

SUSTAINABLE DISTILLERY RESEARCH CENTRE, UNITED DOWNS, GWENNAP, CORNWALL

(Centred on NGR SW 74404 41360)

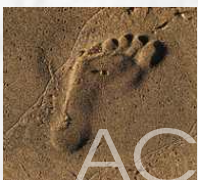
Historic Environment Impact Assessment

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on behalf of:
Cornish Geothermal Distillery Company Ltd

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archaeology

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The views and recommendations expressed in this report are those of AC archaeology and are presented in good faith on the basis of professional judgement and on information currently available.

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Summary

An historic environment impact assessment has been prepared by AC archaeology in February 2021 to provide accompanying information for an outline planning application for a sustainable distillery research centre at the former United Downs Landfill Site, Gwennap, Cornwall (NGR SW 74404 41360). The scheme will include a new research centre building, access road (linking into the existing access into the landfill site) and a car park.

The area was historically unenclosed common land until the mid-19th century when it was developed for copper and later arsenic mining. There is currently no evidence for any early (prehistoric or Romano-British) activity in the area.

*The application area is located on the northwest edge of the United Downs mine, with a small number of mining features recorded at its eastern end. Only a single (capped) shaft is likely to survive as a buried feature (**Site 4**). Any remains are considered to be of **low** significance. Any impact on this shaft is currently **unknown**, but since it has been capped, and is located in an area of several phases of recent landscaping, any further change is unlikely to harm the asset, resulting in **no change** to its significance.*

*There is no physical evidence for the documented use of the area as a US Army camp during the Second World War (**Site 6**).*

*No attribute contributing to the OUV of the Gwennap Mining District of the Cornwall and West Devon Mining Landscape World Heritage Site will be harmed by the proposals and there will be **no change** to the overall OUV of the World Heritage Site.*

*The Grade II Listed Eldons Engine House is located in close proximity to the application area. It will not be affected by the scheme, and there will be **no change** to its significance.*

1. INTRODUCTION (Fig. 1)

- 1.1 This historic environment impact assessment has been prepared by AC archaeology in February 2021 to provide accompanying information for an outline planning application for a proposed sustainable distillery research centre at United Downs, Gwennap, Cornwall (NGR SW 74404 41360; Fig. 1). The document was commissioned by Cornish Geothermal Distillery Company Ltd through their agents Ward Williams Associates.
- 1.2 The proposed development site is located with part of the area known as United Downs, a hilltop location within the northeastern part of Gwennap parish. The site covers an area of 0.94 hectares and lies at a height of 103m above Ordnance Datum on a gentle west-facing slope; this rises slightly higher to the east of the main part of the application area. The underlying solid geology comprises Devonian slate and siltstone of the Mylor Slate Formation. Within this bedrock are northeast-southwest aligned Permian dykes of felsite; these contain copper and tin ore, which was extracted using underground mining techniques at United Downs during the 18th and 19th centuries (Pye and Rance 1995, 3). There are no overlying superficial deposits (British Geological Survey 2021).
- 1.3 The main part of the application area is located partially on a strip of waste ground to the south of the United Downs Industrial Estate and partially on the northern boundary of the former United Downs Landfill Site. The access is from the main road through United Downs to the east utilising the existing entrance into the current United Downs Recycling Centre. The remainder of the access will be new.

The scheme

- 1.4 The scheme has the following application description:

Sustainable Distillery Research Centre including demonstrator geothermal energy centre; demonstrator spirit distillery; demonstrator spirit cask maturation pods; areas for research and development; laboratory; spirit cask processing, filling and repair (cooperage); warehousing; and ancillary storage, office space, presentation room, kitchen, rest area and WC; with associated service road, vehicle turning head and parking area, drainage and utilities.

- 1.5 The proposals are outline only, with all matters reserved, except access, and will be assessed below in this context.

2. LEGISLATION AND POLICY

- 2.1 Legislation, government policy and local plan policies relating to the protection, maintenance and enhancement of heritage assets relevant to this development may be summarised as follows:

- 2.2 Listed Buildings and Conservation Areas are protected under the *Planning (Listed Buildings and Conservation Areas) Act 1990*. Section 66 of the Act requires that 'In considering whether to grant planning permission (or permission in principle) for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses'.

The National Planning Policy Framework

- 2.3 General policy and guidance for the conservation of the historic environment are now contained in Chapter 16 (Paragraphs 184-202 and associated footnotes) of the *National Planning Policy Framework* (NPPF; Ministry of Housing, Communities and Local Government 2019a). This document provides the definition of a heritage asset as 'a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing)' (*ibid*, 67). Designated heritage assets are defined as 'a World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation' (*ibid*).

Local authority plan

- 2.4 The *Cornwall Local Plan Strategic Policies 2010-2030* was formally adopted on the 22nd November 2016. The adopted plan includes the following policy related to the historic environment:

Policy 24: Historic Environment

Development proposals will be permitted where they would sustain the cultural distinctiveness and significance of Cornwall's historic rural, urban and coastal environment by protecting, conserving and where appropriate enhancing the significance of designated and non-designated assets and their settings.

Development proposals will be expected to:

- *sustain designated heritage assets;*
- *take opportunities to better reveal their significance;*
- *maintain the special character and appearance of Conservation Areas, especially those positive elements in any Conservation Area Appraisal;*

- *conserve and, where appropriate, enhance the design, character, appearance and historic significance of historic parks and gardens;*
- *conserve and, where appropriate, enhance other historic landscapes and townscapes, including registered battlefields, including the industrial mining heritage;*
- *protect the historic maritime environment, including the significant ports, harbours and quays.*

Development within the Cornwall and West Devon Mining Landscape World Heritage Site (WHS) and its setting should accord with the WHS Management Plan. Proposals that would result in harm to the authenticity and integrity of the Outstanding Universal Value, should be wholly exceptional. If the impact of the proposal is neutral, either on the significance or setting, then opportunities to enhance or better reveal their significance should be taken.

All development proposals should be informed by proportionate historic environment assessments and evaluations (such as heritage impact assessments, desk-based appraisals, field evaluation and historic building reports) identifying the significance of all heritage assets that would be affected by the proposals and the nature and degree of any effects and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated.

Great weight will be given to the conservation of the Cornwall's heritage assets. Where development is proposed that would lead to substantial harm to assets of the highest significance, including undesignated archaeology of national importance, this will only be justified in wholly exceptional circumstances, and substantial harm to all other nationally designated assets will only be justified in exceptional circumstances.

Any harm to the significance of a designated or non-designated heritage asset must be justified. Proposals causing harm will be weighed against the substantial public, not private, benefits of the proposal and whether it has been demonstrated that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long term use of the asset.

In those exceptional circumstances where harm to any heritage assets can be fully justified, and development would result in the partial or total loss of the asset and/or its setting, the applicant will be required to secure a programme of recording and analysis of that asset, and archaeological excavation where relevant, and ensure the publication of that record to an appropriate standard in a public archive.

Proposals that will help to secure a sustainable future for the Cornwall's heritage assets, especially those identified as being at greatest risk of loss or decay, will be supported.

3. AIMS AND METHODOLOGY

3.1 The study has consisted of a rapid desk-based assessment, guided by the principles of the Chartered Institute for Archaeologists' *Standard and Guidance for Historic Environment Desk-Based Assessment* (updated October 2020) and the *NPPF*.

3.2 The scope of the study has included designated heritage assets, non-designated heritage assets and other historic environment data.

3.3 The information derived from the study has been used:

- To identify any heritage assets recorded within the boundaries of the site;
- To assess the potential for the discovery of additional heritage assets within the boundaries of the site;
- To assess the significance of any heritage assets potentially affected by the development; and,
- To consider possible effects, whether adverse or positive, of the scheme on identified heritage assets and on the significance of these assets.

3.4 The following data sources have been examined:

- Archaeological records, historic building information and other relevant cultural heritage data held by the Cornwall and Scilly Historic Environment Record (HER);
- Historical cartographic, photographic and documentary information held online;
- Historic England National Heritage List for England (NHLE) website;
- British Geological Survey online database;
- Cornwall Council Interactive Map; and,
- Other relevant published or unpublished information.

3.5 The assessment was prepared during February 2021 at a time when restrictions, issued by the UK Government, were in place during the outbreak of Covid-19. Local and national repositories (such as Kresen Kernow) were temporarily closed. Therefore, a rapid desk-based appraisal was undertaken. This comprised an assessment of relevant historic maps, published and unpublished sources, and other data held online, including material provided by the Cornwall HER such as an archaeological assessment of United Downs prepared in 1995.

3.6 The results of the searches are discussed in Section 4, and relevant historic environment data is shown on Fig. 1. Relevant extracts of historic maps are included as Figs 2-4.

Assessment of significance

3.7 Advice on the criteria to be used in assessing the significance of heritage assets is included in Historic England's *Managing Significance in Decision-Taking in the Historic Environment*, *Historic Environment Good Practice Advice in Planning: 2* (2015) and *Statements of Heritage Significance: Analysing Significance in Heritage Assets. Historic England Advice Note 12* (2019), as well as the earlier English Heritage guidance *Conservation Principles – Policies and guidance for the sustainable management of the historic environment* (English Heritage 2008). This guidance states that heritage assets are considered to have significance based on their evidential, historical, aesthetic or communal value. The *NPPF* also includes the criteria of archaeological, architectural and artistic value, and states that setting can also contribute to an asset's significance.

3.8 In addition to the above documents Historic England's *The Setting of Heritage Assets*, *Historic Environment Good Practice Advice in Planning: 3* (Historic England 2017) and the *NPPF Planning Practice Guidance* (Ministry of Housing, Communities & Local Government 2019b) have been used to assess the contribution of setting to significance.

3.9 Taken together these documents identify the need (a) to understand the importance of heritage values, (b) to understand the level of significance (of an asset), and (c) for an assessment of the impact on significance; the latter two being requirements of the *NPPF*. However, neither document provides a methodology for the ranking of relative significance of heritage assets. This historic environment impact assessment therefore expresses the ranking using a scale of significance derived from Volume 11, Section 3, Part 2 of the *Design Manual for Roads and Bridges* (The Highways Agency 2007) and from guidance provided by the International Council on Monuments and Sites (ICOMOS 2011). An understanding of the relative significance of heritage assets is important because of the issue of proportionality expressed in Paragraphs 189, 190, 193, 194 and 197 of the *NPPF*. The ranking is presented in Table 1 below.

SIGNIFICANCE (VALUE)	FACTORS FOR RANKING THE SIGNIFICANCE (VALUE) OF HERITAGE ASSETS
Very High	World Heritage Sites (including nominated sites) Assets of acknowledged international importance Assets that can contribute significantly to acknowledged international research objectives Assets with exceptional heritage values
High	Scheduled Monuments (including proposed sites) Grade I and II* Listed Buildings Grade I and II* Registered Parks and Gardens Undesignated heritage assets of schedulable or exceptional quality and importance Conservation Areas containing very important buildings Assets that can contribute significantly to acknowledged national research objectives Assets with high heritage values Hedgerows of national interest that have historical or archaeological importance as defined within Part II, Schedule I of the Hedgerows Regulations of 1997
Medium	Designated or undesignated assets that have exceptional qualities or contribute to regional research objectives Grade II Listed Buildings Conservation Areas containing important buildings Grade II Registered Parks and Gardens Assets with moderate heritage values Hedgerows of regional interest that have historical or archaeological importance as defined within Part II, Schedule I of the Hedgerows Regulations of 1997
Low	Designated and undesignated heritage assets of local importance Assets compromised by poor preservation and/or poor survival of contextual associations Assets of limited value, but with potential to contribute to local research objectives Assets with low heritage values Hedgerows of local interest that have historical or archaeological importance as defined within Part II, Schedule I of the Hedgerows Regulations of 1997
Negligible	Assets with very little or no surviving archaeological, architectural or historical interest Assets with minimal heritage values
Unknown	The importance of the asset has not been ascertained

Table 1: Ranking of significance

Assessment of effects on significance

- 3.10** In the absence of a standard terminology for the scale of effects on heritage assets the magnitude of change is expressed using a five-point scale of impacts, whether negative or beneficial, based on the *Design Manual for Roads and Bridges* and guidance from ICOMOS (Table 2).

DEGREE OF CHANGE	FACTORS AFFECTING CHANGE
Major	Change in evidential, architectural, historical, artistic, aesthetic or communal value, or setting, of the heritage asset such that the significance of the resource is totally altered
Moderate	Change in evidential, architectural, historical, artistic, aesthetic or communal value, or setting, of the heritage asset such that the significance of the resource is substantially modified
Minor	Change in evidential, architectural, historical, artistic, aesthetic or communal value, or setting, of the heritage asset such that the significance of the resource is slightly altered
Negligible	Change in evidential, architectural, historical, artistic, aesthetic or communal value, or setting, of the heritage asset such that the change in significance of the resource is barely perceptible
No Change	Change in evidential, architectural, historical, artistic, aesthetic or communal value, or setting, of the heritage asset such that the significance of the resource is not altered.

Table 2: Assessment of effects on significance

4. HISTORICAL DEVELOPMENT OF THE AREA (Figs 2-4)

Introduction

- 4.1** This section of the report is based on a map progression exercise undertaken on a series of historic maps relating to the proposed development site. Research has been conducted using maps available online and presented by Pye and Rance (1995), and the documentary history of the area set out by Pye and Rance (1995) and by Reynolds (1998), and is tied back into the Cornwall HER data where relevant. Extracts of relevant maps are included here as Figs 2-4.

Early history of the area

- 4.2** Detailed maps of the mid-19th century (such as an 1867 plan and the Ordnance Survey First Edition 25-inch map of 1880) record the open nature of United Downs, a largely unenclosed hilltop, but with small fields and settlements situated on the edges of the high ground extending up from the more densely enclosed valley bottoms and sides (particularly to the east and south). Other than the potential medieval origins of mining in the area, there is no physical or documented evidence of occupation or land exploitation at United Downs until the later post-medieval period.
- 4.3** Some evidence for early post-medieval metal mining and processing is known from the parish (Pye and Rance 1995, 3; Cornwall HER entry MCO39052), but underground mining at United Downs is not recorded until the middle of the 18th century when technological improvements included the construction of the Great or County Adit and later in the century pumping of underground working using initially Newcomen engines and later Boulton and Watt steam engines. At this period Gwennap's mines were producing a third of the world's output of copper (Reynolds 1998, 9). This early mining technology has led to part of United Downs being included within the Gwennap Mining District of the Cornwall and West Devon Mining Landscape World Heritage Site (**Site 1**). The key characteristic of the area relates to its importance as one of the richest mining districts in Cornwall during the late 18th and early 19th centuries, and it was referred to by contemporary writers as the 'richest square mile to be found anywhere on the earth'.
- 4.4** Early mines in the area comprise Ales and Cakes and East Ales and Cakes, which by 1780 had become United Mines (**Site 2**), who joined with the neighbouring Consolidated mines to the north in 1824 (Pye and Rance 1995, 4). A mine map of 1819 (*ibid.*, fig. 4) records East Ales and Cakes to the southeast and United Mines to the south of the application area, with Wheal Virgin and Wheal Lovelace to the northeast. The application area is on the unenclosed ground of Coisgorne Common, which is crossed by a number of roads or tracks some of which remain in the current landscape as highways of varying classes.

Early 19th-century mining and the Gwennap tithe map (1839) and apportionment (1838) (Fig. 2)

- 4.5** New works in the early-19th century include Taylor's shaft with an 85" cylinder pumping engine (erected in 1826) and a whim engine (size unknown, dated to before 1836). Interpretations of the location of this pair of shafts varies, with some authorities placing them in the valley on the north side of United Downs, and Pye and Rance (1995, 4) and Buck (2004, 11, fig. 4.4) locating them on the southeast slopes of United Downs. Shafts in this vicinity, but not named or exactly matching their positions on later maps, are recorded on a plan of 1845 (Pye and Rance 1995, fig. 5), and on the 1839 Gwennap tithe map (Fig. 2).
- 4.6** Symond's 1829 plan (Sharpe 2010, fig. 4), the 1845 map and the Gwennap tithe map of 1839 (Fig. 2) record Cosgarne Common as open ground. All three record enclosures on the common with associated buildings and mines, either complexes, such as Ales and Cakes (west of the current highway, and to the southeast of the application area) or as discrete shafts (such as to the south of the application area following the broadly east-west aligned mineral lodes). Cosgarne Common was recorded in the accompanying apportionment of 1838 as two plots, 1848 and 1439, and described as commons, wastes and roads. No ownership details were given.

Later 19th-century mining and the First Edition Ordnance Survey 25-inch map of 1880 (Fig. 3)

- 4.7** In the 1860s the United and Consolidated mines merged to become Clifford Amalgamated (Pye and Rance 1995, 5). The mine workings at this period are shown on a series of drawings prepared in 1867 (partly reproduced by Pye and Rance 1995, figs 6 and 7), and on the First

Edition Ordnance Survey 25-inch map of 1880. The maps record an increase in mining on the top of Cosgarne Common including depicting large areas of mine waste extending over previously undeveloped land. Eldons Shaft and Engine House (**Site 3**) is present to the west of the road, and the Ordnance Survey 25-inch map records another shaft situated within a raised heap of spoil to the southeast (**Site 4**). To the west of the shaft the 1867 plan records a tramway extending south to the Ales & Cakes Mine. The 1880 Ordnance Survey map records the line of the former tramway as a path. The 1867 plan also records other buildings and features (such as ponds) to the west of this tramway, but most of these had been removed when the 1880 Ordnance Survey map was surveyed.

The Second Edition 25-inch Ordnance Survey map of 1908 (Fig. 4)

- 4.8** The copper industry went into decline in the second half of the 19th century, with arsenic production collapsing in the early 20th century. These changes to the industry are recorded on the Second Edition 25-inch Ordnance Survey map of 1908. All the shafts west of the road across Cosgarne Common are recorded as 'old', and very few associated buildings remain. However, a new engine house (United Downs, Engine House; referred to as Clifford Stamps by Reynolds (1998, 13) had been constructed to the northeast of the application area on the other side of the road across the common, which powered stamps housed in a separate building to the south (**Site 5**). To the southeast of the stamps building was an arsenic works with three buildings that were probably calciners. A flue to the rear (east) extended to a waterfall chamber and a chimney stack (Pye and Rance 1995, 5).

Later history of the area

- 4.9** The later history of the area is largely undocumented. Clifford Amalgamated is thought to have closed in the 1870s, presumably with the stamps engine house and associated buildings being the last throw of the dice. During the Second World War (in 1944) the area was used as a temporary camp for US Army engineers in preparation for the D Day landings (**Sites 6 and 7**). The extent of the camp has been recorded as part of Cornwall's Aerial Interpretation and Mapping project. The 1970 Ordnance Survey 1:2,500 plan of the area (not illustrated) records the place name United Downs for the first time. Land west of the road formerly occupied by mines was developed as a landfill, and with a recycling centre in the 20th century, with the unenclosed common to the north developed as an industrial estate. Based on aerial photographic evidence, Sharpe (2010) states that the landfill site started in the mid-20th century, although neither the landfill nor the industrial estate are shown on the 1970 Ordnance Survey 1:2,500 plan that still shows all the disused shafts in detail. It is possible that the earthworks recorded on the 1946 aerial photograph relate to the clearance of the Second World War US Army camp.

Historic Landscape Characterisation

- 4.10** The Cornwall Historic Landscape Characterisation (HLC) project has classified the land within the site as 'Industrial: Working', a category which contains only extensive areas of industrialised land, mainly relating to extractive industries but notes only a few will still be active (<https://map.cornwall.gov.uk>).

Previous archaeological fieldwork

- 4.11** No intrusive archaeological investigations are recorded in the application area. The application area does however fall within the study area of a number of assessment and management plan documents, some of which have been used to inform the history of the area set out above.

5. ARCHAEOLOGICAL POTENTIAL

- 5.1** There are no records of any prehistoric or Romano-British sites in the area around the site, and until the mid-19th century the application area was a hilltop common, with limited evidence for

enclosure of agriculture around its margins. The archaeological potential therefore relates to the 19th-century mining history of the area.

- 5.2 There are no records of archaeological sites located within the application area. Eldons Shaft and Engine House (**Site 3**) are located adjacent to the entrance to the application area, but will not be directly affected by the scheme. The HER entry for United Mines (MCO35928; **Site 2**) located immediately to the south of the application area is a generic reference that covers mining across the whole of United Downs and does not relate to any activity or features at that specific location.
- 5.3 The analysis of historic maps has identified former features located at the eastern end of the application area, including a shaft, tramway and other earthworks, including a pond. The shaft is known to have been capped, and is not visible above ground. The other features are likely to have been destroyed by the landscaping associated with the landfill and allied infrastructure. The shaft is a heritage asset of **low significance**. Historic environment data gathered from aerial photographic transcription confirms the depictions on historic maps of most of the application area being on the periphery of mining activity. The transcriptions show mining waste within parts of the application area, but as with the other features these are likely to have been significantly impacted by landscaping associated with the landfill and allied infrastructure. Due to this disturbance, and the very low archaeological potential for this waste material to further understanding of local mining, any remains are not considered to be a heritage asset.
- 5.4 There is no evidence for the Second World War US Army camp (**Sites 6 and 7**) either within or adjacent to the application area where any remains have been destroyed by the landscaping associated with the landfill. These records are therefore not considered to be a heritage asset.

6. IMPACT ASSESSMENT (Plates 1-4)

- 6.1 Heritage assets may be affected by direct physical impact changing their significance, or by change to their setting where specific elements of setting contribute towards their significance.

Physical impacts on below-ground archaeology

- 6.2 As discussed in Section 5 above, the archaeological potential relates to the 19th-century mining remains on the site. The only identified feature that is likely to survive is the shaft, although this has been capped (and the extent of groundworks associated with this capping is not known), and it is located within an area that has been landscaped several times in the last 20 years. Any impacts on this shaft are currently **unknown**, but in view of the phases of recent landscaping in the area any further change is unlikely to harm the asset, resulting in **no change** to its significance.

Impacts on setting and significance

- 6.3 Other impacts to heritage assets are likely to involve change to their setting, in particular the visual aspect of setting, where this forms part of their significance. An appraisal has been carried out in accordance with the methodology contained within *The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning: 3 (Second Edition)*.
- 6.4 All heritage assets within 500m of the proposed development site have been considered and those from which the proposed development would not be visible have been identified and excluded from further assessment. Consideration has been given to the essential character of each of these assets to identify those where distant views are likely to have an impact on their setting. For example, graveyard structures, bridges or residential terraces are considered to have very intimate settings without reference to distant views. Particular emphasis has been

given to buildings with designed views, monuments that were probably positioned to be intervisible, or groups of historically connected mining monuments.

6.5 The following heritage assets have been selected for further assessment:

- **Site 1:** The West Devon Mining Heritage World Heritage Site; and
- **Site 3:** The Grade II Listed Eldons Engine House (Ivey House).

The Cornwall and West Devon Mining Landscape World Heritage Site (Site 1)

6.6 The Cornwall and West Devon Mining Landscape World Heritage Site is divided into 10 districts, and the entrance to the application area from the road across United Downs is located adjacent to the western boundary of the Gwennap Mining District.

Statement of Outstanding Universal Value

6.7 Each of the 10 districts that form the Cornwall and West Devon Mining Landscape World Heritage Site are unique and are a reflection of factors that are distinctive to their district and local area. Each of the components is further enhanced by their historic context, by events during and subsequent to the industrial period and by cultural factors (Cornwall Council 2013b, 2-3). Each of the 10 areas holds a separate Statement of Outstanding Universal Value (OUV) which aids the effective protection and management of these areas by identifying the criteria under which the property was inscribed by UNESCO and an assessment of the condition of integrity or authenticity as well as their management requirements. There are seven landscape components or 'attributes' through which this OUV is physically expressed within the Cornwall and West Devon Mining Landscape World Heritage Site. These comprise:

- *Mine sites, including ore dressing sites;*
- *Mine transport;*
- *Ancillary industries;*
- *Mining settlements and social infrastructure;*
- *Mineworkers' smallholdings;*
- *Great houses, estates and gardens; and*
- *Mineralogical and other related sites of particular scientific importance.*

6.8 The Gwennap Mining District (Area 6) is described as the 'western rural landscape, the Copper Kingdom of the Old World (mineralogically the most significant in the Site), the home of the Lemons and Williams mining dynasties, one of the most important proving grounds for Boulton & Watt engines, one of the most extensive mineral transport infrastructures, home to Cornwall's 'third' iron and engine foundry, premier gunpowder works and, at Gwennap Pit, its Methodist icon' (Cornwall Council 2013b, 12). The OUV for this district comprises the following attributes:

- *Produced a major proportion of the world's supply of copper during the 18th and first half of the 19th century.*
- *Sited some of its earliest beam engines such as those produced by Newcomen, Smeaton and Watt.*
- *Includes the Methodist icon of Gwennap Pit, one of Britain's three most important Methodist sites.*
- *Includes the Perran Foundry complex, one of the 19th century world's most important engine foundries.*
- *The Kennall Vale Gunpowder Works is one of the largest and most complete gunpowder works to be found anywhere in Britain.*
- *The Williams' family great houses, estates and gardens is the most important grouping of associated components of their type in the Site. Such a concentration of great estates within a mining district is unique. Carclew, the ruins of the great house and estate established by one of the greatest of all Cornwall's mining magnates, Sir Charles Lemon, a key figure in the development of the Gwennap mines. The magnificent house, set above the Carnon Creek to the south of Devoran, was sadly reduced to a ruin by fire in 1934, but its park and gardens, historically so important to British horticulture, remain open to the public.*

- *Is the source of some of the most historically, scientifically and culturally important copper mineralogy in the world.*
- *At Restrouguet Creek, sub-estuarine mining in tin gravels was carried out.*
- *Includes some of the oldest engine houses to survive anywhere in Cornwall with direct connections to the able and successful mining entrepreneur John Taylor.*
- *Includes the mining port of Devoran.*
- *Large areas of mineworkers' smallholdings occupy its north and east, once the site of a huge expanse of downland but subsequently laid out to smallholdings, the boundaries of many of its tiny fields planted with oaks and hawthorns.*
- *Sites some of the starkest industrial landscapes to be found anywhere in the Site – hectares of shaft littered heathland, the sprawling un-revegetated mine dumps of Poldice and the poisoned, ochre stained valley of Wheal Maid, each giving a small indication of the sheer scale of industrial activity which took place here during the 18th century and the early 19th century.*
- *The Area includes the Mining villages of Chacewater, St Day and Carharrack. Each is distinct and different in character, the histories of Chacewater and St Day being linked to the early period of Cornwall's industrialisation, that of Carharrack to its mature period.*

6.9 The boundary of the Gwennap Mining District has been drawn to include all of the principal mines, large areas of mineworkers' smallholdings in the north and east, and country houses and estates in the south and west. Two detached areas in the south include portions of the Kennall Valley (gunpowder works and a major foundry), the Carclew estate, the port of Devoran and a stretch of Restrouguet Creek where sub-estuarine mining in tin gravels was carried out (Cornwall Council 2013a).

6.10 The above attributes within the statement of OUV demonstrate that the Gwennap Mining District has strong historical values derived from its role as the producer of the majority of the world's copper in the 18th and early 19th centuries, as the site of the earliest beam engines and supporting infrastructure, including gunpowder works, a foundry and transport links. Gwennap thus played a core role in the industrial revolution within Britain and has values stemming from these technological, industrial and commercial ventures. Central to this role is its association with the mining dynasty families of Lemon and Williams. The area thus has historical associative value derived from these connections, as well as connections to the designers and producers of the earliest beam engines such as Newcomen, Smeaton and Watt.

6.11 The Gwennap Mining District has architectural value derived from the great houses, estates and gardens, and from the buildings associated with the mines and supporting industries; the completeness of the Kennel Vale Gunpowder Works is noteworthy.

6.12 World Heritage Sites are by definition heritage assets of **very high significance**, being of international importance, and the Cornwall and West Devon Mining Landscape World Heritage Site is no different. The Gwennap Mining District forms a major contributor to the OUV of this World Heritage Site.

Assessment of impact

6.13 The scheme causes no direct impact to the landscape of the Gwennap Mining District, with no change to any of its component features, topography or history. It will not harm any of the attributes that contribute towards its OUV. None of these attributes relate to the setting – using the *NPPF* definition of this concept – of the Gwennap Mining District, and other than Eldons Engine House the western part of United Downs does not contain any built heritage that has a physical and visual relationship with other components of the Gwennap Mining District. Therefore, it is concluded that the scheme will cause **no change** to the OUV of either the Gwennap Mining District or the wider Cornwall and West Devon Mining Landscape World Heritage Site.

Eldons Engine House (Site 3)

- 6.14** The Grade II Listed Eldons Engine House (Ivey House) (**Site 3**) dates to the mid-19th century. It has a rectangular single-cell plan with round chimney and was originally of three storeys; it survives to the top of first-floor level except vestiges of second floor walling attached to the chimney. The east bob wall survives to the original height of stone walling. This building has been considered to be an important early example, and was repaired as a ruin in 1985. The building was associated with a shaft located immediately to the southeast. There is no visible evidence of this shaft which was located on the current verge to the entrance to the United Downs Landfill Site.

Statement of significance

- 6.15** The significance of the engine house is mainly derived from its architectural, historical and evidential values. The architectural value lies in its plan and form related to its function as an engine house and the distinctive architecture of the building that relates directly to its function and the original installation of the beam engine. The architectural value has, however, been compromised by loss of the upper part of the building, and this value is also diminished by the demolition of the attached boiler house. As a mid 19th-century engine house it does not have architectural value for its place in the development of engine houses in Cornish mining.
- 6.16** The architecture of the building also gives it evidential value, in relation to the function of the building specifically as an engine house.
- 6.17** The historical value of the engine house is both illustrative and associative. As noted above, it can be visually read as a building related to mining activity, and specifically through its distinctive architecture as an engine house. The building has an historical association with 19th-century mining on Cosgarne Common. However, due to the different dates of engine houses at United Downs and the layout of the mine in the mid-late 19th century there is no direct functional relationship between the building and the other surviving engine houses in the area.
- 6.18** Elements of the setting of the building contribute towards its significance. One element is topography, and relates to the mineralisation of the area, and the association of the building with mining on Cosgarne Common. Eldons Engine House is located on one of the underground mineral lodes, and like Garland's Shaft and Engine House to the east is possibly located over the deepest part of the mine, and may have been used for pumping.
- 6.19** As discussed above, the physical/topographical setting was related to the surrounding historic mining landscape, and the engine house was not constructed to hold aesthetic appeal or designed views, elements that now relate to more recent appreciation of this class of monument. These elements of setting tie into the concept of the appreciation of the significance of heritage assets from their setting.
- 6.20** Eldons Engine House is situated within a small plot adjacent to the road; to the west are tall trees providing a buffer between the building and the adjacent United Downs Industrial Estate and United Downs Landfill Site. It has a restricted setting in which it can be appreciated comprising the approach along the road from the northwest and southeast (Plates 1 and 2 respectively). The middle-distance views looking southeast along the road incorporate glimpses of both this building and the United Mines, Engine House (Plate 3). Only the top of the chimney can be viewed from within the entrance to the United Downs Landfill Site from the southwest, and from within parts of the United Downs Raceway to the east (Plate 4), locations where its function as an engine house cannot be identified.
- 6.21** In conclusion, the significance of the engine house is largely derived from its architectural, historical and evidential values along with lesser contributions from elements of its setting and from its aesthetic value. As a Grade II Listed Building it can be considered to be of 'national

importance', and for decision making under the NPPF is a heritage asset of **medium significance**.

Assessment of impact

- 6.22** The scheme will have no direct physical impact on the engine house, and therefore there will be no harm to the architectural, historical or evidential values which are the heritage values that contribute most to its significance, along with its aesthetic value that provides a lesser contribution. Any change to the significance of the building would therefore be through changes to elements of its setting contributing towards its significance.
- 6.23** The entrance to the application area, and the proposed car park, is located immediately to the south and southwest of the engine house; the new research centre will be located 400m to the west-southwest. Due to the dense vegetation around the engine house and in the strip of land between the United Downs Industrial Estate and United Downs Landfill Site there is no intervisibility between these two locations. The new building will therefore not harm any element of setting contributing towards the building's significance. The creation of the car park will alter a small part of its local setting. However, this is not an element of setting that contributes towards the building's significance. A car park will be less visually intrusive than the previous uses as site offices that contained portable cabins that were out of keeping with the character of the area. Cornwall Council's planning department has previously concluded that development (of the offices) here would 'not affect the setting of the listed building' (Officer's Report for planning reference PA14/09404). The landscaping created following the removal of the offices is retained, and is mainly located outside of the application area.
- 6.24** It is concluded that the scheme will cause **no change** to the significance of the Grade II Listed Eldons Engine House.

7. CONCLUSIONS

- 7.1** The proposals are for a small sustainable distillery research centre on the edge of the former United Downs Landfill Site. The scheme will include a new building, access road (linking into the existing entrance into the landfill site) and a car park.
- 7.2** The area was historically unenclosed common land until the mid-19th century when it was developed for copper and later arsenic mining. There is currently no evidence for any early (prehistoric or Romano-British) activity in the area.
- 7.3** The application area is located on the northwest edge of the United Downs mine, with a small number of mining features recorded at its eastern end. Only a single (capped) shaft is likely to survive as a buried feature (**Site 4**). Any remains are considered to be of **low** significance. Any impact on this shaft is currently **unknown**, but since it has been capped, and is located in an area of several phases of recent landscaping, any further change is unlikely to harm the asset, resulting in **no change** to its significance.
- 7.4** There is no physical evidence for the documented use of the area as a US Army camp during the Second World War (**Site 6**).
- 7.5** No attribute contributing to the OUV of the Gwennap Mining District of the Cornwall and West Devon Mining Landscape World Heritage Site will be harmed by the proposals and there will be **no change** to the overall OUV of the World Heritage Site.
- 7.6** The Grade II Listed Eldons Engine House is located in close proximity to the application area. It will not be affected by the scheme, and there will be **no change** to its significance.

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Cornwall Historic Environment Record
Historic Environment Record Data to 500m

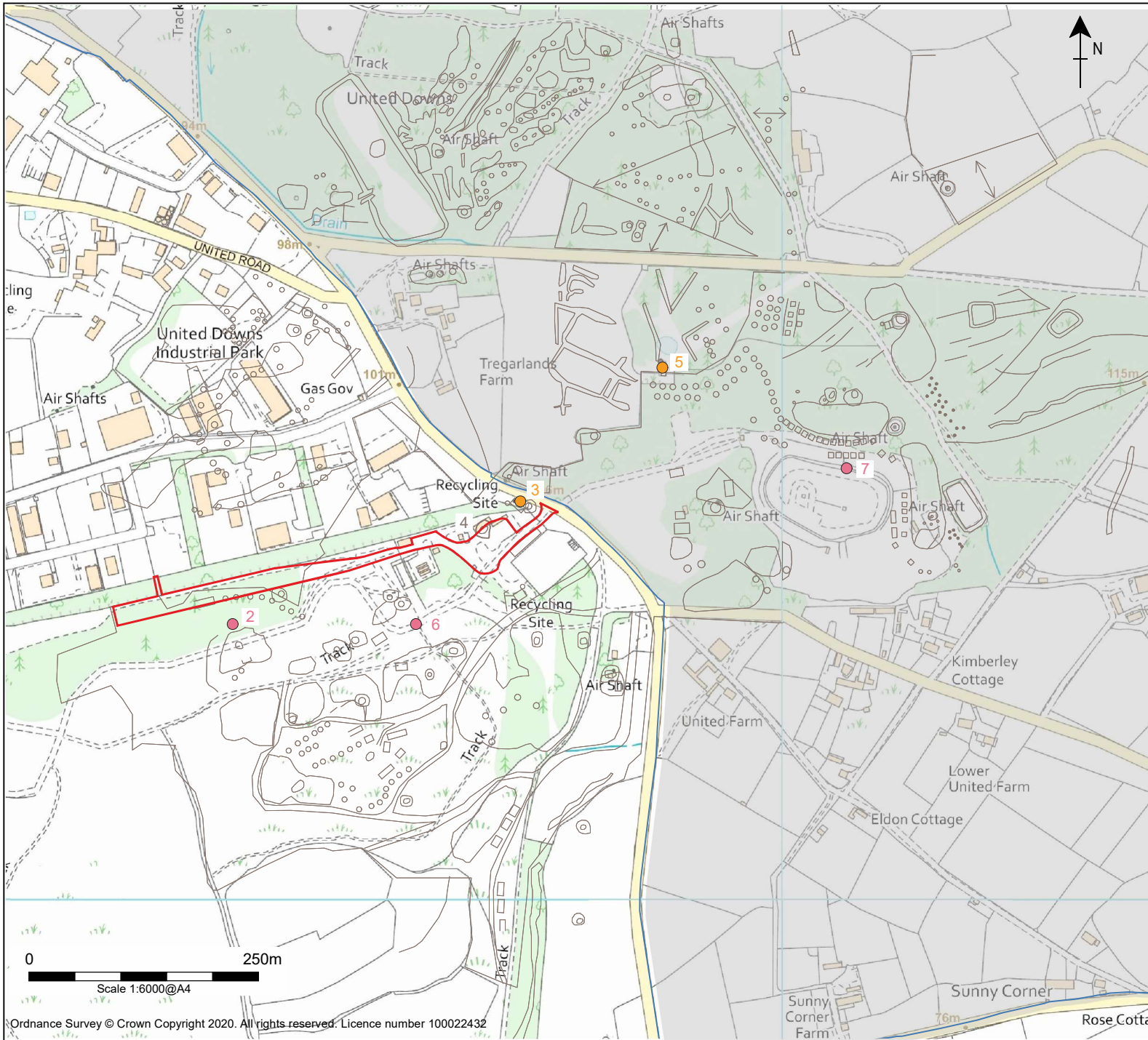
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Old Maps Repository: <https://www.old-maps.co.uk/#/>

The Genealogist: <https://www.thegenealogist.co.uk>



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Key

- Site
- World Heritage Site (Site 1)
- Grade II Listed Buildings
- Historic Environment Data
- Aerial Investigation and Mapping (AIM)



PROJECT
Sustainable Distillery Research Centre, United Downs, Gwennap, Cornwall

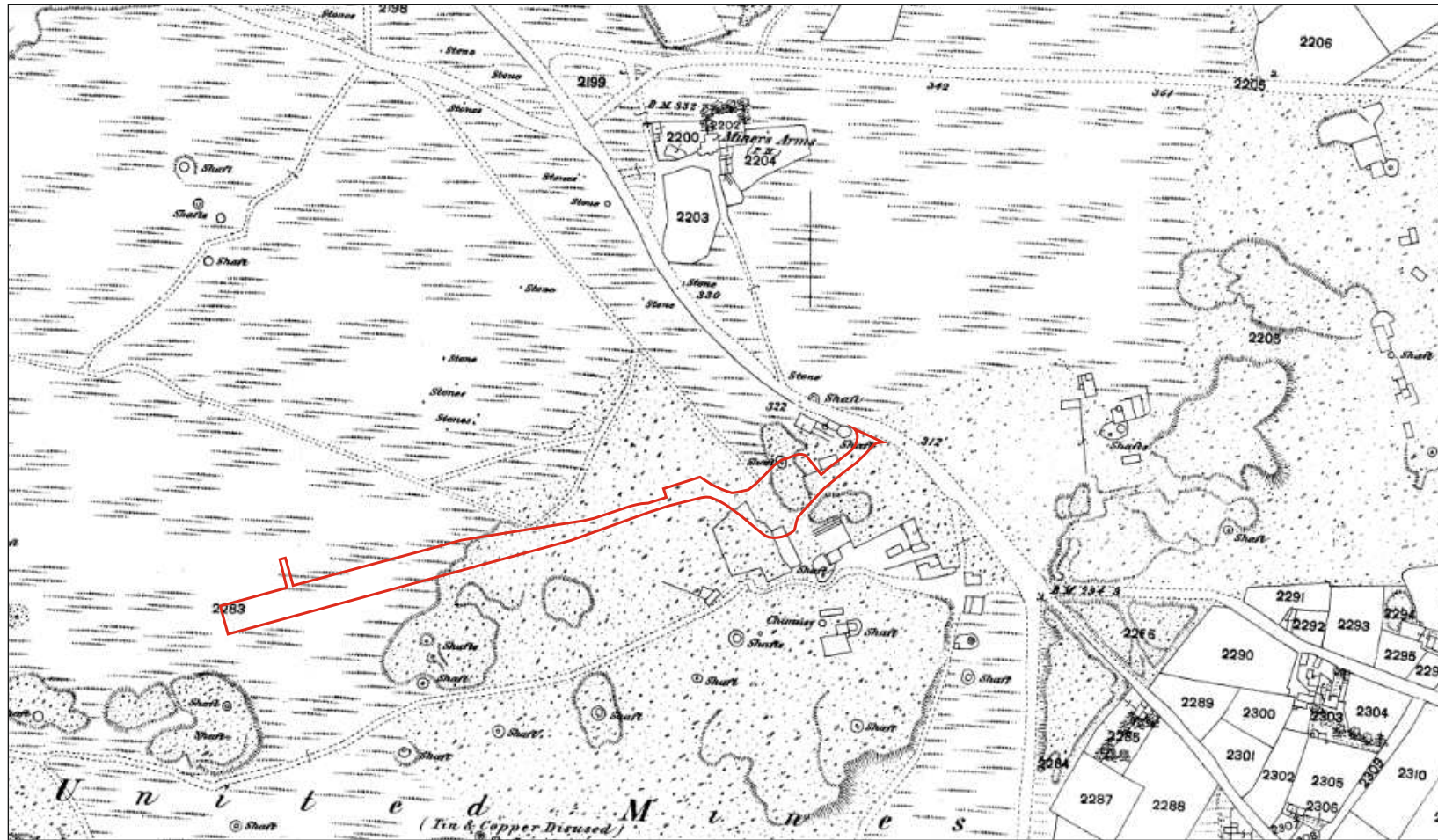
TITLE
Fig. 1: Location of site and historic environment data discussed in the text



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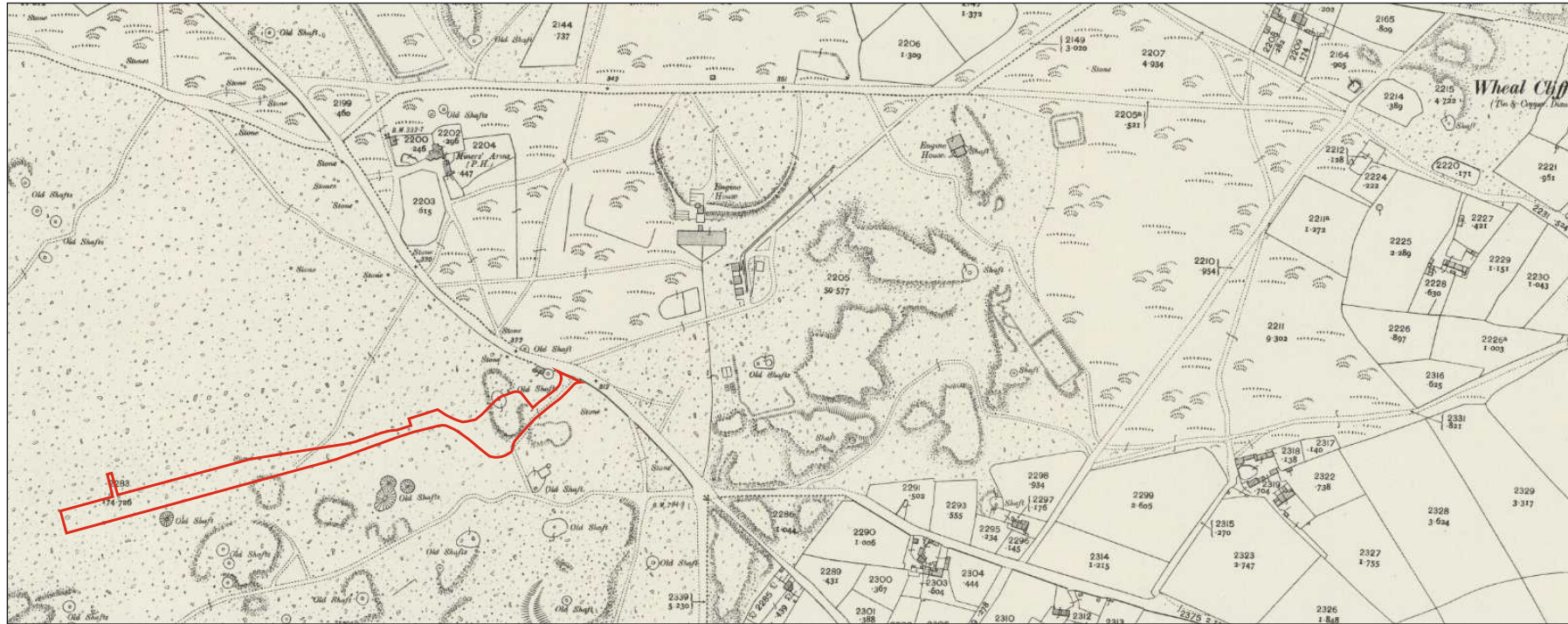
TITLE
Fig. 2: Extract from the Gwennap tithe
map, 1839





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TITLE
Fig. 3: Extract from the First Edition
Ordnance Survey 25-inch map, 1880



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TITLE
 Fig. 4: Extract from the Second Edition
 Ordnance Survey 25-inch map, 1908





Plate 1: Eldons Engine House looking southeast from the highway



Plate 2: Eldons Engine House looking west from the highway



Plate 3: Eldons Engine House and the United Mines, Engine House viewed looking southeast from the highway at the entrance to the United Downs Industrial Estate



Plate 4: The stack of Eldons Engine House looking west from the United Downs Raceway towards the former United Downs Landfill Site

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