in Figure B12 of the Remediation Options Appraisal. This could, by arrangement with the residents, be used to access some of the other properties where access is more restricted particularly as there are many properties in this immediate area requiring remediation work. The areas at this property requiring remediation are described below.

Area A: This area is lawn, the depth of remediation will be 600mm. Land raise should be possible in this area to reduce the depth of excavation required. Lawn edging kerbs will be required along boundaries of the lawn to create the increased height. An area 5m x 3m will be formed into a patio, no remediation will be required below the patio and it is assumed that no soil removal will be required to form the hardstanding, the patio will be raised above the level of the lawn.

An informal low wall/rockery similar to a "clawdd" (earthwall) is to be constructed along the rear boundary wall along the line of the existing raised area. This will allow this area to be levelled and infilled with clean cover materials. Surplus stone walling material from the scheme may be used.

Area B: This area is lawn and it is proposed to create a permeable concrete driveway, although some of the area will remain as lawn following remediation.

In the driveway area soil removal would be required sufficient to form the driveway at the appropriate elevation. Permission to install the drop kerb has been obtained but the contractor will be required to obtain the necessary licence from the highway authority to undertake the work in the road. An access will need to be created in the stone-wall at the front of the property. The edges of the finished stone-wall shall be cleanly finished and the tarmac pathway repaired to match existing as required by the Highway Authority. Stones from the wall shall be retained for use in the wider scheme. In the lawn area the depth of remediation will be 300mm followed by reinstatement to lawn.

Area C: This area is lawn, the depth of remediation will be 300mm. It is proposed to cover part of the area in concrete hardstanding to extend the existing path some soil removal will be required for that, sufficient to form the concrete hardstanding at the appropriate elevation but no remediation will be required below the hardstanding.

Area D: This area is lawn, the depth of remediation will be 600mm.

Area F: This area is a path through the lawn, the depth of remediation will be 600mm and the area will become lawn. As for Area A it is anticipated that land raise can be utilised to reduce the required excavation depths.

Area G: This area will be formed into concrete hardstanding as a base for a shed.

#### **GWAITH ADFER**

#### 108 Craig Y Don

Tŷ preswyl pâr mewn perchenogaeth breifat yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae ychydig yn bellach oddi wrth adeilad yr hen weithfeydd na rhai o'r tai uchod. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyd ochr y tŷ fel y gwelir mewn ffotograff yn Ffigwr B14 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardaloedd C & D: Lawnt yw'r ardaloedd hyn, bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal E: Llain galed yw'r ardal hon ar hyn o bryd, bydd angen gwneud gwaith adfer yn yr ardal a'i throi'n ôl yn lawnt a bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal G: Mae cerrig pafin ar Ardal G ar hyn o bryd, bydd llain galed newydd o gerrig pafin concrit yn cael ei gosod i ffurfio patio ac i ymgorffori Ardal H ond ni fydd angen gwneud gwaith adfer dan y patio. Bydd angen gwneud i ffwrdd â phridd a dylid sicrhau ei fod yn ddigon pell o DPC yr eiddo.
- Ardal H: Gwely wedi'i godi yw'r ardal hon, mae'r preswylydd wedi gofyn am gael gwneud i ffwrdd ag ef ac ymgorffori'r ardal yn Ardal G (fel rhan o'r patio).
- Ardaloedd I & J: Graean sydd ar yr ardaloedd hyn ar hyn o bryd a bydd y graean yn cael ei ail-osod ar ôl gwneud gwaith adfer i ddyfnder o 0.3m.

#### **REMEDIATION WORKS**

#### 108 Craig Y Don

This is a privately owned semi-detached residential property. It is in the south east quarter of the estate and a little further from the former works building than some of the above properties. The property includes garden areas to the front and rear. Access to the rear of the property is via the side of the house, this can be seen in the photo in Figure B14 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Areas C & D: These areas are lawn, the depth of remediation will be 600mm.
- Area E: This area is currently hardstanding, the area will require remediation and reinstatement to lawn, the depth of remediation will be 600mm.
- Area G: Area G is currently paved, concrete paving hardstanding is to be newly laid to form a patio and incorporate Area H, but will not require remediation below it. Soil removal will be required and sufficient clearance with the DPC of the property should be achieved.
- Area H: This area is a raised bed, the resident has requested that this feature is removed and the area becomes incorporated into Area G (part of a patio).
- Areas I & J: These areas are currently gravelled and will be returned to gravel following remediation to a depth of 0.3m.

#### **GWAITH ADFER**

#### 108 Craig Y Don

Tŷ preswyl pâr mewn perchenogaeth breifat yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae ychydig yn bellach oddi wrth adeilad yr hen weithfeydd na rhai o'r tai uchod. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyd ochr y tŷ fel y gwelir mewn ffotograff yn Ffigwr B14 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardaloedd C & D: Lawnt yw'r ardaloedd hyn, bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal E: Llain galed yw'r ardal hon ar hyn o bryd, bydd angen gwneud gwaith adfer yn yr ardal a'i throi'n ôl yn lawnt a bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal G: Mae cerrig pafin ar Ardal G ar hyn o bryd, bydd llain galed newydd o gerrig pafin concrit yn cael ei gosod i ffurfio patio ac i ymgorffori Ardal H ond ni fydd angen gwneud gwaith adfer dan y patio. Bydd angen gwneud i ffwrdd â phridd a dylid sicrhau ei fod yn ddigon pell o DPC yr eiddo.
- Ardal H: Gwely wedi'i godi yw'r ardal hon, mae'r preswylydd wedi gofyn am gael gwneud i ffwrdd ag ef ac ymgorffori'r ardal yn Ardal G (fel rhan o'r patio).
- Ardaloedd I & J: Graean sydd ar yr ardaloedd hyn ar hyn o bryd a bydd y graean yn cael ei ail-osod ar ôl gwneud gwaith adfer i ddyfnder o 0.3m.

#### **REMEDIATION WORKS**

#### 108 Craig Y Don

This is a privately owned semi-detached residential property. It is in the south east quarter of the estate and a little further from the former works building than some of the above properties. The property includes garden areas to the front and rear. Access to the rear of the property is via the side of the house, this can be seen in the photo in Figure B14 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Areas C & D: These areas are lawn, the depth of remediation will be 600mm.
- Area E: This area is currently hardstanding, the area will require remediation and reinstatement to lawn, the depth of remediation will be 600mm.
- Area G: Area G is currently paved, concrete paving hardstanding is to be newly laid to form a patio and incorporate Area H, but will not require remediation below it. Soil removal will be required and sufficient clearance with the DPC of the property should be achieved.
- Area H: This area is a raised bed, the resident has requested that this feature is removed and the area becomes incorporated into Area G (part of a patio).
- Areas I & J: These areas are currently gravelled and will be returned to gravel following remediation to a depth of 0.3m.

#### **GWAITH ADFER**

#### 109 Craig Y Don

Tŷ preswyl pâr preifat ar ben rhes yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae ychydig yn bellach oddi wrth adeilad yr hen weithfeydd na rhai o'r tai uchod. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyd ochr y tŷ fel y gwelir mewn ffotograff yn Ffigwr B15 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal A: Pridd agored sydd yn yr ardal hon, mae'r preswylydd wrthi'n addasu'r eiddo ac fel rhan o'r gwaith hwn, roedd yn bwriadu gosod cerrig pafin bloc ar yr ardal hon. Bydd angen gwneud gwaith adfer i ddyfnder o 300mm yn yr ardal hon (gan gynnwys dyfnder y cerrig pafin bloc). Nid yw'r gwaith cerrig pafin bloc yn rhan o'r gwaith adfer a bydd y preswylydd yn prynu ac yn gosod y cerrig pafin bloc unwaith y bydd y gwaith adfer wedi cael ei wneud. Mae'r preswylydd wedi gofyn am i'r lefelau terfynol gael eu cytuno â nhw o ran gosod cerrig mân a gwneir hynny cyn i'r gwaith adfer gychwyn yn yr eiddo.
- Ardal D: Lawnt yw'r ardal hon a bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal E: Graean sydd ar yr ardal hon a bydd angen gwneud gwaith adfer i ddyfnder o 300mm. Fel rhan o'r gwaith adnewyddu y cyfeirir ato dan Ardal A uchod, roedd y preswylydd yn bwriadu gosod cerrig pafin bloc yn yr ardal hon hefyd. Eto, bydd y sylfaen ar gyfer y pafin yn cael ei gosod fel rhan o'r gwaith adfer ond ni fydd y cerrig pafin bloc eu hunain yn cael eu cyflenwi na'u gosod.
- Ardal F: Pridd noeth sydd yn yr ardal hon ac mae eisoes wedi cael ei chloddio i ddyfnder o 0.2m. Nid oes angen gwneud unrhyw waith cloddio pellach. Fel rhan o'r gwaith adnewyddu y cyfeirir ato dan Ardal A uchod, roedd y preswylydd yn bwriadu gosod cerrig pafin bloc yn yr ardal hon hefyd. Eto, bydd y sylfaen ar gyfer y pafin yn cael ei gosod fel rhan o'r gwaith adfer ond nid fydd y cerrig pafin bloc eu hunain yn cael eu cyflenwi na'u gosod.

#### **REMEDIATION WORKS**

#### 109 Craig Y Don

This is a privately owned end terrace residential property. It is in the south east quarter of the estate and a little further from the former works building than some of the above properties. The property includes garden areas to the front and rear. Access to the rear of the property is via the side of the house, this can be seen in the photo in Figure B15 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area A: This area is exposed soil, the resident is renovating the property and as part of these works intended to lay block paving in this area. The depth of remediation will be 300mm for this area (inclusive of the depth of block paving). The block paving works are not part of the remediation works, the purchase and laying of the block paving will be undertaken by the resident once the remediation works are completed. The resident has requested that the final levels are agreed with them in regard to the placement of the hardcore, this will be done before remediation works commence at the property.
- Area D: This area is lawn, the depth of remediation will be 600mm.
- Area E: This area is gravel, the depth of remediation will be 300mm. As part of the renovation works referred to under Area A above the resident also intended to lay block paving in this area too. Again the base for the paving will be laid as part of the remediation works but the block paving itself will not be supplied or laid.
- Area F: This area is exposed soil and has already been excavated to a depth of 0.2m. No further excavation is necessary. As part of the renovation works referred to under Area A above this is another area that the resident intended to lay block paving in. Again the base for the block paving will be laid as part of the remediation works but the block paving itself will not be supplied or laid.

#### **GWAITH ADFER**

#### 110 Craig Y Don

Tŷ preswyl pâr preifat yng nghanol teras yw hwn. Fe'i lleolir yn ne ddwyrain y safle ac mae ychydig yn bellach oddi wrth adeilad yr hen weithfeydd na rhai o'r tai uchod. Mae'r eiddo'n cynnwys gerddi i'r tu blaen a'r cefn. Ceir mynediad i gefn yr eiddo ar hyd llwybr wedi ei orchuddio ar hyd ochr y tŷ ac sydd i'w weld mewn ffotograff yn Ffigwr B16 y Gwerthusiad o'r Opsiynau Adfer. Ceir disgrifiad isod o'r ardaloedd hynny yn yr eiddo hwn sydd angen eu hadfer.

- Ardal A: Lawnt yw'r ardal hon a bydd angen gwneud gwaith adfer i ddyfnder o 300mm. Daw Ardal A yn fordor o ddarnau mân o risgl.
- Ardal C: Lawnt yw'r ardal hon a bwriedir creu dreif o goncrit hydraidd er y bydd rhan o'r ardal yn cael ei chadw fel lawnt yn dilyn y gwaith adfer.

Yn yr ardal ble bwriedir gosod dreif, byddai angen gwneud i ffwrdd â digon i bridd er mwyn sicrhau y gellid ffurfio'r dreif ar y drychiad priodol. Cafwyd caniatâd i osod y cyrbin isel ond bydd angen i'r contractwr gael y drwydded angenrheidiol gan yr awdurdod priffyrdd i wneud y gwaith yn y lôn. Bydd angen creu mynediad yn y wal garreg yn ffrynt yr eiddo. Bydd ymylon y wal gerrig orffenedig yn cael eu gorffen yn daclus gyda phileri brics tebyg i'r eiddo cyfagos a bydd y llwybr tarmac yn cael ei drwsio i gyd-fynd â'r hyn sydd yno'n barod a hynny'n unol â gofynion yr Awdurdod Priffyrdd. Bydd cerrig o'r wal yn cael eu cadw fel y gellir eu defnyddio ar gyfer y cynllun ehangach. Bydd gweddill y cynllun yn cael ei adfer i ddyfnder o 300mm ac yn cael ei droi'n ôl yn fordor o 'mulch' o ddarnau mân o risgl.

- Ardal D Lawnt yw'r ardal hon, bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal E: Lawnt yw'r ardal hon, bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal F: Lawnt yw'r ardal hon, bydd angen gwneud gwaith adfer i ddyfnder o 300mm a bydd yn cael ei orffen gyda bordor plannu.
- Ardal G: Bydd yr ardal hon yn cael ei throi'n llecyn caled concrit ar gyfer sylfaen sied ac ni fydd angen gwneud unrhyw waith adfer oddi tano.
- Ardaloedd H, L, K a J: Bydd yr ardaloedd hyn yn cael eu defnyddio fel lleiniau llysiau. Bydd angen gwneud gwaith adfer i ddyfnder o 600mm.
- Ardal I: Bydd yr ardal hon yn cael ei throi'n batio concrit ac ni fydd angen gwneud unrhyw waith adfer o dan y patio.
- Ardaloedd N, O a P: Bydd yr ardaloedd hyn yn cael eu hadfer i ddyfnder o 600mm a bydd slabiau'n cael eu gosod ar gyfer llwybr anffurfiol rhwng y lleiniau llysiau.
- Ardal M: Lawnt yw'r ardal hon a bydd lawnt artiffisial yn cael ei gosod arni a bydd angen gwneud gwaith adfer i ddyfnder o 600mm.

#### **REMEDIATION WORKS**

#### 110 Craig Y Don

This is a privately owned mid terrace residential property. It is in the south east quarter of the estate and a little further from the former works building than some of the above properties. The property includes garden areas to the front and rear. Access to the rear of the property is via a covered pathway to the side of the house, this can't be seen in the photo in Figure B16 of the Remediation Options Appraisal. The areas at this property requiring remediation are described below.

- Area A: This area is lawn, the depth of remediation will be 300mm. Area A will become a border finished with bark chippings.
- Area C: This area is lawn, it is proposed to create a permeable concrete driveway, although some of the area will remain as lawn following remediation.

In the driveway area soil removal would be required sufficient to form the driveway at the appropriate elevation. Permission to install the drop kerb has been obtained but the contractor will be required to obtain the necessary licence from the highway authority to undertake the work in the road. An access will need to be created in the stone-wall at the front of the property. The edges of the finished stone-wall shall be cleanly finished built as brick pillars similar to the neighbouring property and the tarmac pathway repaired to match existing as required by the Highway Authority. Stones from the wall shall be retained for use in the wider scheme. The remainder of the area will be remediated to a depth of remediation of 300mm and reinstated to a border with wood chip mulch.

- Area D This area is lawn, the depth of remediation will be 600mm.
- Area E: This area is lawn, the depth of remediation will be 600mm.
- Area F: This area is lawn, the depth of remediation will be 300mm and the finish will be a planting border.
- Area G: This area will be formed into concrete hardstanding for a shed base, no remediation will be required below it.
- Areas H, L, K and J:These areas will be used as vegetable patches. The depth of remediation will be 600mm.
- Area I: This area will be formed as a concrete patio, no remediation will be required below it.
- Areas N, O and P: These areas will be remediated to 600mm and slabs are to be laid to for an informal path between the vegetable patches.
- Area M: This area is lawn and will become artificial lawn, remediation to a depth of 600mm is required.

# Archaeology Wales APPENDIX III.

APPENDIX III: Archive Cover Sheet ar Si John Mildhi. Archaeology

#### ARCHIVE COVER SHEET

### Craig Y Don Estate, Amlwch, Isle of Anglesey

Craig Y Don Estate, Amlwch

Site Name:

| Site Code:                      | CYD/19/WB                         |
|---------------------------------|-----------------------------------|
| PRN:                            | -                                 |
| NPRN:                           | -                                 |
| SAM:                            | -                                 |
| LB:                             | -                                 |
| NGR:                            | SH 44751 93225                    |
| Site Type:                      | Brownfield                        |
| Project Type:                   | Desk Top Study and Watching brief |
| Project Manager:                | Irene Garcia Rovira               |
| Project Dates:                  | January - July 2019               |
| Categories Present:             | 0,                                |
| Location of Original Archive:   | AW                                |
| Location of Duplicate Archives: | RCAHMW                            |
| Number of Finds Boxes:          | -                                 |
| Location of Finds:              | N/A                               |
| Museum Reference:               | N/A                               |
| Copyright:                      | AW                                |
| Restrictions to Access:         | None                              |
|                                 |                                   |

## Archaeology Wales

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