

The Cornwall and West Devon Mining Landscape World Heritage Site

Appendices to the World Heritage Site Management Plan
2013-2018



United Nations
Educational, Scientific and
Cultural Organization



**Cornwall and West Devon
Mining Landscape**

inscribed on the World Heritage List in 2006

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Appendices to the World Heritage Site Management Plan 2013-2018

Contents

Appendix

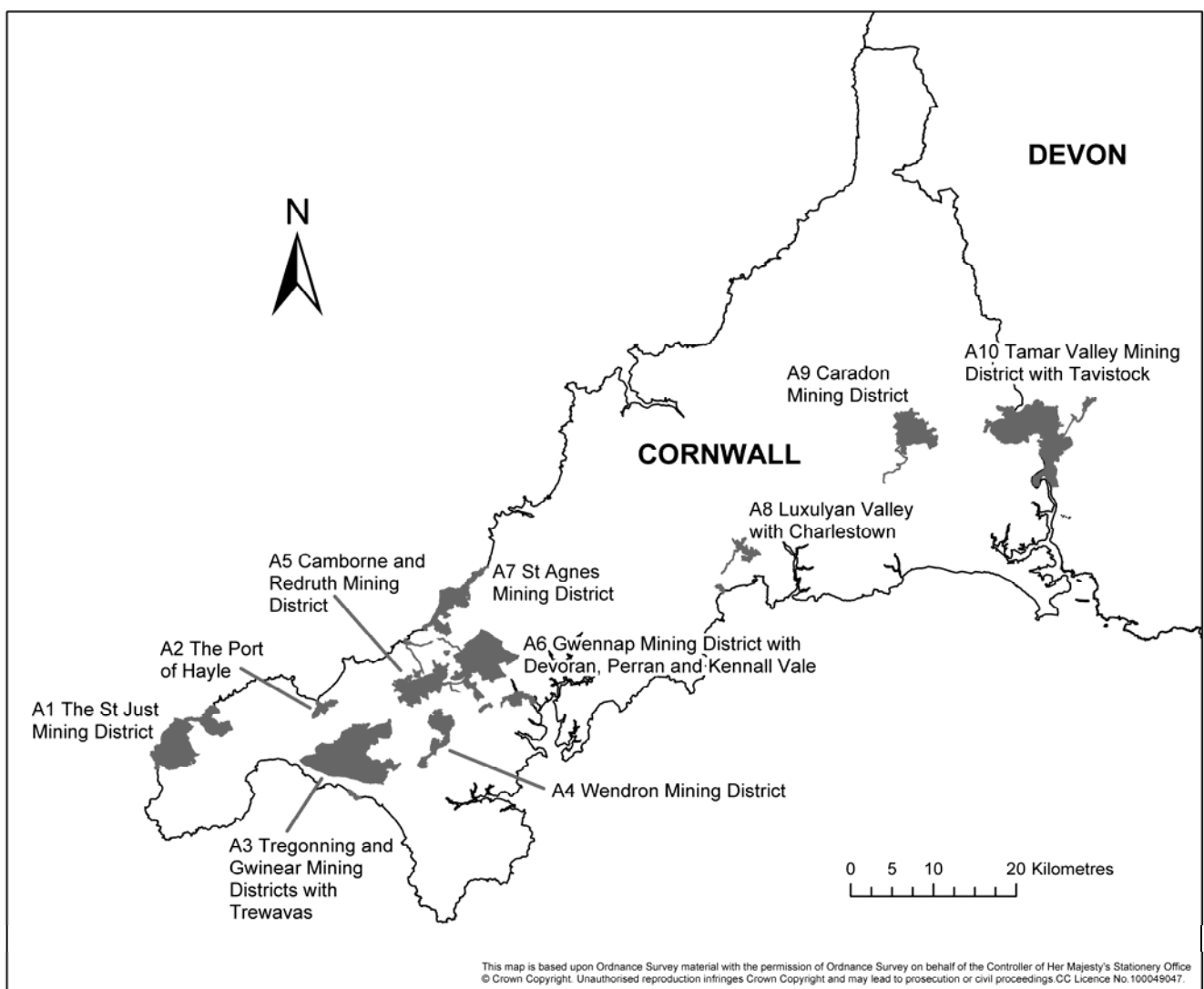
- 8.1 The Outstanding Universal Value (OUV) of the Cornwall and West Devon Mining Landscape World Heritage Site – Area descriptions**
- 8.2 Inventory of historic archives**
- 8.3 Glossary of planning terms**
- 8.4 List of World Heritage Site Technical Panel members**
- 8.5 List of survey and recording events within the Site**
- 8.6 The Cornwall and West Devon Mining Landscape World Heritage Site Monitoring Report (2012)**
- 8.7 Publications and research commissioned or co-funded by the Cornwall and West Devon Mining Landscape World Heritage Site, 2005 – 2012**
- 8.8 Glossary of mining terms used in Cornwall and west Devon**
- 8.9 List of ownerships or management bodies responsible for some OUV sites**

Appendix 8.1

THE OUTSTANDING UNIVERSAL VALUE (OUV) OF THE CORNWALL AND WEST DEVON MINING LANDSCAPE WORLD HERITAGE SITE – AREA DESCRIPTIONS

'The Cornwall and West Devon Mining Landscape was transformed during the period 1700-1914 by early industrial development that made a key contribution to the evolution of an industrialised economy and society in the United Kingdom, and throughout the world. Its outstanding survival, in a coherent series of distinctive cultural landscapes, is testimony to this achievement.'

The Cornwall and West Devon Mining Landscape World Heritage Site Nomination Document (2005), page 21



The '*coherent series of distinctive cultural landscapes*' comprises ten Areas and the following are the seven landscape 'components' identified within the Nomination Document through which OUV is physically expressed

- **Mine sites, including ore dressing sites**

Includes engine houses and other mine buildings, chimneys, dressing floors, mine dumps and infrastructure, as well as tin salvage works, also significant underground access

- **Mine transport**

Includes ports, harbours, wharfs and quays, mine tramways and industrial railways, mine roadways, tracks and paths, mining-related canals

- **Ancillary industries**

Includes foundries and engineering works, smelting works, fuse and explosive works, arsenic and chemical works

- **Mining settlements and social infrastructure**

Includes mining towns, villages and hamlets, public buildings, Methodist chapels, preaching pits and new C of E churches

- **Mineworkers' smallholdings**

Comprises mineworkers' farms and their buildings

- **Great houses, estates and gardens**

Comprises great houses and other substantial residences, lodge houses and other related buildings, estates, parkland and gardens, villas and embellished town houses

- **Mineralogical and other related sites of particular scientific importance**

Comprises internationally and nationally-important type sites for minerals, important mining-related ecological sites

Given the range of the components, the OUV of the Site needs to be viewed in a holistic fashion. Individual aspects of the cultural heritage making up the Site have differing levels of significance; some may be of an international importance, whilst others will be of national, regional or local significance. The reasons why sites are considered significant will also vary, sometimes for reasons of rarity, elsewhere by being representatives of features which were formerly ubiquitous and characteristic of the industrial landscape.

Each Area is unique, the differences between them being a reflection of factors distinctive to their site and context; they are products of their geology, geography and locality. In addition to the above factors, each combination of components is further modified by their historic context, by events during and subsequent to the industrial period and by cultural factors. They continue to be affected in this way and the principles and policies of the Site Management Plan are devised to bring about the positive conservation outcomes that are fundamental to the protection of OUV within the Site.

The descriptors used in this document to define each of the ten Areas of the World Heritage Site are as follows

Geography & Landscape - considers not only the underlying geology and topography, but the influence these physical factors have had upon the development of elements of the mining landscape, and their resultant present-day character and land use. The principal components of each landscape, especially their landmarks, are identified.

Views – are not an inherent element of this industrial WHS' OUV. They are discussed here principally in the context of the historic inter-visibility that exists between specific OUV assets or related landscape components within an Area and, in some instances, the inter-visibility between Areas and the broad boundaries of these, where adjacent.

History & Character - presents a brief history of each Area as a series of short statements considering the principal components in turn and the character which these have given to the Areas. The survival of components is very much linked to the period during which they were constructed and the post-industrial history of each Area; in most cases rates of survival can be seen to be related to the varied natures of their post-industrial economies.

Communications - considers how easy it is to get to, through and between sites within each Area and the effects these factors have on their characters – how accessible or how closed parts of it are, how public, how private and whether there is the potential for greater public access to sites (public use potential can be an important aspect of significance). In some cases, considerable additional public access to sites might materially impinge on the character and value of the landscape and its components, or on other aspects of the Areas, such as the quality of life of its inhabitants, or sites of ecological importance.

Principal Sites - this is not intended to be a full list, but those which define the essential character of an Area. Should these be lost or significantly altered, major effects on the character of an Area would ensue and OUV would be adversely affected.

Interpretation Sites - lists the principal points at which the Area is currently interpreted or which have the potential to serve this function.

OUV Statement - this pulls together elements from the above discussions into a single statement, setting out the geographical and historical context for each Area, identifying its key sites and considering its present condition.

The ten Areas which comprise the World Heritage Site (A1 to A10)

A1. The St Just Mining District

Statement of outstanding universal value

Area A1 (50008'53"N, 05039'21"W) - a remote and rugged coastal mining district which represents the most westerly Area of the WHS

- A predominantly west-facing coastline which, combined with unique structural geology and mineralisation, prompted the earliest, and greatest, concentration of 18th and 19th century submarine tin and copper mines in the world.
- Cornwall's oldest (1840) surviving in situ, working, beam engine at Levant is also one of the world's first monuments to industrial preservation (1935).
- The presence of integrated tin-dressing and arsenic calcining and refining, over several technological development phases, combined with St Just's post-industrial economic history, has ensured the preservation of the best concentration of combined tin and arsenic processing sites in the world.
- Its engine houses are some of the most iconic Cornish mining sites in the world.
- Geevor, one of the last mines to close in Cornwall, was saved from demolition and represents one of only two complete mine sites in Cornwall.
- The only significant settlement in the Area, St Just, gave the District its name and is a prime example of an industrial mining town possessing the distinctive ensemble of planned cottage rows, Methodist chapels, hotels, pubs, shops and civic buildings.
- Its three stream valleys site some of the best-preserved water-powered stamping mills anywhere in the Site.
- The Area possesses internationally significant mineralogy.
- Captain Francis Oats' imposing new house and estate at Porthledden, Cape Cornwall, is an exemplar of overseas income enriching migrants' homeland.
- Dispersed small settlements developed, again with planned rows rich in industrial character, along the principal N-S road. The late (1840s) development of a new Anglican Church and school at Pendeen are rare but distinctive manifestations of the industrial period.
- Its narrow, steep, vein structures necessitated a general trend of single-handed underground working and this, combined with remote geography, and distance from other mining districts, defined a well-recorded distinctive 'Western' culture amongst miners.
- The comparatively late decline of the District during the 1870s coincided with the opening up of South African diamond fields (and later goldfields) led to distinctive and cohesive local migration patterns.
- The density of readily visible exposures and outcrops on its relatively high yet accessible cliffs suggests that some of the earliest hard-rock tin mines in the WHS developed here.
- The number and range of surviving unaltered Count Houses in the Area is notable.
- Almost all of its principal industrial structures have been conserved.

- Tin open-works, such as at the Bunny and Ballowall, are some of the earliest in the Site.
- The relative remoteness of the Area and the continued importance of mining within the economy and society of the Area until 1987 ensured the persistence of a strong local identity linked to Cornish mining culture.

Supporting discussion and character statements

Geography and landscape

The rugged West Penwith coast fringes a fertile but treeless long-farmed plateau which is itself backed by open bare upland moors; a spectacular and rugged, open landscape. A very rural area, and the Atlantic is always nearby. Granite and modified killas geology have moulded the topography of the Area and their interface defines both the location of the mineralised zone – including the broad division between the tin and copper zones - and gives distinctive character to its moors and cliffs. There is always granite not far beneath your feet – its influence is strong. The Cot, Kenidjack and Rose Valleys are rare dissections of the plateau – each producing hidden and enclosed spaces and places, together with rare glimpses of fast-flowing streams. There are always big skies and an awareness of the weather and the sea nearby. Trees are rare, except within valleys. The exposure and maritime climate can make arable farming difficult, and the resulting concentration on stock farming means that most of the agricultural landscape is down to grassland.

Views

St Just is very much part of West Penwith, distinguished from it more by its mineworkers' settlements and industrial remains than by any difference in its geography or topography.

A sense of the western part of the Area, from Pendeen down to the Cape, can be got from high ground between Pendeen Carn and Carn Bean. Watch Croft gives views over much of the coastal part of its eastern end. Ding Dong, is visible from many locations given its prominently sited engine house.

Except within St Just itself, most of the views from within the Area are out across the landscape towards the coast or the ever-present moors. There are spectacular panoramas when approaching the coast along North Road and on the road into St Just on Lafrowda Common or at Carn Bosavern. From Kenidjack Head, the view takes in the landscape from Cape Cornwall to Botallack Head, whilst there are a number of places from which St Just's hilltop site can be appreciated. To the east, the landscape rises steeply from the narrow coastal plain towards the moors to the south. Here, the focus is hemmed in by the Penwith moors, the focus is the sea to the north, but the views are also eastwards and westwards except at Ding Dong, where the huge views southwards and down to Mounts Bay dominate. St Just looks seaward and the other Areas are hidden, but from Ding Dong, Tregonning and Carn Brea can be seen in the distance.

The headframe at Geevor is an orientating locus within the landscape which can be seen from many places along the nearby coast.

History and character

Mining features

The survival of the mining landscape is particularly good within this Area. Mines stand cheek by jowl along the coastal fringe; many working under the sea (a distinctive element of OUV within this Area), their engine houses are often perched on the cliffs or set only a little way back from it. Within the cliffs are ancient workings and adits, whilst on the cliff slopes are often leats leading to valleys crammed with water powered stamping sites. The mining landscape is particularly well-represented between Geevor and the Cot Valley, this taking in the western half of the coastal part of the Area. The majority of these structures have been conserved over the past decade, whilst Geevor is a very rare example of a conserved and almost wholly intact 20th century mine. The working beam engine at Levant is also

a rare survivor, whilst tin dressing sites and arsenic works at Botallack, Levant and Kenidjack greatly increase the Area's OUV. There are also engine houses and other buildings at Watch Croft and Ding Dong, set high up on the moors amongst ancient outcrop workings and streamworks, whilst more fragmentary sites exist throughout the remainder of the coastal section of the Area. The major valleys of the area have good surviving evidence for water powered tin stamps and associated dressing floors, many of these having been conserved by the National Trust. Count houses are particularly well-represented within this Area.

Transport

No railways were constructed within this area, though there is evidence that the road network was systematically overhauled and upgraded to meet the demands of the rapidly-expanding mining industry and there are several dated early milestones from the 1830's. Mine tracks, such as the mule track leading to the Crowns at Botallack or the miners' access over the cliff at the Wheal Cock Adit, are also distinctive. Some fragments of mine tramway systems also survive, particularly at Wheal Owles.

Ancillary industry

The only major ancillary industry which formerly existed within the Area – the foundry at Tregeseal – has been substantially demolished and only parts of its boundary walls now survive.

Settlement

Most settlements within the Area are small miners' hamlets, almost all with their own chapel and pub, but the final closure of Geevor brought the loss of many of their small local shops and businesses. St Just responded to industrialisation on a much larger scale, its present appearance reflecting its planned growth but also its relative remoteness from the rest of Cornwall; its core has changed little during the last century. Like the other settlements, St Just is small-scale, vernacular, unornamented, robust in its granite construction, self-sufficient. Most chapels within the Area have been converted to dwellings, but retain their original external appearances. Anglican Churches which date to the industrial period are also important across the Site and Pendeen Church, together with its vicarage and school, constructed in 1852, serve as an exemplar in this respect. Cottage extensions are commonplace, many being over a century old, whilst modern replacement fenestration is the norm. Most of the settlements are now Conservation Areas.

Smallholdings

Mineworkers' smallholdings on the cliffland and moorland were inserted into a pre-existing patchwork of prehistoric and medieval fields, and as a result the majority are on the moorland fringes or at the northern edges of the coastal plain; most 19th century developments in this Area overlie an already ancient and crowded landscape.

Great houses

There are no great houses and estates, but Botallack and Pendeen Manors, like Porthledden have important historical connections – the former with wealthy local landowners with considerable involvement in local mines, the latter with Captain Francis Oates and with diamond mining in South Africa.

Mineralogical and ecological

St Just's specimen mineralogy has been well-known for centuries and there are a number of important mineralogical sites within the Area, the most significant of these being designated as SSSIs or County Geology Sites (formerly RIGS sites). The Aire Point to Carrick Du coastal SSSI was designated for a combination of geological/mineralogical and biological importance, Wheal Cock, Botallack, Wheal Owles and Gryll's Bunny being specifically mentioned in the citation. The predominant strike of the

local lodes - at right angles to the coast prompting the largest concentration of submarine mining of its time - makes for an outstanding series of exposures. An abundance of highly mobile copper and uranium salts combined with a coastal saline influence contribute towards the Area's leading share of 1st Recorded British mineral Occurrences, compared to any other Area within the Site. Significant dumps of coarse-grained spoil and good underground access further enhance continuing scientific study and new finds. Two areas near Cape Cornwall evidence exposures of the contact between granite and killas which helps to illustrate the overall story of Cornubian mineralisation.

Historical development and character

Historically the economy moved from being based on subsistence agriculture to a combination of the tin industry and agriculture, then a mixture of tin and copper mining, then finally the tin industry again, perpetuated in Geevor until 1987. The economic stagnation characterising the post-industrial period saw the abandonment of industrial sites but very rarely their replacement; the Holmans' Foundry at Tregeseal being the most notable and relatively recent exception to this. As a result, the Area retains considerable evidence for its industrial past. Tourism has become an important component of the economy of the Area, though many local residents work in Penzance and beyond. The Area is deeply rural and still retains a strong sense of its own identity – the Far West, popularised most recently by successful artists and sculptors such as Kurt Jackson and David Kemp who each take substantial inspiration from the cultural mining landscape. The management of considerable areas of the industrial coast by the National Trust has helped to limit unsuitable development, whilst the purchase of Geevor Mine in 1992 by Cornwall County Council has secured the integrity and future of this large and important site, one of only two remaining relatively complete 20th century mine sites in Cornwall.

Communications

These are dominated by a triangle of main roads around the southern part of the Area and the coast road extending to the east. These together frame vehicle movements to and around the Area; all other public roads are narrow, these twisting lanes serving local needs alone. The coast path is an important line of communication, linking the majority of the mine sites, whilst inland there is a complex network of historically-derived footpaths. Land's End airport offers scenic flights which give a dramatic overview of this Area and the remainder of the Site

Principal sites

In the west and south: Wheal Hearle, Geevor, Levant, Botallack, the Wheal Owles mines, Wheal Call, Cape Cornwall, the Kenidjack and Cot Valleys, St Just; to the east: Ding Dong and Carn Galva Mine, Porthmeor Stamps.

Interpretation sites

Geevor Tin Mine (WHS Key and Area Centre), Levant, Botallack Count House.

St Just Area character statement

Remote, rugged, maritime, an ancient landscape; part of West Penwith yet distinguished from it by its later history, the St Just Mining District is the most westerly Area of the Cornish Mining World Heritage Site, one whose post-industrial economic history ensured the preservation of a wide range of evidence for its important mining past. Engine houses, chimneys, dressing floors and arsenic works are scattered along its mineralised Atlantic coast, whilst its three stream valleys site some of the best preserved water-powered stamping mills anywhere in the Site. Geevor, one of the last mines to close in Cornwall, was saved from demolition and is now a key site for the interpretation of the Cornish mining story, the 1840 beam winding engine at Levant has been restored to working order under steam, and the Count House at Botallack is the base for the National Trust wardening team in the Area, and also sites interpretation facilities. The Area is unusual in the amount of conservation work which has been undertaken over the past decade, almost all of its principal industrial structures having now been conserved.

Despite the importance of its tin and copper mines, there was little in the way of ancillary industry here, the Area lacking a nearby harbour or a mineral railway and being distant from sources of coal and other raw materials. Nevertheless, an iron foundry was built in the Tregeseal Valley to produce the boilers and other mining equipment required by the local mines, as well as Cornish ranges, drain covers, railings and cast ironwork. By the 1960's the market for these products had virtually dried up, and following its closure the works were demolished and new housing built on its site.

Very much in evidence across the landscape of this Area are the many cottages built during the early decades of the 19th century for the rapidly growing mining population. Unornamented, two storey and always built of local granite under slate roofs with elongated garden plots, these modest and distinctive houses were built in planned rows, with little variation in design or ornamentation. Near most of the larger mines and close to St Just's Tregeseal Foundry these aggregations grew into hamlets with their accompanying non-conformist chapels, Sunday schools and pubs, but in St Just a substantial planned extension to the churchtown was laid out to its west, and new streets of cottage rows were accompanied by shops, a bank, and two public squares. Expanding families, growing prosperity and new ways of living soon forced the construction of lean-to rear extensions to many cottages; almost all have now been enlarged in this way, most recent extensions being flat-roofed and two storey and, almost ubiquitously, having non-original fenestration.

The Area shares with the remainder of West Penwith a history of occupation and farming stretching back to the Bronze Age, and consequently much of its landscape has been farmed for two millennia. During the early expansion of mining across this landscape, the developing population laid out new smallholdings in the small areas of cultivable land remaining – mostly the moorland fringes and that along the cliffs. Whilst the majority of the original cottages have long since been demolished, those that remain are rare and important survivors, whilst the groups of small rectangular fields carved out of marginal land by these early miner/farmers add their own historical dimension to the character of the landscape.

From Pendeen eastwards, industry has been less of an influence on the Area. Here, the mines stand within landscapes of ancient fields, or are high up on the moors, whilst mineworkers' cottages and fields are found only around Ding Dong. Here, the engine houses stand in an elevated treeless landscape of post-medieval outcrop workings and long-abandoned prehistoric sites. Both the structures and the surrounding landscape are little threatened by development, though abandonment and reversion of farmed areas to moorland would have a significant impact on their character.

Remote from polite society and exposed to an Atlantic climate, the Area sited no new great houses or gardens, those who derived their wealth from the local mines generally investing the results of their investments in and around Penzance. However, Botallack and Pendeen Manors prospered from their landholdings, and at Cape Cornwall, successful local migrant to South Africa Captain Francis Oats constructed an imposing new house and estate at Porthledden on his return to St Just, the house having recently been fully refurbished after many years of neglect.

Both the landscape and the settlements of the Area have robust and distinctive characters. The relative remoteness of the Area and the continued importance of mining within the economy and society of the Area until 1987 ensured the persistence of a strong local identity. However, this is gradually being lost as local people are increasingly having to travel to Penzance and beyond for work and as a result of the significant influx of house buyers from outside the Area, this having pushed property prices beyond the reach of most local families.

Whilst the local urban character has not yet been over-eroded by too much new development or inappropriate alteration, it remains potentially vulnerable, the replacement of the original fenestration of most local properties in upvc being an example. The recent extension of the Conservation Area in St Just has been accompanied by designation of the principal mining and metal-founding settlements of the district as Conservation Areas, and this should go a long way to ensuring that any future development of the settlements will respect their historic character; encouragement of more appropriate signage on commercial premises would also assist. The recent regeneration scheme

based in St Just and Pendeen has gone some way to reversing many decades of the poor maintenance of public spaces and has encouraged the setting up of a local traders' association.

The majority of local non-conformist chapels have recently been converted to dwellings; St Just's chapel is still in active use, but may well need to host other activities as well if it is to survive. There are few other key buildings within the urban areas, though the Lafrowda Club in Chapel Street is an important though currently rather neglected example of a public building dating to the industrial period; the former Volunteer Artillery Battery hall (until recently the Town Hall), which also has significant associations with the mining past of the Area, is at risk of redevelopment or inappropriate conversion.

Inclusion within the extended West Penwith Environmentally Sensitive Area has helped to protect the traditional appearance of the rural landscape of the Area, though this scheme is now coming to an end. Retention of this historic character depends very much on whether farming this land remains economically sustainable; the level of uptake of recently-introduced agri-environmental grants by local farmers is likely to have a significant bearing upon this.

The acquisition of significant stretches of the coastline of the Area by the National Trust since 1995 has not only prevented inappropriate development and ensured the sensitive and sustainable management of this key landscape component but has also facilitated access to grants which have enabled the majority of the key industrial sites to be conserved. In like manner, the purchase of Geevor by Cornwall County Council in 2001 and its current management by Pendeen Community Heritage not only ensured the survival of this almost unique site and allowed the development of an important interpretation site, but has also significantly enhanced the tourism economy of the Area.

A2. The Port of Hayle

Statement of outstanding universal value

Area A2 (50008'53"N, 05039'21"W) - the most westerly mining port in the Site and the most important 19th century mining port and steam engine manufacturing centre in the world.

- Cornwall's principal mining port which exported copper ore to the South Wales smelters, importing much of the Welsh coal which fuelled the Cornish steam revolution and was the means by which many of its beam engines were shipped to the far corners of the World.
- Location of two (of three) of Cornwall's principal iron foundries creating the greatest steam engine manufacturing centre in the C19th world.
- The location of Cornwall's only major copper smelter.
- Unique example of twin 'company' industrial 'new towns' of Foundry and Copperhouse, these being wholly the product of their industrial past and maritime location, fringing the southern edge of the Hayle estuary in a distinctly linear character.
- Massive, landform-scale, maritime infrastructure of extensive quays, wharves and massive sluicing ponds.
- The terminus of one of the most important of Cornwall's early railways (the Hayle Railway, 1834) serving a hinterland stretching eastwards as far as Redruth and Camborne, with their huge market for coal, timber and other materials.
- Within Copperhouse, the use of copper slag blocks for construction adds a distinctive 'vernacular' character to houses, boundary walls, bridges and other structures.

Supporting discussion and character statements

Geography and landscape

Hayle's location on the north Cornish coast is strategic in terms of sea-links with South Wales (for coal and smelting copper) and the world (for exporting steam engines), and in its proximity to mines in Areas A3 and A5 particularly. The Hayle estuary, the dunes that enclose it and St Ives Bay are the principal components of this landscape, so this Area is underwritten by drift geology, by alluvium, though the Penwith moors loom to the West. Locally, the landscape is dominated by massive sluice ponds, quays, wharfs and mudflats, fringed to the north by stable sand dunes. Most of the landscape is low-lying, so skies are big. The settlement is ribbon-like, clustered into the twin settlements of Foundry and Copperhouse, fringing the estuary, mostly only a little above the water level. Hayle's economic hinterland stretched far to the east and south.

The demarcation between the 'natural' landscape of the estuary and the urban landscape of the settlements is sharply defined along the high tide line.

Views

Within the Area, views tend to be urban and quite closed in. Within the twin settlements the views tend to exclude the nearby landscape. To the west of Hayle, travelling along the Causeway road reveals the rising West Penwith moors of Area A1 to the west, and the expanses of Carnsew Pool, developed to sluice the harbour.

- **History and character**

Mines

There are no mines within this Area, though some minor ones fringe it. Its proximity to major mines, particularly in A3 and A5, is essential in understanding Hayle's development.

Transport

The Area contained the most important import/export port in Cornwall during the industrial period and its harbour features are particularly well-preserved, with long finger-like stone-faced quays and the banks which divide the channels stretching northwards towards the sea. The Area was also served by the Hayle Railway and its successors, and features relating to these also survive. Contact with the wider world underpinned almost the whole of the development of the settlements. Its hinterland was the whole world.

Ancillary industry

The Area contained two of the most important iron foundries within the WHS, the largest and longest lasting of its very small number of copper smelters, as well as rope walks, a shipyard, two tin smelters, flour and grist mills, a gasworks, a brewery and a glassworks. Whilst there have been many significant losses, important elements of Harvey's Foundry and its associated buildings survive and have been incorporated into the fabric of the modern settlement.

Settlement

The urban area shows evidence for planning, for ordered worker housing and for considerable wealth in places. The settlements hug the water's edge on which they depended and are distinctly ribbon-like in character. An economy which has been depressed for many decades has had its effects on their urban landscape, and whilst recent work within Foundry has seen the rehabilitation of an increasing number of its buildings, parts of Copperhouse are still run down and dilapidated. In places modern development undermines the inherent quality of the built environment. Both settlements are an intricate mix of the industrial, commercial and the domestic. Copperhouse buildings and bridges are, often,

distinguished by their use of cast blocks of copper smelter slag. The proposed large scale redevelopment of the Foundry quayscape will have a major impact on the Area.

Smallholdings

There are no smallholdings within the Area.

Great Houses

There are no great houses within the Area, with the exception perhaps of Riviera House (associated with the copper smelter) on the north side of Copperhouse Pool, though there are a number of embellished town houses and villas, particularly in the southern part of Foundry.

Mineralogical and ecological importance

There are no sites of mineralogical importance, but the mineral-rich silts which have built up in the two pools have influenced their present character. Both are designated as SSSIs for their nature conservation importance, mostly for birds.

Historical development and character

The history and urban geography of the Area were dominated by water, copper and iron; the twin settlements were both ports and centres of industry, serving both to the rest of Cornwall and the outside world. Dominated by iron foundries and harbours, and by copper smelting, imports and exports of ore, machinery, coal, timber, but also very much by rivalry between two entrepreneurial companies. Hayle and Copperhouse were always two distinct and separate entities. The collapse of Cornwall's mining industry brought economic disaster for this Area in particular. With its *raison d'être* lost, Hayle slipped inexorably into long-term stagnation and decline. During the post-industrial period, evidence for the foundries and ports has gradually been lost, though important elements of their core components survive.

Communications

There are very good communication links to the Area by sea, roads and railway. The by-pass now relieves the settlements of the heavy A30 traffic which used to blight them, but also leaves them rather more isolated.

Principal sites

Harvey's and Foundry Square, the quays, the railway viaduct, the sluicing ponds and the Black Bridge, the King George V Memorial Walk; vistas out through the estuary to St Ives Bay.

Interpretation sites

There are none at present though there proposals for the provision of interpretation facilities within the Foundry development.

Hayle Area landscape character statement

The character of the twin settlements of Foundry and Copperhouse derives entirely from their industrial past and maritime location. Initially small-scale industrial enterprises established here by Harvey and the Cornish Copper Company/Sandys, Carne & Vivian grew at a prodigious rate: a copper smelter, a shipyard, coal and timber-importing businesses and, most particularly, two of Cornwall's principal iron foundries soon followed, whilst the formerly quiet estuary soon became the principal route for the export of hundreds of thousands of tonnes of Cornish copper ore to the South Wales smelters, a principal route for the import of the Welsh coal which fuelled the Cornish steam revolution, and the means by which its beam engines were shipped to the far corners of the World. Imports of

timber and coal were also extremely important, and were transported overland to the mining districts of west Cornwall.

Extensive quays were constructed to handle this trade, whilst massive sluicing ponds were required to keep the harbour mouth from silting up. Following the construction of the Hayle Railway in 1834, Hayle could serve a hinterland stretching eastwards as far as Redruth and Camborne, with their huge market for coal, timber and other materials. Throughout the 19th century, however, the twin settlements were very much company towns and the rivalry between Harveys and the Copperhouse Foundry was fierce and prolonged, moulding the urban development of the associated settlements.

The importance of maritime trade to the development of Foundry and Copperhouse dictated their layout fringing the southern edge of the Hayle Estuary, with the result that these settlements have a distinctly linear character. Industrial and commercial buildings near the water's edge were backed by dense blocks of terraced worker housing, the villas and embellished town houses of the managers being set a little apart from all of the hustle and bustle, particularly in Foundry. Within Copperhouse, the use of copper slag blocks for construction adds distinctive character to some houses and boundary walls and to the Scheduled 'Black Bridge' on Sea Lane. To the north of both settlements, quays front muddy estuary shores and stretch out towards the harbour entrance and St Ives Bay. Over 4km of wharfage were eventually constructed.

However an economy based almost entirely on engine founding and mining proved vulnerable to the eventual catastrophic collapse of the Cornish mining industry, and though Hayle remained a major coal importing port through the middle decades of the 20th century, the fortunes of the harbour and the towns inevitably went into terminal decline. Over time, the quays were cleared of their structures and the foundry buildings became increasingly dilapidated. More recent development within Hayle and Copperhouse has seen both settlements extend inland and upslope to the south. To date, little new building has taken place on the water frontage, the principal exceptions being the CRS retail outlet, Library and Day Centre, together with a scatter of motor retailers and commercial outlets at Copperhouse and new housing and a commercial building on Carnsew Quay.

Though the assets provided by the extensive water frontage attracted potential developers during the later 20th century, Hayle suffered repeated disappointments as their schemes were repeatedly abandoned. The outcome of a wide-ranging proposal to redevelop the quays and reinvigorate the town is currently under discussion and work has begun on the rehabilitation of the foundry buildings, conservation being matched with adaptive new use.

The settlements are busy, and although currently rather shabby in places, have coherent historic characters, possess a number of structures of considerable architectural and historic interest and have not on the whole been subject to inappropriate new development. Where historic buildings have been rehabilitated, this has generally been to a high standard, though modern industrial and commercial sites to the north of the Copperhouse road have gradually tended to close off views across Copperhouse Pool towards Phillack and the harbour entrance. The surrounding landscape is open, with extensive views towards Phillack and Lelant Towans, to the estuary entrance and to the West Penwith Moors not far away, these being important assets which currently appear to be under-recognised.

Hayle and Copperhouse are close to a crossroads in their development, having marked time for many decades. The scale of the change is likely to be considerable and, if well managed, could bring many beneficial effects to the Area. There is no doubt, however, that the historic character of the settlement will be changed – developments on Hayle's quays will move the centre of focus of the settlement, will greatly enlarge it, will tend to close off views from Foundry to the north and may well affect the local marine environment. Hayle will become a busier place. It is important that any positive effects of the redevelopment of the quays spread to the existing inhabitants and businesses in Foundry and Copperhouse as well.

A3. The Tregonning and Gwinear Mining Districts with Trewavas

Statement of outstanding universal value

Area A3 (50008'53"N, 05039'21"W) - the largest Area in the Site, this rural landscape is the most southerly of the 'western' Areas.

- A landscape and culture of technological 'firsts' such as the first metal mine in the world to site a beam pumping engine (Wheal Vor), the first to use gunpowder for blasting in Cornish mines (Godolphin Ball), the site of pioneering adit drainage (Great Work) and that of the first commercial extraction of china-clay and china-stone (Wheal Grey/Tregonning Hill).
- The Area was the location for some of the earliest largest and deepest copper and tin mines in the Site, including one of the most important tin mines to operate prior to and during the early part of the industrial period, and those demanding the greatest concentration of Newcomen and Watt engines outside the Camborne-Redruth- Gwennap Area.
- A landscape of great houses and estates: Godolphin House being the seat of the earliest most successful mine owners, operators and entrepreneurs in Cornwall; Clowance being the home of the St Aubyn's at the heart of the development and exploitation of the mining industry within west Cornwall (some members also being important mineralogists and horticulturalists). The Trevarno Estate - acquired by the Wallis family (later Wallis-Pophams), significant mining entrepreneurs, but later passed to William Bickford-Smith, grandson of the inventor of the safety fuse, in the early 1870s - is now a nationally important garden.
- The satellite Area of Trewavas and Wheal Prosper to the south (Area A3ii) is the site of submarine copper mines and possesses some of the most strikingly-sited engine houses to be found anywhere within the Site.
- Great Estates reflected in the 'estate' settlements of Leedstown and Praze-an-Beeble.
- One of the largest and most important tin openworks (Great Wheal Fortune) within the Site.

Supporting discussion and character statements

Geography and landscape

A very extensive Area within which the three most identifiable topographical features are Godolphin and Tregonning Hills and the valley of the Hayle River to the north-west, the Area's only significant watercourse, and the cliffscape of Rinsey-Trewavas in the south. All of the rest is undulating plateau. This is essentially a rural Area, incorporating long-established farmland, though with significant areas of downland, mine dumps and scattered smallholders' cottages and fields. Large swathes of parkland, representing the great houses and estates of Godolphin, Clowance and Trevarno, further distinguish this Area, the effects of these great landowners also extending to estate-influenced settlements such as Praze-an-Beeble and Leedstown. Granite underlies its southern third. The stretch of cliff at Trewavas is spectacular, high, its granite bright with light reflected off the sea. Much of the area is agricultural, the lower fertile land being generally down to early crops, often under plastic in the spring. The higher ground is used for rough grazing, too exposed for crops.

Views

Tregonning and Godolphin hills are the only distinctive elements of this large Area, and there is no single point from which its extent and boundaries can be appreciated. From within the Area, the twin hills form key features in almost all views of the landscape, but they are often seen in the distance. From the hilltops, particularly from Godolphin Hill, there are views to Areas A2, A4, A5 and A7 and

huge panoramas across the Area and towards West Penwith, as well as north-west towards the adjoining Areas.

- **History and character**

Mining

This was a historically important early tin mining district, very much centred on Godolphin, which figured prominently in the early history of steam (Savery, Newcomen and Watt) and was associated with a number of innovations and improvements in mining technology. Later development saw both tin and copper mines scattered throughout the Area, with important concentrations of sites around Great Work, Godolphin, Wheal Fortune, Great Wheal Vor, and in Gwinear, although smaller scale sites are found elsewhere. The surviving mine buildings are rare and important and the Great Wheal Fortune open-work is an exceptional example of what was once a more common feature of early tin mining.

Transport

No mineral railways were constructed within the Area and the network of small roads was used to link up industrial sites, the gentle topography of the Hayle river valley being an important mule train route connecting the mines of the Area with the port of Hayle.

Ancillary industry

No significant ancillary industries were established within the Area though Wheal Vor was notable for being so rich that it possessed its own tin smelter.

Settlement

Most of the Area is rural, generally quite elevated without being particularly hilly and the former downs are interspersed with long-farmed landscapes. The Penzance – Helston road is flanked by originally mining-related ribbon development with a scatter of chapels, whilst smallholders' cottages dot much of the landscape. There are no real industrial settlements except for Goldsithney or Leedstown to the west and Praze-an-Beeble to the north-east. Breage is a much earlier churchtown, though expanded to accommodate the rising mining population. Within the Area, many cottages have been altered and extended, whilst bungalow developments have increased the sizes of settlements like Goldsithney, Leedstown or Godolphin Cross. Much of the alteration of old properties and the new buildings constructed along the Marazion to Helston road is somewhat out of keeping with the historic origins of these settlements.

Great houses

Two families, two large country houses, two estates framed this landscape and controlled its wealth over centuries – Clowance and Godolphin. Godolphin House has been carefully conserved, and is a particularly important element of this Area, as is Trevarno and its magnificent gardens on the eastern edge of this Area.

Mineralogical and ecological importance

The many surviving spoil dumps within the Area provide important habitats and a number are significant for their mineralogy, mineral specimens from mines such as Crenver and Abraham, and Wheal Vor, being known throughout the world for nearly 200 years. Type localities and 1st British mineral Occurrences are well-represented in the Area. Penberthy Crofts has been designated an SSSI for its mineralogy, containing both important dumps and in situ underground exposures.

Historical development and character

It is clear that there has been very little landscape development here since mining ended, and the economy of the Area is once again based on agriculture. Post-industrial activities, primarily agricultural improvement, have resulted in the loss of much of the built evidence for mining.

The Area remains a patchwork of fields, scrubby downland (often former mining sites), islanded mine shafts, the occasional small settlement and in three places, areas of woodland, often walled, which denote the perimeters of its great estates. The cliffscapes in the south, particularly at Wheal Trewavas, represent mining archaeology with high integrity.

Communications

There is one main road through the Area (Goldsithney – Leedstown – Praze-an-Beeble), and one along the southern edge (Marazion to Helston), the remainder of the roads being little more than small lanes. There is a particularly good network of footpaths, making much of the interior of this Area very accessible on foot. By car, however, going through or past the Area is much easier than exploring its interior, and the points from which it might be accessed are mostly unclear to visitors, as most signposts indicate only the nearest hamlet.

Principal sites

Trewavas, Wheal Prosper, Great Work, West Godolphin, Great Wheal Fortune, Tindene, Tregurtha Downs, Tregonning and Godolphin Hills; Godolphin, Trevarno, Clowance.

Interpretation sites

Godolphin House has a modest WHS interpretation facility appropriate to its character and in respect of its location and historical connections with pioneering mining technology.

Tregonning-Gwinear Area landscape character statement

Godolphin and Tregonning Hills are the granite hubs of this extensive, rural area where industrialisation was driven by the search for both tin and copper over many centuries, much of this under the direction of the two great estates of Godolphin and Clowance. The landscape is generally level, dominated by the two granite hills of Tregonning and Godolphin in the south, and by the valley of the River Hayle to the north.

Although mining played a very significant role in the development of this Area, this being the first location in Britain where gunpowder was used for blasting rock, the first to site a beam pumping engine on a metal mine, where the first commercial extraction of china-clay took place, and which includes one of the most important tin mines to operate prior to and during the early part of the industrial period, many of its industrial buildings have been demolished, and those that remain are now widely-dispersed. Mine sites are common, however and some provide important ecological habitats.

The character of this essentially rural landscape is the result of an intimate mixture of long-established farmland, more recent mineworkers' smallholdings, the enclosed estates, woodland and gardens of the great houses, areas of uncultivated hilly downland, dotted with mine shafts, the occasional engine house, and scrubbed-over mine sites, some of the last being very extensive. There are only three settlements of any size – Goldsithney to the west, Leedstown and Praze-an-Beeble to the north-east. The central part of the Area, a landscape of narrow, twisting lanes, is dotted with smallholders' cottages, long-established farmsteads and the occasional short row of mineworkers' cottages, the road from Praze-an-Beeble to Marazion being its only major highway.

Three great houses and their estates lie within the eastern part of the Area. Godolphin, formerly the seat of Sir Francis Godolphin, one of the predominant figures in the development of tin mining in

Cornwall in the late 16th and early 17th century, passed to the Dukes of Leeds during the later 17th century, these successors proving equally important within the development of the industry. The conserved house is Grade I Listed, and set within woodland and the extensive farmland of its former estate. To the north-east, Clowance was the home of the St Aubyn's from the 14th century (later the Molesworth-St Aubyn's), another important family at the heart of the development and exploitation of the mining industry within west Cornwall, some members also being important mineralogists and horticulturalists. The wealth and success of the family was expressed not only within the substantial embellished country house at the heart of the estate, but also by the gardens and wooded parkland which surround it, much of this laid out with a collection of exotic trees. Clowance suffered a significant decline during the 20th century, though the house survives with the surrounding estate now siting timeshare cottages, a golf course and other leisure facilities. Trevarno, the third great house lies at the east of the Area. Since its establishment following the Conquest, the estate was occupied by many of the great families of Cornwall, including the Killigrews, Carminows, Courtenays and Arundells. During the earlier part of the 19th century, the estate was acquired by the Wallis family (later Wallis-Pophams), significant mining entrepreneurs, but passed to William Bickford-Smith, grandson of the inventor of the safety fuse, in the early 1870s. Having been the seat of some of Cornwall's most significant entrepreneurs it is unsurprising that the estate possessed some of the foremost gardens and parkland to be found anywhere in the Site. Although deterioration forced the remodelling of the house during the 1980s the gardens have now been extensively restored.

Within this Area the OUV of the Site is generally expressed in a low-key fashion, its settlements being small-scale and locally-focused, though there are unexpected discoveries to be made, and a number of viewpoints which give extensive views over the surrounding landscape, in particular from Godolphin and Tregonning Hills. The satellite Area of Trewavas and Wheal Prosper to the south (Area A3ii) possesses some of the most strikingly-sited engine houses to be found anywhere within the Site. Few of the surviving industrial structures have been conserved, the notable exceptions being Leeds engine house at Great Work and the nearby Godolphin count house, with work on both structures having been undertaken by the National Trust.

A4. The Wendron Mining District

Statement of outstanding universal value

Area A4 (50008'53"N, 05039'21"W) - high, bare and windswept rural mining district occupying a remote upland area distant from large population centres.

- An extensive landscape of upland mineworkers' smallholdings created at and around Carnmenellis by hundreds of farmer-smallholders during the late 18th and early 19th century for men working the Camborne-Redruth mines to the north. Although very large areas of downland in west Cornwall were laid out to smallholdings during the early part of the industrial period, they were later absorbed into the farming landscape, but the particular topography, location and post-industrial history of this area around Carnmenellis ensured that these fields and settlements retain their original form and character.
- The significance of Wendron's near-surface alluvial tin production from the marshy area on Porkellis Moor at the confluence of the Cober River and the stream flowing south from Stithians, and its continuance and persistence using primitive technology and family-group operatives (through to the mid-19th century), and organised displacement, during the industrial period.
- Contains classic examples of tin-streamworks which led to the discovery of lodes and the development of comparatively shallow shaft mining; a marshland landscape owing its character to alluvial tin working.
- Sections of the underground 18th/early 19th century tin workings of Wheal Roots (Poldark Mine).

Supporting discussion and character statements

Geography and landscape

This is an Area of three parts: to the south the narrow valley of the Cober River, to its north the open bowl of Porkellis Moor and to the north again the exposed granite uplands of Carnmenellis. The mining geology of the Wendron Mining District corresponds to the lower part of the tin zone, resulting in a high density of alluvial tin, with relatively shallow shaft mines, often discovered as a result of outcrop working. Some copper was also mined. Only the land flanking Porkellis Moors is of reasonable agricultural quality; the high land of Carnmenellis is exposed, poor grazing. This is an almost entirely rural landscape.

Views

The landscape leads upwards towards the summit of Carnmenellis, though so gradually that it is only until in the northern part of the Area that this becomes apparent. There are views of the wider landscape from this point, but it has restricted access. The Cober Valley is closed in, linear. In contrast, Porkellis Moor is a huge, flat enclosed bowl in the landscape, though all views out of it are constrained by the surrounding hillslopes.

- **History and character**

Mining

Industry in the Area was historically based more on tin streaming than mining, though Porkellis was the centre of a small group of mines working the lodes which run beneath this Area. Whilst the evidence for tin streaming is still very much evident, many mine buildings have been demolished, making those that remain the more important. Two of the engine houses have been successfully adaptively reused.

Transport

No mine railways or tramways were constructed within the Area. The alluvial tin ore was smelted locally and carted to Helston for coinage before being shipped from small harbours like Gweek.

Ancillary industry

No ancillary industries were established within this Area.

Settlement

Only Porkellis is of a size which could be described as a village and most other houses are either isolated or in very small clusters.

Smallholdings

The very extensive smallholdings which developed around Carnmenellis relate as much, if not more, to industrial sites near Camborne-Redruth as to the few local mines. They underpin the character of this Area and are by far the best-preserved anywhere in the WHS.

Great houses

There are no great houses within the Area.

Mineralogical and ecological importance

The heritage of tin streaming at Porkellis Moor has led to this area being designated as a SSSI for its bryophytes.

Historical development and character

A long history of importance for tin streaming and small scale mining was followed by a relatively brief period of deep mining, but neither spurred the development of substantial settlements or a developed infrastructure. Particularly distinctive of the Area are the huge areas of smallholders' fields (part of a wider landscape surrounding the Area) which developed to meet the housing needs of a rapidly growing population in the mining landscape to the north and the land pressure which resulted. Over time, towns and villages began to develop, lifestyles changed, and eventually the mining economy collapsed, Carnmenellis becoming almost completely abandoned. This now approaches being a fossilised landscape - very rural and quite remote with a tiny population, a few still farming at the upland limits of agriculture; a landscape that most people left when it could no longer sustain them. Within the southern part of the Area most mine buildings have been demolished though important engine houses remain at Basset & Grylls, Wheal Enys and Trumpet Consols.

Communications

The whole of the Area is very much off the beaten track. There are few roads, lanes or footpaths, which makes most of the Area, particularly Carnmenellis itself, almost inaccessible to visitors.

Principal sites

Porkellis Moor, Trumpet Consols, Wheal Ann, Basset and Grylls, Wheal Enys, Medlyn Moor, Poldark (underground); Carnmenellis smallholdings.

Interpretation sites

Poldark Mine (Area Centre)

Wendron Area landscape character statement

Occupying a remote upland area distant from large population centres, the central part of this Area had long been important for the mining of alluvial tin from the marshy area at the confluence of the Cober River and the stream flowing south from Stithians. A small group of mines were established around Porkellis during the 19th century, but it was the settlement of the uplands of Carnmenellis by hundreds of farmer-smallholders during the late 18th and early 19th century that established the unique landscape character of this Area.

High, bare and windswept, it now seems extraordinary that the farming of this former moorland should even have been attempted, let alone been a necessity for men working the Camborne- Redruth mines to the north. Although very large areas of downland in west Cornwall were laid out to smallholdings during the early part of the industrial period, they were later absorbed into the farming landscape, but the particular topography, location and post-industrial history of this area around Carnmenellis ensured that these fields and settlements retain their original form and character. The small number of surviving engine houses are important landmarks, particularly those at Wheal Ann and Trumpet Consols in the south and Wheal Enys just to the north of Porkellis, but in terms of industrial sites, the huge area of former streamworks which resulted in the formation of Porkellis and Medlyn Moors makes the most significant contribution to this landscape.

Settlements are rare in this Area, only Porkellis being of any size and most of the Area's small population live in scattered farms, the majority of these being the successors to the original smallholders' cottages. Porkellis retains much of its original character, the only significant new

development being confined to its eastern side. Given the small population, the road system is small scale, local and twisting, the Area little visited by non-residents.

Interpretation of the industrial history of the Area is currently undertaken at Poldark Mine at its southern end. The publicly accessible sections of the workings of Wheal Roots at Poldark are significant within the wider Site.

A5. The Camborne and Redruth Mining District with Wheal Peevor and Portreath Harbour

Statement of outstanding universal value

Area A5 (50008'53"N, 05039'21"W) - the mid-west Central Mining District, the richest non-ferrous metal mining district of the late 18th and first half of the 19th century, the most populated, most urbanised, the most innovative in the Site, an internationally significant centre for safety- fuse and rock-drill manufacture and an epicentre of migration.

- Three in situ mine beam engines out of the four preserved in Cornwall: two at Michell's and Taylor's Shafts, part of the former East Pool and Agar, and one at the nearby Robinson's Shaft site.
- The most heavily industrialised tin and copper mining district in the Site containing many of Cornwall's richest, deepest and most famous copper and tin mines.
- Home to the invention of the miners' safety-fuse and the centre of its global manufacture, the important Bickford-Smith complex and other smaller nearby works surviving as testimony to this.
- King Edward Mine, the former practical training base for students at the world-famous Camborne School of Mines, is one of Cornwall's two complete mine sites and contains a unique collection of restored historical machinery.
- New discoveries to the south of Carn Brea saw the development of important mining ventures along the outcrop of the Great Flat Lode. Jointly, these allowed the economy of this Area to continue to thrive into the early decades of the 20th century and the resultant engine house landscape, combined with tin-dressing archaeology, is the most extensive within the Site.
- The home of many of its pioneering engineers and inventors.
- The hub of the most important industrial transport infrastructure in the Site with links to Portreath, Hayle and Devoran.
- The centre of rock-drill manufacture for home use and, more important commercially, for export to foreign mining fields such as the Rand.
- The only Area within the Site where industrial (mining and ancillary) activity resulted in sustained extensive urbanisation from the beginning of the 19th century.
- A landscape whose development was framed by some of the greatest landed families and entrepreneurs of Cornwall – the Bassets, Fortescues, Robartes, Vyvyans, Thomas', Bickford and Bickford-Smiths, Murdoch, Vivian and Trevithick.
- An Area whose economy was sustained by engineering exports and by remittances sent back from migrant miners into the early part of the 20th century.
- Includes the two most historically important mining settlements in the Site: Redruth, the 'capital' of Cornish mining and the mining engineering 'new town' of Camborne.

- The coastal mining port of Portreath, the hub of Cornwall's earliest industrial mineral transport infrastructures.
- A satellite site comprises the important group trio of pumping, winding and stamping engine houses at Wheal Peevor, and its arsenic calcining complex.

Supporting discussion and character statements

Geography and landscape

Topographically, the chain of granite hills made up of Carn Brea, Carn Arthen, Carn Entral and Beacon dominate, dividing this Area into two – the plateau to their north, its mining landscape now covered in settlements and modern industrial buildings, and the predominantly rural landscape of the rising ground to the south. The principal copper-tin lode strikes paralleled the granite ridges as did settlements, often ribbon-like in form, together with the main roads and the railway. A series of deeply-incised north-flowing valleys dissect the northern plateau, whose altered killas cloaks the underlying granite. Tin occurred near-surface, copper at moderate depth and tin deeper still; in fact to around 1,000m depth, the deepest exploitation achieved throughout the Site.

The northern part of the Area is intensively urban the remaining scraps of once open land now being rapidly built upon. The southern section, in contrast, is very rural in character, farming being a mixture of stock and horse grazing and arable.

Views

Given the bi-polar nature of this landscape, there is no single spot from which it can be seen as a single entity, though the summit of Carn Brea provides a spectacularly panoramic view of most of it and can be seen from far away when approaching the Area on its northern side. Carn Brea and the other hills in the chain always dominate and divide the two landscapes; they are often visible within the Area, even from within settlements. The views from Carn Brea reach out to Carnmenellis (A4), Carn Marth (A6), Hensbarrow, West Penwith (A1) and St Agnes (A7), though the cluttered industrial estate below is distracting. Within the settlements to the north, views are often linear, generally east-west, usually closed in, though there are rare breaks in the streetscape through which the hills to the south become visible. Between the settlements and the hills sightlines are almost always east-west and open. The linear landscape of the Great Flat Lode is of exceptionally high quality, and contains several high quality views, again almost all aligned east-west, accentuating the numerous engine houses along the line of the lode.

- **History and character**

Mining

This was the centre of the Cornish mining industry and the site of many of its most important and long-lived mines and other undertakings; a landscape whose development was framed by great families: Basset, Fortescue, Robartes, Vyvyan, by engineers and entrepreneurs, by long-lived mining dynasties. To the north of the hills, the extraordinary mining landscape photographed and illustrated during its heyday has been almost entirely completely eradicated by modern development, and where there were once almost a hundred engine houses, industrial estates now fill the landscape. The few remaining structures are important landmarks, stretching from Pednandrea chimney in the east to Stray Park engine house in the west, and there are some important areas such as Dolcoath and the Red River Valley. South Crofty's headframe together with the engine house (and headframe) at Robinson's Shaft, and the engine houses (containing in situ beam engines) of East Pool & Agar mine are very important landscape features.

To the south of Carn Brea, the chain of engine houses, dressing floors and other mine buildings features along the Flat Lode from Wheal Uny and Wheal Buller in the east to Marshall's Shaft at South Condurrow is unparalleled anywhere else in Cornwall. Here, too, are important stretches of mining

landscape, particularly around Carnkie. Efforts are being made to actively interpret the mining landscape at a number of conserved mine sites on the Mineral Tramways Trails, as well as interpretation panels. King Edward Mine is an important site, given its unique collection of surviving machinery and efforts currently being made to develop it as an industrial museum.

Permission to resume mining at South Crofty was granted in November 2011. Development of the Robinson's Shaft site as the WHS interpretive Key Centre and community cultural facility, 'Heartlands', has greatly improved the presentation of OUV for this Area and those around it.

Transport

The area was served by the Redruth & Chasewater Railway, the Hayle Railway and its spur to Portreath and the site of many mine railway and tramway systems. The trackbeds of most of these railway and tramway systems survive, and are increasingly being adopted as trails, paths and bridleways linking important mine sites and making them accessible, whilst the main line from Redruth to Hayle still follows the line of the original Hayle Railway for much of its length. Portreath was a significant minerals, coal and timber port and its impressive granite harbour still survives, though somewhat cramped in by new housing. A new trail along the route of the branch of the Hayle Railway will provide Portreath with two important historically-based links to the neighbouring mining districts.

Ancillary industry

The Area includes many former sites of heavy industry, the centre of Cornish fuse making, tin smelters at Seleggan and Redruth, rock drill works, the workplaces of Murdoch, Watt, Bickford, Trevithick and Holman. Over time, many of these factories and works have been re-used for other purposes, and the current conversion of the Holman's No 3 works in Camborne is only the most recent of these. The loss of the Vauxhall Brewery in Redruth is imminent and Bickford Smith's pioneering fuseworks in Tuckingmill awaits a new future, like the Bennett's fuseworks nearby. As only some elements of the Bickford's complex are protected by designation, the outcome for this historically important and architecturally imposing complex remains uncertain. Elsewhere within the Area small workshops and other industrial buildings contribute significantly to the urban landscape.

Settlement

The locations of the northern settlements relate directly to the nearby mines and Camborne, in particular, shows many signs of deliberate organisation on a large scale at times during its development. Here, too, as in Redruth, there are impressive public and commercial buildings, as well as some of the town houses of the very wealthy, though the dominant impression is of terrace after terrace of worker housing and linear main streets lined with shops, pubs and public buildings, many showing signs of embellishment. Redruth has undergone something of a renaissance during the past decade, the contribution of its historic buildings evidently being well recognised. Camborne, too, should start to see the benefits of regeneration. In between these two major settlements, development was linear, related to the locations of mines and factories, often originally little more than one structure deep from the road. Here, new building and redevelopment has been patchy and often at the expense of the original historic character of the settlements – the demolition of some significant buildings having taken place alongside the erection of new large commercial structures in roadside locations.

To the south of the hills, the few settlements - Brea, Carnkie, Carn Brea - are small-scale and rural in character, based on rows of mineworkers' cottages, with pubs and chapels, sometimes a village shop. Troon is a planned new town which failed to grow beyond the original rows laid out along its spine main road and the two side roads leading off it. It is clearly an industrial settlement - grey, terraced, two storey, planned and still retaining its original character.

Smallholdings

There are no significant areas of surviving smallholding within the Area except around Newton Moor, where isolated cottages dot a landscape of small fields.

Great houses

There are no great houses within the Area, but there are a large number of embellished town houses and villas flanking the principal settlements, particularly in the western parts of Camborne and Redruth.

Mineralogical/ecological importance

Specimen mineralogy from the district is world-famous and the Area has a significant share within the WHS of both type localities and 1st British mineral Occurrences. Mineral rich substrates at West Basset and Dolcoath provide ideal conditions for rare bryophytes and have been designated as SSSIs. A number of spoil dumps within the Area are recognised as being mineralogically important.

Historical development and character

This is a landscape which had a long and important place to play within the history of Cornish mining and which, during the early to mid-19th century was the centre of the hard rock mining world. Important industries sprang up to service these mines, and a large-scale industrial workforce was housed in the new, sprawling settlements which quickly grew up near the mines.

At that time there were more mines per square mile here than anywhere else in Cornwall, probably anywhere else in the world, as well as many of the richest and deepest. Inevitably, with an economy based on mining, on heavy industry, the decline of mining had a very significant impact, yet whilst the landscape to the south became fossilised, the northern part of this Area had acquired sufficient momentum to continue to evolve and change.

Unsurprisingly, much has been swept away, lost beneath sprawling modern industrial estates or commercial buildings, many whose layout, massing and detailing have nothing to do with the historic landscapes within which they stand, and the contrast between the existing and the new has not always been well managed. Current regeneration proposals will ensure the continuing evolution of the character of this Area, though it is now more likely to take the historic character of the built landscape into account.

Communications

The Mineral Tramways trails provide long-distance routes on foot and by cycle or horse between many of the best surviving mine sites, whilst CPR is served by a busy network of railways, roads, streets and by-passes. Public transport links all of the settlements here.

To the south of the hills, most roads are small-scale, linking local settlements rather than being parts of long-distance routes. Some were clearly deliberate creations to serve the new planned settlements, but have no other function today, and the Camborne – Beacon – Troon road effectively peters out on Nine Maiden's Down. Only the road from Lanner to Four Lanes, mostly lying to the south of the Area, is a major route, and eventually makes its way over the moors to Helston. Portreath harbour has a particularly difficult and dangerous entrance and is now little used.

Principal sites

EPAL, Cook's Kitchen, Dolcoath, the Flat Lode Mines (Wheal Uny, West Basset and Basset Stamps, North Basset, Marriott's Shaft and South Wheal Frances, the Grenville Mines, King Edward Mine, South Condurrow and Great Condurrow, Marshall's Shaft, Wheal Peevor, Portreath Harbour and Tramroad, Redruth, the Cornwall Centre, Robinson's Shaft, the Tuckingmill fuseworks, Carn Brea; Camborne and Redruth towns with their chapels, workers' housing and public buildings.

Interpretation sites

Heartlands (candidate Key Centre, with East Pool Mine) East Pool Mine, The Cornwall Centre, King Edward Mine, Murdoch House, various Great Flat Lode sites (interpretation panels).

Camborne-Redruth (with Portreath) Area landscape character statement

Long-recognised as the centre of the Cornish mining industry, the landscape around Camborne and Redruth sited many of its richest, deepest and most famous mines, the homes of many of its pioneering engineers and inventors, and the only Area within the Site where industrial activity resulted in sustained extensive urbanisation from the beginning of the 19th century. It is a landscape whose development was framed by some of the greatest entrepreneurs and landed families of Cornwall – the Bassets, Fortescues, Robartes, Vyvians, by the Thomas' of Dolcoath, by William Bickford, Murdoch, Vivian and Trevithick.

Development here continued more or less uninterrupted from the early industrial period throughout its developed phase and, sustained by engineering exports and by remittances sent back from migrant mineworkers, into the early part of the 20th century. By the mid-19th century, chimneys and engine houses dominated the view from Camborne eastwards towards Carn Brea, amongst them being world-famous mines such as Dolcoath, Tincroft, Wheal Agar, Carn Brea, South Wheal Crofty, Cook's Kitchen and East Pool, as can be seen from the photographs and maps of the period. The scale of mining which developed here quickly required a massive workforce and supporting infrastructure, including not only very extensive terraced housing, public buildings, chapels and shops, but new roads, tramways and railways to link the mines and towns to the new industrial ports of Hayle, Portreath and Devoran, factories to produce explosives, fuses, miners' boots, candles and clothing, Schools of Mines, libraries and police stations. Both Camborne and Redruth became mature, developed towns, the road linking them flanked by the cottages of mineworkers, fuse-makers and foundrymen.

The Area was unusual in that its geological riches, together with its engineering exports, enabled it to weather the catastrophic fall in international copper prices through the mid 19th century. Dolcoath, East Pool and Agar and South Crofty became important tin producers, whilst new discoveries to the south of Carn Brea saw the development of important mining ventures along the outcrop of the Great Flat Lode. Jointly, these allowed the economy of this Area to continue to thrive into the early decades of the 20th century.

If the development of industry within this Area had been prolonged and spectacular, its decline and abandonment were rapid and absolute, only a handful of its deepest, richest mines surviving beyond the 1920s. Sites which had once been amongst the most productive anywhere in the developed world lay derelict and abandoned, eventually to be cleared away, and by the 1980s, the mining landscape to the north of Carn Brea had been almost entirely lost to new development, South Crofty its only working mine. The collapse of mining had seen Portreath to the north lose its tramway and railway links as well as almost all of its commercial traffic. Housing development, particularly along the western edge of its harbour, has had considerable effects on the character of the settlement.

To the south of Carn Brea the pattern of post-industrial land use followed that of other rural areas of Cornwall following the cessation of mining. Whilst some peripheral areas of mine sites were reclaimed to agriculture, most became fossilised, and as a result, the survival of the evidence for industrial activity here is exceptional.

These two landscapes have continued to develop in very differing fashions. After decades of depressed economies, the urban landscape to the north of Carn Brea is undergoing a renaissance, driven to a substantial degree by the CPR regeneration project and guided by historic environment studies undertaken by Cornwall's Historic Environment Service (the CSUS and CIS projects). Some historic buildings within Camborne and Redruth are already being restored and given new uses, areas of earlier industrial estates and commercial developments are being cleared for extensive development projects, new distributor roads laid out. The mining history of the Area has not been

forgotten, however. This Area contains three of the handful of preserved beam engines in Cornwall. Two of these, at Michell's and Taylor's Shafts part of the former East Pool and Agar, were developed by the National Trust as an interpretation site for this Area, whilst conservation of the nearby Robinson's Shaft site, secured as part of its development as a Key Centre for the interpretation of the Cornish Mining World Heritage Site, also includes as an ongoing project the restoration of the in situ beam engine.

To the south of Carn Brea, the Mineral Tramways Project has seen the conservation of almost all of the engine houses, the creation of extensive multi-use trails and the provision of new interpretation. King Edward Mine, the former practical training base for students at Camborne School of Mines, is emerging as a small but high quality interpretation site, based on its unique collection of restored historical machinery. In Satellite Area A5ii to the north, the Wheal Peevor engine houses and site have now undergone an extensive conservation project and are to be interpreted and made accessible to the public.

The urban parts of this Area are emerging from a long economic stagnation into a period of dynamic change, essential if they are to survive and be viable. Careful management of that change is essential to ensure that their contribution to the OUV of the Site is not impaired or substantially diminished. The central parts of the urban areas of Camborne and Redruth still retain much of their essential historic character, as well as key public buildings and embellished commercial properties. It is vital that these are conserved and found new uses, and that new development within core areas respects and reflects the history of the settlements. Over time, repair and refurbishment of the distinctive worker housing will need to be addressed, with occupants encouraged to reverse some of the less appropriate changes which have been made to them.

A6. The Gwennap Mining District with Devoran, Perran and Kennall Vale

Statement of outstanding universal value

Area A6 (50008'53"N, 05039'21"W) - this 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.

- 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 Restronguet 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.

Supporting discussion and character statements

Geography and landscape

This is a large and essentially rural Area. Most of the Area is a moderately dissected plateau, though rising to the granite boss of Carnmenellis to the west and very significantly cut into by the Carnon Valley to the east. The outlier Areas (Devoran and Kennall Vale) are given much of their character by their estuary and wooded valley locations, respectively. In the northern part of the Area, the landscape is former downland, much of it fairly homogeneous in character – the highpoints at Creegbrawse and Kerley Downs being almost imperceptible. Some very rich tin occurred, both in alluvials (e.g. Carnon Stream) and in hard rock (e.g. Poldice), but the area was dubbed 'Copper Kingdom' due to the density and richness of copper lodes in the Area. In the near-surface bonanzas in the oxidised zone, some of the finest known (including type locality specimens) secondary copper minerals were recovered.

Views

This is another huge Area, whose boundaries are always too far distant for one to be able to get a feeling of the whole from within, and whose identity and boundaries are not readily distinguishable from outside it. There are many small valleys, narrow lanes bounded by high hedges and here and there the occasional patch of woodland, so views are often constrained and local, often along valleys. Occasionally the landscape opens out, as at Poldice, Wheal Maid or in the lower Carnon Valley, and something of the scope and scale of former industrial activity becomes evident. Settlements like St Day, Chacewater, Devoran or Carharrack often look inward, rather than out to their neighbours, or to the landscape they inhabit. From Carn Marth, there are panoramic views to the west and south.

Kennall Vale is thickly wooded, closed in, and views within this part of the Area are measured in a few tens of metres at best. Devoran looks south to Carclew, as well as south-eastwards down its wide broad open creek towards the Fal estuary. The view from the north of Carclew House across the creek to Devoran and the Carnon must be spectacular but is not presently readily accessible.

- **History and character**

Mining

A large, now predominantly rural Area, formerly siting some of the richest copper mines anywhere in the world and one within which some of the earliest beam engines were installed. The heyday of this Area was principally during the 18th century and the early 19th century; none of the notoriously rich copper mines saw rock drills, for example. It is an area within which enormous fortunes were made by a small number of individuals, and which was once thick with engine houses and other mine buildings. Much of the evidence for this is now lost but where it survives it is spectacular and sometimes uncomfortably stark. There are a number of historically-significant surviving mine sites, as well as the important sprawling, devastated landscapes within which they stand.

Transport

Tramways – including two of Cornwall’s earliest and most important - thread through this Area, linking its mines to the ports of Devoran and Portreath. The influence of John Taylor and the Williams family is never far away. The railway trackbeds are particularly well-preserved and accessible. Despite modern development, many elements of the port of Devoran are well preserved.

Ancillary industries

As well as mines, this Area includes one of Britain’s foremost gunpowder works and a major iron foundry, as well as the fragmentary remains of an important arsenic works. Perran Foundry and Kennall Vale are not only important within the Area, but within the wider WHS, nationally and internationally.

Settlement

Most settlement consists of scattered smallholdings with roadside chapels scattered though the landscape, though there are also several small but important villages. These larger settlements: St Day, Chacewater, Devoran and Carharrack have their own identities, often looking inward, rather than out to their neighbours, or to the landscape they inhabit. They show signs of a wealthier past, though most also show signs of the harder times which followed. Whilst Chacewater and Devoran suffered long term economic downturn to a lesser degree, St Day feels run down, though has considerable potential and its building stock still retains much character. Gwennap Pit, one of Britain’s top three icons of Methodism, and the ruined Gothic- style church at St Day (built 1828), are important religious sites that served the mining industry.

Smallholdings

Much of the northern part of the Area is covered with former smallholders’ fields and dotted with isolated cottages and small farms, characterising this landscape.

Great houses

There is an exceptional concentration of large houses and estates in Gwennap, more so than any other Area within the WHS. A number of these were built by mine owners and managers near to the mines themselves: Scorrier, Tregullow, Burncoose and Carclew, and others of landed mineral lords pre-date them: Trevince and Pengreep, though none of these are publicly accessible.

Mineralogical/ecological importance

Gwennap mines represent by far the greatest number of Type Localities of any WHS Area and 1st British mineral Occurrences are behind only St Just. The rich and widespread distribution of copper, particularly in the oxidised zone, together with the heyday of mines such as Wheal Muttrell, Wheal Gorland and Carharrack Mine coinciding with early mineralogical research, is responsible for much of the Type Locality significance. There are a number of other mineralogically-important sites within the Area, whilst the mineral-rich spoil dumps of the Poldice Valley have led to it being designated a SSSI.

Historical development and character

Many of the mines here operated during the earlier part of the industrial period, their phenomenal success and richness bringing about the colonisation of huge areas of former downland by miner-smallholders. However, most were abandoned by the mid-19th century, as the focus of mining in Cornwall swung from copper to tin and whilst there are extensive and impressive mining landscapes here, surviving mine buildings are now relatively few and far between. One of the largest mines within this Area is now Cornwall's main landfill site, its fringes occupied by car breakers. On the whole the landscape is rural, relatively unpopulated, Devoran being a particular exception.

Communications

There are no major highways apart from the Truro-Falmouth A39 which skirts the south-eastern edge of the Area, and most of the Area is criss-crossed by a network of small roads, lanes and footpaths, though in its south-eastern outlier there is almost no way to get around except by car, and footpaths are rare. Many of the principal mine sites are linked by trails and footpaths, but only the Coast to Coast Trail links the eastern and western parts of this Area.

Principal sites

Gwennap Pit, Perran Foundry, Carnon Mine, Wheal Busy, Killifreth, Unity Wood, Devoran, Kennall Vale, Poldice, Wheal Maid and the Consolidated Mines, Cusvey, St Day and its church, Portreath Tramway, Redruth & Chacewater Railway, Scorrier, Tregullow and Burncoose estates.

Interpretation sites

Gwennap Pit (Area Centre) and St Day Church.

Gwennap (with Kennall Vale and Devoran) Area landscape character statement

An Area of contrasts, this, once the richest of Cornwall's mining districts and the site of some of its earliest beam engines, appears at first sight to have returned to post-industrial rural sleepiness. Its northern half, once the site of a huge expanse of downland but subsequently laid out as smallholdings, now feels mature, the boundaries of many of its tiny fields planted with oaks and hawthorns. To the south, the farmland gives way unexpectedly to some of the starkest industrial landscapes to be found anywhere in the Site – hectares of shaft-littered heathland, the sprawling un-vegetated 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, when the richest copper mines to be found anywhere in the world were sited here. These components of the industrial landscape were formerly far more common, but Ting Tang is now scrub woodland whilst the United Mines and Wheal Squire currently site Cornwall's principal landfill dump, several car breakers and a recycling depot. Nevertheless, some of the engine houses within this Area are amongst the oldest to survive anywhere in Cornwall, and have direct connections with the able and successful mining entrepreneur John Taylor. This was also the home territory of the Williams mining dynasty whose influence was pervasive in this area; and widespread throughout the early 19th century mining world.

There are only three substantial settlements in the main part of the Area – 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. Within their core areas, each retains much of its historic character, despite considerable new development around their peripheries.

The two outlying Areas (A6ii and A6iii) to the south east encapsulate particularly important sites at which important aspects of the OUV of the Site are expressed. Kennall Vale sites one of the largest and most complete gunpowder works to be found anywhere in Britain. Its secluded valley site, dominated by the woodland originally planted to absorb blast damage from accidental explosions, is

now a managed nature conservation site. Perran Wharf and Devoran nearby include the well-preserved remains of one of Cornwall's pre-eminent iron foundries, one of its two most important industrial ports, and, at 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 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.

Finding a successful and appropriate future for Perran Foundry, abandoned a few years ago following the end of the use of the site for feed milling, is urgently required. Many of the buildings on this site, unused for decades, have deteriorated to the point where they are becoming unstable and dangerous. A failure to find a sustainable future for Perran Foundry will diminish not only this Area, but the Site as a whole.

Much of this Area is rural, unthreatened and equally unlikely to change in radically different ways in the foreseeable future, although the ongoing development of the Mineral Tramways trails through and around the Area offers some opportunities for new sources of income for settlements like St Day, for new businesses offering cycle hire, short break accommodation or places to eat. Further changes to this landscape will follow the eventual final closure of the United Downs landfill site and the rehabilitation of Wheal Jane. It is almost inevitable that the neglected historic buildings of St Day will be rehabilitated and repaired like its miners' church, now an interpretation site close to the Mineral Tramways trails.

A7. The St Agnes Mining District

Statement of outstanding universal value

Area A7 (50008'53"N, 05039'21"W) - an ancient tin and copper mining district fringing Cornwall's north coast.

- The site of rich bonanzas of copper and tin throughout the 18th and 19th centuries.
- Sites iconic coastal engine houses.
- Activity within the narrow mineralised zone to the east and south of the granite boss of St Agnes Beacon and to the south and north of Cligga Head has left a legacy of spectacular cliff workings. The scale and complexity of the early cliff workings at Cligga Head is unparalleled anywhere else in the Site.
- The fine mining settlement of St Agnes, its mining fortunes reflected in its shops, pubs, hotels, chapels and public buildings like the Miners and Mechanics Institute. The engine house at Thomas' Shaft, West Wheal Kitty, is a surviving reminder of the labyrinth of workings beneath the settlement.
- Noted for its internationally significant mineralogy.
- The site of tin-dressing floors on cliff-tops and in narrow stream valleys
- The remnants of Trevaunance Harbour highlight the extreme exposure of Trevaunance Cove which made this difficult to construct and work, having to be rebuilt on four occasions after being destroyed by storms. The harbour was a necessity, however, the nearest alternative being Portreath some way to the west.
- The south and east of the Area contains a well-preserved and high density of smallholdings.
- Wheal Luna is a very good example of a tin open-work.
- Blue Hills tin stream works has been restored to operation in Trevellas Coombe.

- The remains of the British & Colonial Explosives Works at St George Common and a rare example of this site type within the Site.
- The presence of underground waterwheel pits at Droskyn Point, Perranporth.

Supporting discussion and character statements

Geography and landscape

This is very much a coastal Area and the sea is never far away. The granite knoll of St Agnes Beacon forms its hub, from which the coast radiates away from to the east and south-west. To the south-east is relatively featureless level farmland, formerly downland, though here and there it is cut through by deep, narrow valleys - Chapel Coombe, Trevaunance Coombe; Trevellas Coombe and Porthtowan Coombe. To the north east is the granite of Cligga Head, with its spectacular, anciently mined, steeply dipping near-parallel greisen veins.

The boundaries of the Area in general demarcate the coastal strip and the historic urban area of St Agnes, and as a result it encloses little agricultural land, though pasture fields are the surrounding context for the Area.

Views

St Agnes Beacon can be seen from many miles away and from most of the neighbouring Areas, yet the Beacon blocks out views of half of the Area from the west or the east. From within the Area, the views are mostly towards the coast, down valleys or across the plateau and take in key features of OUV such as prominent mine sites. The views from St Agnes Beacon are spectacular and on a good day reach down to West Penwith and across to Carn Brea. There are some stunning views down Trevaunance Coombe and in the valley near Tywarnhayle, whilst the cliffscape at Cligga Head to Droskyn Point provides exceptional views along the coast, particularly to the west.

- **History and character**

Mining

Like the St Just mining district, this is a mining landscape at the edge of the land, with spectacularly-sited engine houses and dramatic coastal mining evidence. It is a landscape of both copper and tin mining, whose valleys were once thick with stamps and dressing floors. In the centre of the Area around St Agnes and the Beacon, the surviving engine houses materially add to the landscape character; to the south, the copper mining landscape is open, extensive, mine buildings are rare but important, often hidden in valleys; to the east, the coast from Trevellas through Cligga Head to Droskyn Point is stark, ravaged, extraordinary, with cliff-top mine dumps at Penhalls and Perran St George adding distinctive character.

Transport

There were no industrial railways or tramways within the Area, but St Agnes had a precariously-sited harbour which had to be rebuilt several times. It now consists of a scatter of jumbled blocks.

Ancillary industries

The sites of ancillary industries, some such as the iron foundry sited adjacent to the harbour at Trevaunance, have now been redeveloped, but a little more may be seen of Cornwall's second largest explosives works on the cliffs near Cligga. Less conspicuous, and less historically in terms of industrial scale, but important none-the-less, are the candle clay pits – used by miners to fix candles to their hats – around the lower slopes of St Agnes Beacon.

Settlement

There is only one true settlement, and St Agnes is less rugged and plain than St Just; most of its houses have a certain elegance and sense of proportion, and indicate the influence of a certain degree of wealth. The town contains a number of public buildings, notably the Miners and Mechanics Institute. Porthtowan has lost most of its original identity to holiday development. In 1878 there was almost nothing here. The countryside around is peppered with isolated cottages.

Smallholdings

To the south of St Agnes for miles across former downland and spreading up onto the Beacon, smallholders' fields and new farms underpin the character of the rural landscape away from the coast.

Great houses

There are no great houses in this Area, but some of the town houses within St Agnes show signs of appreciable wealth.

Mineralogical/ecological importance

St Agnes is world-famous for its specimen mineralogy, including several type localities, and a number of spoil dumps within the Area are mineralogically important. Three coastal areas within which mining activity took place have been designated as SSSIs: Godrevy Head to St Agnes, Trevaunance Cove and Cligga Head (this last designation extending to Droskyn Point).

Historical development and character

From being the hub of an important and long-standing mining district, St Agnes has evolved into a small and prosperous settlement, its economy now based on beach-based tourism and as a dormitory settlement for Truro. Within the Area as a whole, the survival of built evidence for mining has been patchy, and is mostly confined to the more remote areas of the coast. Wheal Coates is well known to many visitors, but many other sites are little visited, except by walkers on the Cornwall Coast Path.

Communications

The Truro-St Agnes road is the only one of any size and there are few lanes. The other principal route is the coast path, though this passes through, than to anywhere in the Area. The history of mining and smallholding in this area has resulted in a complex network of footpaths around the Beacon. Much of the coastal heathland is open access land under the CROW Act 2000.

Principal sites

Wheal Coates, Wheal Kitty, Cligga Head, Wheal Tye, Chapel Porth, Tywarnhayle, Great Wheal Charlotte, St Agnes Beacon, Trevellas Coombe, Wheal Friendly, Wheal Ellen, Blue Hills tin works, Gooninnis, St Agnes Churchtown and its Miners and Mechanics Institute.

Interpretation sites

St Agnes Museum (WHS Area Centre), Blue Hills Tin.

St Agnes Area landscape character statement

Fringing Cornwall's coast to the north of Truro, the St Agnes mining district was important for both copper and tin throughout the 18th and 19th centuries, and activity within the narrow mineralised zone to the east and south of the granite boss of St Agnes Beacon has left a legacy of spectacular cliff workings and coastal engine houses, its narrow stream valleys the former sites of dressing floors and water-powered stamps. Several of these survive, and as well as the iconic engine houses at Wheal

Coates – more important for their spectacular location than the output of the mine – there are a number of important vistas, including that down Trevaunance Coombe, which is embellished by a number of prominent mine buildings. Mining activity once reached right up to the western part of the settlement, the engine on Thomas' Shaft, West Wheal Kitty, being a surviving reminder of the labyrinth of workings beneath the settlement which stretch northwards and westwards under the huge expanse of disturbed ground which was the site of Polberro Mine. The spectacularly scarred coast between St Agnes and Perranporth also sited a number of historically and mineralogically important mines, including those at Cligga Head, Perran St George and Droskyn. The impact of industrialisation on this coast can be readily appreciated from the coast path, the scale and complexity of the early cliff workings at Cligga Head being unparalleled anywhere else in the Site.

St Agnes also possessed a small harbour, though the extreme exposure of Trevaunance Cove made this difficult to construct and work, and it had to be rebuilt on four occasions after being destroyed by storms. The harbour was a necessity, however, the nearest alternative being Portreath some way to the west. Near the harbour, Trevaunance Cove and the nearby Coombe became a centre for a range of industrial activities, including several tin dressing works, a foundry, shipyard, lime kilns and a fish cellar.

The town itself grew up to service the local mines and initially had three distinct centres: St Agnes Churchtown, Rosemundy and Peterville, with short rows of industrial workers' cottages later developing near the harbour. Although based on two storey cottages set out in rows, as was the Cornish custom, many of these industrial cottages and houses show the influence of greater wealth and taste than was common in local mining districts – in part a reflection of the earlier history of the Area, when mineworkers' smallholdings were developed over square kilometres of downlands between St Agnes, Truro and Redruth. By the time that St Agnes itself developed, mining fortunes were running high, and this is reflected in its built environment with its shops, pubs, hotels, chapels and public buildings like the Miners and Mechanics Institute, in the cut ashlar work of many house frontages along the road running northwards to Churchtown and British Road, in its town gardens and in the leafy tranquillity of the graveyard adjoining the Methodist Church.

St Agnes is a confident and well-appointed attractive village with an established tourist industry based on its many nearby beaches and reliable surf. Trevaunance Cove is now a popular destination for tourists. The surrounding area is traversed by the South West Coast Path, and both St Agnes Beacon, with its panoramic views and nearby Wheal Coates are popular destinations.

With the exception of the sites owned by the National Trust in the western part of the Area - Wheal Coates, Great Wheal Charlotte and West Wheal Charlotte, there has been limited conservation of the industrial heritage in this Area. Sara's Shaft engine house at Wheal Kitty has recently been conserved and adapted for reuse as office space, its surrounding surviving mine buildings provide additional workshop and office space. The unique Miners and Mechanics Institute in St Agnes was recently the subject of a comprehensive restoration into a high quality community facility. However, many of the iconic mining structures of the Area remain in need of conservation, with some, such as Blue Hills pumping engine house, being increasingly fragile and in need of remedial attention.

Interpretation of the OUV of the Area is in place at St Agnes Museum, whilst the Blue Hills works in the Trevellas Valley explore the history of tin streaming.

A8. The Luxulyan Valley and Charlestown

Statement of outstanding universal value

Area A8 (50008'53"N, 05039'21"W) - the only Area in mid-Cornwall, and one which exemplifies late 18th and early 19th century industrial entrepreneurship reflected in an important concentration of industrial transport infrastructure and industrial water supply network.

- The exceptionally complete industrial port of Charlestown that became an important centre for copper ore export.
- The magnificent Treffry viaduct/aqueduct, spanning the Luxulyan Valley at its mid point and representing the earliest granite construction of its kind in the south west.
- The principal surviving remains of Fowey Consols: the engine house that represents a technological monument, a testimony to Cornish steam engine efficiency, and a mine that was one of the reasons for the establishment of significant elements of the infrastructure in the Luxulyan Valley; it also provided capital for its construction.
- The site of one of Cornwall's few canals, together with an industrial railway and leat system.
- Charlestown Foundry (established 1827) which originally produced beam engines (including the last pumping engine ever made in Cornwall) as well as other mining equipment survived as a working entity until very recently.

Supporting discussion and character statements

Geography and landscape

An Area of two contrasting halves; the Luxulyan Valley is closed in, secluded, linear, dominated by woodland, deeply incised into the landscape, cut into the south-eastern edge of the Hensbarrow granite. Charlestown lies in a short, shallow valley cut through Mylor slates leading down to the coast; it is open, bright, urban, tidy, yet also linear. Agricultural land surrounds both parts of this Area.

Views

Within the Luxulyan Valley, views are very constrained by the steep valley slopes and the trees which cloak them. Historic industrial features are not always obvious, and most views are of the path a few metres ahead or glimpses of things between trees. The Viaduct is almost invisible until it is upon you. The exception is Fowey Consols engine house, near the summit of Penpillick Hill, which can be seen from some distance when travelling from the west, and from which it is possible to look northward towards the wooded Luxulyan Valley and southward to St Austell Bay. Views in Charlestown are more open, almost all southwards towards its harbour and the bright water of St Austell Bay, beyond. Charlestown is best seen from within itself, looking either north or south from its two ends, or from its main street. From both, the other Areas are hidden, distant.

- **History and character**

Mining

Fowey Consols was the principal site within the Area, though Prideaux Wood was also historically important, though this is rarely recognised. The small number of engine houses within and immediately surrounding the northern part of this area are important elements within the story of its development, whilst Austen's engine house is a prominent landmark, though is currently not accessible by the public.

Transport

Transport was crucial to the importance of this Area, the development of both of its components reflecting the importance of commerce and communications to two specific individuals. At Luxulyan Treffry created his viaduct, railway, incline, leats and canal to service his interests in mining and quarrying. Charlestown is entirely Rashleigh's creation: an early industrial harbour with a very extensive and still-functioning leat linking it to the Luxulyan Valley.

Ancillary industry

Charlestown had a number of industrial undertakings such as a tin smelter and ropewalks, and its largest, the foundry, has recently been redeveloped, incorporating historic features and some interpretation.

Settlement

There is no settlement associated with the Luxulyan Valley, but Charlestown is well-kept, attractive, a single estate village since its creation, which has, to a large part, helped to ensure the high quality of its building stock and its good condition.

Smallholdings

There are no smallholdings within either half of this Area.

Great houses

There are no great houses within the Area, though there are some embellished town houses within Charlestown.

Mineralogical/ecological importance

Fowey Consols was known for its diverse and significant specimen mineralogy whilst Prideaux Wood Mine is also known for rare lode 'wood tin'. There are no designated ecological or mineralogical sites within the Area, though underground exposures, if ever becoming accessible, would likely be important.

Historical development and character

Both halves of the Area are unusual in that their development was primarily driven by individual entrepreneurs. Additionally, continued single estate ownership for both Luxulyan and Charlestown restricted diversification and development – the stories in both cases are simple and straightforward and the survival of the built evidence for the industrial period is exceptionally well-preserved.

Communications

In the Valley, this is always on foot, via the former tramway, the leat paths and the Velvet Path – the only significant road heads into the valley midway, crosses it near the Viaduct and exits quickly to the north. Parking is very limited. In Charlestown, the main road leads arrow-straight down through the settlement towards the harbour, from which shipping fanned out across the channel and around the coast.

Principal sites

Carmears Incline and wheelpit, Carmears Woods paths and leats, Luxulyan Viaduct, Pons Mill, Carbeans Quarry, Fowey Consols; Charlestown with its ore floors and Harbour.

Interpretation sites

Wheal Martyn (Area Centre, although outside the Area boundary)

Luxulyan and Charlestown Area landscape character statement

Unusually within the Site, these two linked Areas represent the ambitions and achievements of specific individuals – in the case of the Luxulyan Valley and its surroundings that of J. T. Treffry, the entrepreneur who single-handedly created a highly successful copper mine, one of Cornwall's few

canals, an industrial railway system, two harbours and several significant granite quarries; Charlestown is the creation of Charles Rashleigh, who redeveloped the tiny fishing village of West Polmear into an industrial harbour and settlement. Its foundry was established in 1827 originally producing beam engines (including the last pumping engine ever made in Cornwall) as well as other mining equipment; it survived as a working entity until very recently, but its site is currently being redeveloped.

The two parts of this Area are in stark contrast to one another. The Luxulyan Valley is lush, narrow, wooded, and crammed with leats, mining remains, a tramway and a railway. Views are constrained by the trees, the light dappled, and the magnificent viaduct/aqueduct which spans the Valley at its mid point only comes into view as it looms high above the path, concealed by the trees until then. Charlestown, in contrast, is open, bright with the light of the nearby sea, neat, tidy and often busy with visitors. Yet this was, until very recently, an industrial settlement, complete with its own foundry, copper ore floors and china clay linhay. The tiny harbour, used until a few years ago for the export of china clay, is now again home to tall ships similar to those for which it was built.

The Luxulyan Valley is now looked after by a management group and the Friends of Luxulyan have recently taken over the running of the hydro-electric station at Pons Mill. Maintenance of the viaduct will eventually be needed, and may be complex and expensive, but conservation of the Carmears wheelpit and incline has already been undertaken. Ongoing management of the leat system is necessary to prevent damage to its banks through leakage and to maintain the water flow. The conservation of Austen's engine house at Fowey Consols will be essential to ensure the long term survival of this historically-important landmark feature.

Within Charlestown, the only major conservation questions concern the maintenance of the Charlestown Leat, which is still used to top up the harbour when the lock gates are closed, and the ongoing maintenance of the harbour itself.

A9. The Caradon Hill Mining District

Statement of outstanding universal value

Area A9 (50008'53"N, 05039'21"W) - a treeless, 'eastern', rural upland mining district occupying the south-eastern corner of Bodmin Moor, remote from the coast.

- During the mid-1830s -60s this was a booming copper mining landscape, the whole process from discovery to final closure lasting barely half a century.
- The Area possesses internationally significant mineralogy and an unusual example of a copper deposit hosted in the granite of Caradon Hill.
- The newly discovered copper field continued to produce into the late (1880s) mining period, closing in the face of exhaustion and depressed copper prices. The remote location and lack of development pressure ensured exceptional survival, including rare ore floors.
- One of the most important 'eastern' tin mines which includes an early C20th complex of exceptional integrity including the engine house of the last large pumping engine to be erected in Cornwall.
- The survival of the remains of the Liskeard & Caradon Mineral Railway constructed primarily to transport copper-ore southwards to the port of Looe.
- A landscape of dispersed mining settlements with well-preserved mineworkers' smallholdings around Pensilva.
- The site of anciently important tin streamworks.

- The survival of historically important, well-preserved tin openworks at Stowe's Hill.
- A distinctive migration pattern of men from the declining mines around St Austell, Gwennap and Breage flocking to the district, the absence of local housing for them leading initially to the setting up of huge temporary camps.
- The rare copper dumpscapes encircling Caradon Hill.
- The existence of notable copper-rich substrates supporting rare lower plants.

Supporting discussion and character statements

Geography and landscape

This is a fully moorland landscape, except around its fringes, dominated by the shallow soils and near-surface granite of which outcrops on Caradon Hill, Rillaton Moor and Stowe's Pound. The Area is high and remote, exposed and windswept, with big skies; deeply-incised valleys lead away from it to the east (Marke Valley and the Darley Valley). The Withybrook: boggy, broad, wide and anciently streamed for tin stretches away to the north; smaller valleys run through Tremar Coombe and Craddock Moor to the south and south-west, but most of the Area is high, flat and windswept in character, very much part of Bodmin Moor. Though anciently mined for tin, the district is best known for its boom copper period; unusually, in the mines which surround Caradon Hill, the copper is almost entirely hosted within the granite of Caradon Hill.

Farming within the Area is extensive, rather than intensive, based on roughland stock grazing.

Views

The Caradon Area can be readily identified from the east, from the south and the south-west, rising as it does from the surrounding plain, but from the surrounding moors, it is less distinct. Two hills – Caradon and Stoves - frame the Area to its north and south. From Caradon Hill there are spectacular views of the lower ground to the south, with many of the mine sites visible from some distance, and of the sweep of Rillaton Moor and Stowe's Hill to the north; from Stowe's Pound there are views of the moors to the north and west, as well as the huge sweep of landscape to the east across the valley of the River Lynher towards Kit Hill (Area A10).

- **History and character**

Mining

In Cornish mining terms, this Area was a late starter despite its long earlier history of tin streaming and mining. 19th century mining was relatively short-lived here (mid 1830s to late 1880s) and based very much on copper, though its last gasp was once again tin. Despite the anciently-settled landscape which underlies that created by mining, everything man-made to be seen here was created during those five decades – a new railway, new tramways, new mines, new settlements, new roads, and new quarries. The closure of the mines brought the closure of the railway and all the other industries which depended on it and the remoteness of the Area ensured that many of its mining structures have survived, giving it a distinct identity, one which is very different from the remainder of Bodmin Moor.

Transport

The Liskeard and Caradon Railway and its branches were crucial to the development of the Area, and the evidence for this network is well-preserved, underpinning trail routes through the Area. There are also several surviving mine tramways and roadways.

Settlement

The settlements in and surrounding the Area are generally small, two storey, undeveloped. Minions is rugged, has the feeling of a frontier settlement, but those on the fringes of the Area have a more comfortable, mature feel.

Smallholdings

There are no significant areas of smallholdings within this Area except around Pensilva in its south-east part. This is not the core of the Area, however, and they contribute little to its overall character.

Great houses

There are no great houses or embellished town houses within this Area though there are good examples of large mine captains' houses.

Mineralogical/ecological importance

Caradon mines, in particular Phoenix, South Caradon and Marke Valley, are notable for their specimen mineralogy and important dumps and underground exposures remain. Extensive mining activity has left mineral rich substrates throughout the Area, and two sites – Phoenix United and Crow's Nest (South Caradon and West Caradon) have been designated SSSIs.

Historical development and character

The Caradon Area experienced a classic boom to bust history, its industry and settlements developing very rapidly in what remained essentially open, unpopulated moorland or moorland fringe. This new workforce was large but temporary, and when mining ceased depopulation occurred on a huge scale, leaving the Area now almost empty of people. Rapid abandonment of mining activity, the return to extensive pastoral agriculture and the remoteness of the area has resulted in the survival of a high proportion of its mine buildings.

Communications

There were good rail links to this Area in the past and so the roads were never upgraded; the modern roads to and around the fringes of the Area are small-scale and enhance its sense of isolation. Whilst there are few footpaths, the moors are open access land and can be walked for miles in most directions. The main communication routes on foot are via the former railway lines which thread through the Area, connecting its north and south parts.

Principal sites

South Caradon, Gonamena, the Liskeard and Caradon Railway, Marke Valley, Wheal Jenkin, South Phoenix, Prince Of Wales, Phoenix United, Stowe's Hill, the Hurlers, the Witheybrook streamworks, Goldiggings Quarry, New Phoenix

Interpretation sites

Houseman's engine house (Area Centre) South Phoenix Mine; Liskeard Museum (outside the Area boundary).

Caradon Hill Area landscape character statement

Occupying the south-eastern corner of Bodmin Moor, the Caradon Hill Area is treeless, elevated, and prominent in the surrounding landscape, its boundaries readily apparent. The site of anciently important tin streamworks, the economy of this Area had long been based on sheep farming when, in the mid-1830s, rich deposits of copper were found under the eastern slopes of the upper Seton Valley.

The mining development which followed was explosive, making fortunes for local landowners, whilst shares in South Caradon Mine rose from less than £5 to over £2000 each in less than 12 months. Men from the declining mines around St Austell, Gwennap and Breage flocked to the district in droves, the absence of local housing for them leading initially to the setting up of huge temporary camps. Soon, however, a building boom was in full swing, and new mining hamlets were becoming established around the fringes of Caradon Hill.

Remote from the coast, the success of this mining district was dependant on the rapid establishment of transport links to the coast at Looe, and within a decade the mule trains which had hauled timber and coal up from the canal wharves at Liskeard and copper ore back for shipping to South Wales had been replaced by a gravity and horse-drawn railway (locomotives were introduced in 1860), initially terminating in the Seton Valley. This, in turn, allowed the development of important granite quarries around the railhead known as Cheesewring Railway (now Minions), Cheesewring Quarry's output annual output rising to 12,000 tons by the late 1850s. Once the locomotive-hauled section of the railway had been extended around Caradon Hill to replace the Gonamena Incline, further branches were constructed to allow quarries to be worked at Kilmar and Bearah Tors and to connect Phoenix United, one of Cornwall's great mines, to the network.

In the years between 1836 and 1890, the mines of the district produced nearly 65,000 tons of copper ore and 16,000 tons of black tin, but copper prices had been dropping throughout this period, the value of the copper ore in 1885 being less than 30 per cent of that in the mid 1850s. The smaller mines were the first to close, but when South Caradon folded in the late 1880s the other mines swiftly followed. An attempt to restart mining at Phoenix United in 1907 was a brave and very expensive, but ill-advised and short-lived failure.

Once the mines had closed, the viability of the railway and the quarries which depended on them was gone for ever. Closure followed closure, and the industrial workforce abandoned the area almost as quickly as they had arrived, leaving the uplands once again to sheep and skylarks. The whole process from boom to bust had lasted barely half a century.

Because of the remoteness of the area, the preservation of the evidence for this mid-19th century moorland bonanza is exceptional. Ruined engine houses and chimneys punctuate the skyline around Caradon Hill, extensive cobbled floors in the Seton Valley set at the foot of towering bleached white waste dumps mark the workplace of the hundreds of women and children who dressed the copper ore, whilst the trackbed of the Liskeard and Caradon Railway winds its way northwards from Liskeard around Caradon Hill, past Stowes Hill and far up into the moors beyond Kilmar Tor, where its abandoned extension to Launceston ends abruptly in a marsh. In the southern and eastern part of the Area, hamlets of mineworkers' cottages with their distinctive non-conformist chapels have become desirable places to live; Pensilva, site of one of the original mining camps, is now a thriving village.

Houseman's engine house at South Phoenix is now a small interpretation centre and base for the local ranger, whilst the drinking shops established for miners, quarrymen and railwaymen have been transformed into comfortable pubs and cafes. The landscape nearby is open, easily walkable, its sites readily accessible via the track of the old railway which once took their ore and granite down to the sea for shipment.

Whilst the strengths of this Area are clear, opportunities for the exploitation of its history and landscape character will need to be carefully managed. The Area is relatively remote and served by a relatively small-scale road network; the potential for the creation of locally-acceptable new parking areas is very limited. Understandably, local people, in particular the Commoners who depend on this moorland for their livelihood, are concerned that promotion of the Area will have considerable impact on their lives, but bring them few benefits. A conservation scheme for many of its engine houses and other industrial buildings will follow on from work already carried out at Houseman's engine house at the Prince of Wales' Shaft site at Phoenix United, but will not be able to address the works needed on all of the sites within this Area.

A10. The Tamar Valley Mining District with Tavistock

Statement of outstanding universal value

Area A10 (50008'53"N, 05039'21"W) - the most easterly and the second largest of the WHS Areas, this mining district A10 (i) and outstanding mining town A10 (ii) lie in the Tamar Valley Area of Outstanding Natural Beauty and comprises both valley and upland settings for tin, copper, silver-lead and arsenic mining, ore-processing and smelting.

- The mineral transport network that links with, and includes, the highway formed by the River Tamar is exceptional. It includes the unparalleled group of Tamar industrial mineral river quays (e.g. Morwellham), a mine railway (Devon Great Consols), a mineral railway (East Cornwall Mineral Railway), a mineral canal (The Tavistock Canal, including a tunnelled section) and an ancillary industries canal (Tamar Manure Navigation), the first three possessing innovative and characteristic nationally rare inclined planes (a feature of the Valley), as well as numerous mine quays, mule tracks and mine roads.
- Tavistock Town is the most extensively re-modelled metal mining town in Britain. Devon Great Consols and its neighbour's spectacular development brought enormous profits to the Dukes of Bedford who owned the land on which they were sited. In turn, generations of the Dukes of Bedford invested in the growth and remodelling of Tavistock.
- The most important and extensive survivals of arsenic refineries and calciners in the WHS (examples at Devon Great Consols [DGC], Gawton mine, Okel Tor, Greenhill Works Wheal Benny and at Coombe). By the last decades of the 19th century DGC and Gawton were supplying 50 per cent of the world's arsenic and their dumpscapes, leaning Gawton stack and refinery remains are exceptional.
- The presence of Industrial housing, notably the 'Bedford Cottages': terraces and blocks of embellished tied housing provided by the Bedford Estate for its workforce, there being no industrial settlements within the surrounding, long-farmed landscape, and no land on which to lay out smallholdings or new small farms. Devon Great Consols possesses a remarkable assemblage of mine housing at the greatest copper mine in the Site.
- The scale, size, number and industrial significance of water-powered sites, and their extensive survival, is greater here than anywhere in the Site.
- Tavistock's sites iron foundries.
- The Area includes some of the best and most diverse smelting remains in the Site include silver-lead refining (at West Harrowbarrow and Weir Quay) and tin smelting (at Weir Quay, one of the best three surviving reverberatory furnaces in Britain).
- An important range of ancillary industries such as brick works, which are integral to the cultural mining landscape of the Tamar.
- The Bere silver mines (including South Tamar Consols which mined under the river and was eventually flooded) on the Bere Alston peninsula are amongst the earliest to have been worked as true mines anywhere in Britain. Tin is essentially the story of Cornish Mining until 1700 whilst in Devon this is punctuated by medieval Silver mining by the Crown, the rich silver-lead deposits of the Bere Peninsula being exploited from the early 13th century. These mines also originated the 'tribute and tutwork' system.
- Market gardening is a unique and distinctive element of the cultural mining history of the landscape. The group of Tamar lime kilns, ubiquitous to the Tamar quays, are exceptional; three having inclined planes.

- The riverside and steep valley sides sited mines where the lodes outcropped on its banks and where adit drainage de-watered great elevations of ground (e.g. Gunnislake Clitters).
- Miners' settlements, such as Gunnislake and Luckett grew haphazardly in amongst the mines themselves.
- The Area includes some of the only true silver mines in Britain such as Wheal Brothers, Wheal Langford and East Wheal Vincent and Wheal Newton.
- The Area is noted for its internationally significant mineralogy.

Supporting discussion and character statements

Geography and landscape

An Area of three distinct parts; to the west is the high granite ridge of Hingston Down and Kit Hill; at its centre, the deep, steep-sided valley of the Tamar cutting across the grain of the landscape and dividing the downs and moors to the west from the Devon plateau to the east. The Bere Peninsula adds further landscape character in the south of this Area. The valley is lush, green and deep, ever-present in the landscape. The river divides two counties and two landscapes linked only by their underlying geology; whilst the valley landscape is green and hidden, a transport and communications artery, the land to the west is elevated, exposed, Cornish, that to the east productive Devon farmland. The farms and field sizes are noticeably larger in west Devon than across the Tamar and in Devon there are no unplanned scatters of miners' dwellings; where there are cottages they are usually planned Bedford cottages. In a few places here and there are other valleys, tucked away like Danescombe. Tavistock lies on the Tavy but also looks west to the Tamar and east to Dartmoor. The diversity of mineralogy is notable and, commercially, silver-lead, arsenic, tungsten and zinc were extensively mined in addition to copper and tin.

The agricultural landscape at the edges of and surrounding this Area is marked by large pasture fields, the lower land being a patchwork of large pasture and arable enclosures.

Views

The western part of the Area is easy to recognise in the landscape – the high ground of Hingston Down and Kit Hill being readily distinguishable from the north, west and east, but the valley itself is often hidden, glimpsed only in fragments. Tavistock opens up as it is approached from most sides, but cannot be seen as a whole from any single viewpoint. In the west, the views from Kit Hill and Hingston Down are extensive, taking in many of the mine sites and from which the line of lodes can be defined. To the west Caradon Hill (Area A9) and Bodmin Moor crown the horizon. Once in the Valley, all views are constrained by the twists and turns of the river and the woods which cloak its banks. Settlements and sites appear only as a turn in the river is negotiated, and the relationship between places is sometimes difficult to grasp. Within the wooded parts of the Area, views are constricted or blocked. The views west from high on the eastern bank at Gawton are of fragments of the river and of its settlements and quays, of Hingston Down and Kit Hill beyond. Within Blanchdown Plantation, the dense conifers block most views and only where these have been clear-felled do the spectacular views out over the river become apparent. Tavistock is set very much within the Tavy Valley – the town is aligned east-west with rising ground to the north and south, and looks in on itself and down the vistas deliberately established during its expansion and remodelling in the 19th century.

- **History and character**

Mining

A mining district with a long pedigree and which shared to a degree in the upsurge in mining which took place through the mid-19th century, but whose high point was around the second and third quarter of the century when undertakings like Devon Great Consols were amongst the largest and

most important working for copper and arsenic in the Cornubian orefield. There were small and medium-sized mines scattered throughout the landscape on the Cornish side of the river, though on the Devon bank they are more or less confined to the river bank. Though tin and wolfram were mined, arsenic and copper dominate. John Taylor and the Dukes of Bedford were the key players in the development of the Devon mines, ports and communications systems, whilst the Duchy of Cornwall and the Williams family played significant roles to the west of the river.

Survival of the evidence for mining is patchy. In places engine houses and associated buildings are well preserved; elsewhere an occasional chimney, a fragment of walling has survived, and many of the survivors are hidden in wooded valleys, tucked away. Blanchdown Plantation is a huge carpet of dark green which hides many secrets, though the requirement that most mine buildings had to be cleared away on abandonment resulted in the near-eradication of an extraordinary complex of structures. An extensive arsenic complex, built subsequently during the 1920s, remains as testimony to the importance of that semi-metal to the Tamar Valley.

Transport

Quays and wharfs were everywhere and the river was the principal transport artery of the Area, though supplemented by the Tavistock Canal and the East Cornwall Minerals Railway. Much of the evidence for these sites survives in good condition, and many of the principal quays are still in use, as is the southern part of the ECMR.

Ancillary industry

Brickworks exploited the altered granitic clays of Hingston Downs and studded its spine, whilst an important arsenic works was sited at Greenhill, whose chimney is still a landmark, despite being reduced in height by a lightning strike. The three iron foundries in Tavistock are important both historically and in terms of their high degree of survival in their principal buildings.

Settlement

The farmed landscapes could not be more different – smallholdings on the Cornish side, large estate farms on the Devon side, and likewise the rows, isolated cottages and absence of developed settlements (with the exceptions of specialised settlements like Gunnislake – a bridging point, and Calstock – a port which characterise the Cornish landscape are entirely absent to the east of the river, where almost identical Bedford worker's cottages stand in neat groomed rows, but there are no hamlets and no smallholders' cottages. Tavistock is an attractive, busy, fully- developed prosperous small town with elegant houses and many public buildings which seems to have forgotten its industrial past, despite the surviving foundry buildings at its eastern end.

Smallholdings

There are significant areas of miners' smallholdings on both the northern and southern slopes of Hingston Down, and these and their associated cottages give this part of the Area much of its character.

Great houses

The only great house within the Area is Cotehele, the historic seat of the absent Edgcumbes, though Tavistock has many fine embellished town houses and villas

Mineralogical and ecological importance

The Tamar Valley is noted for its specimen mineralogy, mostly copper secondaries from mines such as Bedford United and Old Gunnislake (where world class specimens of the copper uraninite torbernite also occurred), and fluorite from the Bere mines. There are significant mine dumps within

the Area with important mineralogy, though none have been designated as SSSIs. Underground exposures are important too.

Historical development and character

An Area of many contrasts, of three different characters, and linked by the presence of the Tamar. The history and character of the landscape to the west of the Tamar is shared with much of the rest of Cornwall, and it has shared its post-industrial history and landscape development. The Tamar has changed little, though has become much quieter, its industrial past softened. Tavistock has thrived as a prosperous small market town.

The evidence for industry can still be seen in much of the land to the west of the Tamar and along the banks of the river, though there are now few large, well-preserved sites, Gunnislake Clitters being a notable exception. Nevertheless, the industrial history of this Area is still very much a presence in the landscape, one which was (but is now less so) immediately apparent on cresting the hill at Drakewalls going west on the Callington road.

Communications

There is an important west-east spine route across Hingston Down and Gunnislake New Bridge to Tavistock, but most other road communication is via a tangle of small lanes. The river was always the main communications route. The East Cornwall Mineral Railway, from Kelly Bray to Calstock (finally linking with Bere Alston following the construction of the Calstock Viaduct) was significant for many mines and ancillary industries. There are almost no footpaths, even in the Cornish part of the Area. At present, many of the mine sites are relatively inaccessible.

Principal sites

Holmbush, Kit Hill, New Consols and Lockett, Wheal Benny, East Kit Hill, Wheal Langford, Wheal Brothers, East Cornwall silver smelter, Wheal Edward, Gunnislake Clitters, Gunnislake, Prince of Wales Harrowbarrow, Calstock, Cotehele and its Quays, Devon Great Consols, Morwellham and George and Charlotte, New Quay, Okel Tor, Weir Quay with its lead and tin smelters, Gawton, The Tavistock Canal, Tavistock Bedford Square, Tavistock Canal basin and the Tavistock foundries.

Interpretation sites

Morwellham Quay (Key Centre), Cotehele Quay and Tavistock Museum (Area Centre for Tavistock)

Tamar Valley and Tavistock Area landscape character statement

This large Area links together typical sections of Cornish mining and smallholding landscapes to the west, the moorland-edge town of Tavistock to the east and the industrial communications highway formed by the River Tamar which runs between them. As a result, this is an Area of many contrasts, yet one whose elements are linked together by the rich mineral lodes which outcrop on both sides of the Valley and whose exploitation shaped the development of the whole of the Area during the industrial period.

Topographically, the western half of the Area is dominated by the granite ridge running eastwards from Kit Hill along Hingston Down towards the river, the higher ground along its southern flanks laid out with miners' cottages and the patchwork fields of their smallholdings, together with the occasional mining hamlet; its northern flanks slope down through larger recently-enclosed fields towards the medieval hamlet of Latchley and the miners' settlement of Lockett, both sited next to wide meanders in the river. The high ridge sited many mines, including Holmbush, Kit Hill and South Kit Hill, East Kit Hill, Princess of Wales, Wheal Sisters, Wheal Brothers, Wheal Langford and East Wheal Vincent, Prince of Wales, Harrowbarrow, Hingston Down and Drakewalls, evidence for many of which still survives, some being the subject of a forthcoming conservation project, the buildings on others having already been repaired and stabilised.

The Tamar, dividing Devon from Cornwall, is wide, deeply-incised, and dominates the landscape. The three industrial settlements along its banks, Gunnislake, Calstock and Morwellham, are the largest in the western part of the Area. The first was historically the lowest crossing point on the river and near the limits of navigation, the others were important industrial ports, their development being crucial to the import of the materials needed by the nearby mines and for the export of the Area's considerable output of copper tin and arsenic ore. Each is distinctive and retains considerable historic character. The more sheltered land nestled in the meanders of the river has long supported agriculture, and the lower slopes are scattered with small farms whose soft fruit industry became an important part of the local economy.

Many of the most important mines in the Area were sited near to the river, where the lodes outcropped on its banks, and adit drainage was readily available. On the Cornish bank of the river these include New Consols, Wheal Benny, Gunnislake Clitters, Old Gunnislake, Okel Tor, Danescombe and Cotehele Consols, whilst a little away from the river were Calstock Consols, Wheal Zion, Wheal Edward, and Wheal Arthur. On the Devon bank, Devon Great Consols and the Bedford United Mines were the largest and richest copper mines anywhere within the Site, the extraordinary amounts of ore they produced outstripping all other ventures; by the last decades of the 19th century they were supplying 25 per cent of the world's arsenic. To the south are Russell United, George and Charlotte, Gawton, Tuckermarsh, South Ward, North and South Hooe, Furzehill and South Tamar Consols, the last of this group on the Bere Alston peninsula having been amongst the earliest to have been worked as true mines anywhere in Britain, their rich silver-lead deposits being exploited by the Crown from the 13th century.

As elsewhere within the Site, affordable and effective bulk transport was to prove critical to the exploitation of the mineral resources of this Area. The proximity of the readily navigable River Tamar proved an enormously important resource, and spurred the development (or in some cases the remodelling) of many small quays along its banks, two of these (Calstock and Morwellham) developing into substantial minerals ports, the former being the terminus of the East Cornwall Minerals Railway (and later being served by the Callington branch of the London and South Western Railway), whilst Morwellham was linked to Devon Great Consols and the Russell and Bedford United Mines by an extensive mine railway and to Tavistock by John Taylor's pioneering canal. A further short canal (the Tamar Manure Navigation) was cut at Hatches Green to allow river access as far upstream as Gunnislake.

Despite the scale of mining activity within the area, though Tavistock expanded, no large centres of population developed, whilst associated industries on the Cornish side of the river being limited to specialised undertakings like quarries, silver-lead refining (at West Harrowbarrow), arsenic refining (at the Greenhill works and at Coombe) and the clayworks and brick and tile works which stud the spine of Hingston Down, or the later industries associated with the growing and export of soft fruit. On the Bere Alston peninsula, Weir Quay sited an important silver-lead smelting house and a tin smelter. The majority of the materials needed by the mines and their workforce were always brought via the Tamar from Plymouth, however.

Most of the landowners who benefited from the considerable mineral wealth generated within this Area did not live here, the exception being the Edgcumbe's of Cotehele, whose medieval manor, estate and nearby quay lie next to the river at the south-western end of the Area. As with many of the other great houses of Cornwall, Cotehele's gardens were extensively remodelled and replanted using income from mining carried out on its estates. Both the house and spectacularly sited gardens are now managed by the National Trust.

Tavistock lies 5.5km to the north-east of Morwellham, to which it is connected by the youthful John Taylor's 1817 canal, built to service his mines to the north of, and surrounding Tavistock, but rapidly becoming a vital communications artery linking Tavistock to the River Tamar. Tavistock was originally the site of an abbey established in 961, but a town developed here at the western end of the highway which crossed Dartmoor from Exeter. Given a market charter in 1116, Tavistock has served the

surrounding moorland and agricultural hinterland ever since, its status being confirmed when it became a stannary town in 1281.

As mining developed around Mary Tavy and to its immediate south, Tavistock began to evolve rapidly, a process which was accelerated as the mines which became Devon Great Consols and its neighbours began their spectacular development, bringing enormous profits to the Dukes of Bedford (the Russells having their family seat at Woburn Abbey) who owned the land on which they were sited. In turn, generations of the Dukes of Bedford invested in the growth and remodelling of Tavistock creating substantial public buildings, planning new villa developments, parks and a new Corn Market. Banks, substantial shops and other commercial premises, foundries and ironworks quickly appeared, and there was a rapid expansion of the residential areas of the town from a period when it was particularly noted for its overcrowding. From 1859, Tavistock was linked to the main line railway network, eventually being served by both the Great Western Railway and the London and South Western Railway.

The closure of the local mines soon brought the closure of Tavistock's three iron foundries, and these are now converted to other uses. Tavistock today is a busy and attractive small town, still very much the commercial and market hub of the region within which it stands, a gateway to Dartmoor National Park and a dormitory for Plymouth, 18km to the south. Its close involvement with the mining activity which took place only a few kilometres to the north and west are barely apparent within the town today.

A distinctive feature of both Tavistock and of some of the industrial settlements on the Devon bank of the river and at Mill Hill are the 'Bedford Cottages' – short terraces of embellished tied housing provided by the Bedford Estate for its workforce, there being no industrial settlements within the surrounding, long-farmed landscape, and no land on which to lay out smallholdings or new small farms. These distinctive structures are all Listed buildings.

Although there is a National Trust presence at Cotehele and whilst Kit Hill is a Cornwall Council managed Country Park, the Tamar Valley Area of Outstanding Natural Beauty (AONB) designation has made it possible to plan the strategic management of the Valley as a whole and has helped to give the Area a coherent identity, something which is particularly important given that the Area falls within the jurisdiction of one unitary, one county and one borough council. The existence of a branch line railway and the presence of the navigable river allow access into key parts of the Area by means other than private cars.

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- Sharpe, A. (1986) *Engine Houses in St. Agnes, Cornwall: an Archaeological Survey*, Cornwall Archaeological Unit

- Sharpe, A., Smith, J. R., and Jenkins, L. (1990) *The Mineral Tramways Project*, Cornwall Archaeological Unit
- Sharpe, A., Lewis, R. and Massie, C. (1991) *Engine house assessment: Mineral Tramways Project*, Cornwall Archaeological Unit
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- Sharpe, A. (2007) *Pool Heartlands, Cornwall - Assessment of historic environment assets*, Historic Environment Service
- Smith, J. R. (1986) *The Kennall Vale Gunpowder Company, Kennall Vale, Ponsanooth*, Cornwall Trust for Nature Conservation
- Smith, J. R. (1988) *Luxulyan Valley Project - An Archaeological and Historical Survey*, Cornwall Archaeological Unit
- Smith, J. R. (1990) *Perran Foundry - An Assessment of the Historic Site and Buildings a Perran Foundry, Perran Wharf, Mylor*, Cornwall Archaeological Unit

Appendix 8.2

COLLECTIONS OF HISTORIC RECORDS RELATING TO THE CORNWALL AND WEST DEVON MINING LANDSCAPE

National Monuments Record Centre

*The Engine House
Fire Fly Avenue
Swindon
SN2 2EH
United Kingdom*

Tel: +44 (0)1793 414600

Email: hadminfo@english-heritage.org.uk

Web: <http://www.english-heritage.org.uk/daysout/properties/national-monuments-record-centre/>

The National Monuments Record Centre holds the English Heritage Archive of over 12 million photographs, plans, drawings, reports and publications on architecture, archaeology, historic buildings and social history. The English Heritage Archive is one of the largest publicly accessible archives in the UK and the largest one dedicated to the historic environment. The Search Room and English Heritage Library are open to the public.

Birmingham City Archives – The Boulton & Watt Collection

*Floor 7
Central Library
Chamberlain Square
Birmingham
B3 3HQ
United Kingdom*

Tel: +44 (0)121 303 4217

E-mail: archives.heritage@birmingham.gov.uk

Web: <http://www.birmingham.gov.uk/archivesandheritage>

The Boulton & Watt Collection is the archive of the steam engineering partnership of Matthew Boulton and James Watt which dates from 1774 until the end of the 19th century. The archive constitutes approximately 550 volumes of books, order books and account books, and approximately 29,000 engine drawings and correspondence in the form of some 20,000 letters from clients. The collection and the associated James Watt and Matthew Boulton Papers comprise a unique historical resource for historians of the late 18th and early 19th centuries.

The National Archives (Public Record Office)

*Ruskin Avenue
Kew
Richmond
Surrey
TW9 4DU
United Kingdom*

Tel: +44 (0)20 8876 3444

E-mail: enquiry@nationalarchives.gov.uk

Web: <http://www.nationalarchives.gov.uk/>

On line catalogue: <http://catalogue.pro.gov.uk/>

The National Archives holds one of the largest archival collections in the world which spans 1,000 years of British history, from the Domesday Book to recently released government papers. The collection is available to view at the Public Record Office at Kew and certain documents can be accessed via the internet. The National Archives also advises on the location of non-public records and manuscripts relating to British history.

Access to Archives (A2A)

Web: <http://www.nationalarchives.gov.uk/a2a/>

The A2A online database contains catalogues describing archives held locally in England and Wales and dating from the 8th century to the present day, and is part of the UK archives network.

The Duchy of Cornwall Archive

*Duchy of Cornwall
10 Buckingham Gate
London
SW1E 6LA
United Kingdom*

Tel: +44 (0)20 7834 7346

Web: <http://www.duchyofcornwall.org/faqs.htm>

The Duchy of Cornwall Archive contains records relating to its significant landholdings in Cornwall and Devon. Access is by appointment only.

Cornwall Record Office

*Old County Hall
Truro
Cornwall
TR1 3AY
United Kingdom*

Tel: +44 (0)1872 323127

E-mail: cro@cornwall.gov.uk

Web: <http://www.cornwall.gov.uk/default.aspx?page=24656>

The Cornwall Record Office holds a wide range of documents dating from the 12th to the 20th centuries, including thousands of maps, plans, photographs and manuscript documents. These contain information on local families and their estates, businesses, schools and villages, economic and administrative activity. In particular the office specialises in records of Cornwall's mining heritage – including the Health and Safety Executives' abandoned mine plans and Thomas Wilson's correspondence with Boulton & Watt. Further information and advice is available.

The Cornwall Centre - Cornish Studies Library

*Cornish Studies Library
Alma Place
Redruth
Cornwall
TR15 2AT
United Kingdom*

Tel: +44 (0)1209 216760

E-mail: cornishstudies.library@cornwall.gov.uk

Web: <http://www.cornwall.gov.uk/default.aspx?page=14279>

The Cornish Studies Library within the Cornwall Centre holds an extensive collection of Cornwall related fiction and non-fiction books (c. 21,000), newspapers and periodicals, journals, magazines and newsletters. The Centre also has a major collection of maps, and Cornwall's largest public collection of photographic images (c. 155,000) which are stored in a purpose built archive repository. Genealogical studies are an important role of the Centre which holds a substantial collection of Parish Registers and Cornwall's largest public collection of Cornish Census Returns. Introductory information is also available to visitors concerning heritage sites and attractions in and around the Redruth area and throughout Cornwall.

The Courtney Library, Cornish History Archive and Royal Cornwall Museum

The Royal Institution of Cornwall
River Street
Truro
Cornwall
TR1 2SJ
United Kingdom

Tel: +44 (0)1872 272205
E-mail: enquiries@royalcornwallmuseum.org.uk
Web: <http://www.royalcornwallmuseum.org.uk>

The collection of the Courtney Library includes works on history, archaeology, geology, mining and religion in Cornwall, with particular attention given to the social and cultural history of the area. The Library houses around 150,000 items (i.e. printed and manuscript sources, photographs, engravings, ephemera etc.) including:

- A core collection of printed books and periodicals covering the history of Cornwall from the prehistoric to modern period
- Substantial collections of archives of Cornish families
- Original files and microfilmed copies of local and regional newspapers
- General reference books and periodicals including fine art, archaeology, history and subjects relating to the collections in the RIC's Royal Cornwall Museum and Art Gallery
- The extensive reference collections are always available on site

The Trounson-Bullen Collection

Warleggan
33 Wellington Road
Camborne
Cornwall
TR14 7LH
United Kingdom

Tel: +44 (0)1209 714245

The Trounson-Bullen Collection contains the most comprehensive archive of mining and ancillary industrial images in Cornwall, covering a date range from the mid 19th to the end of the 20th century. Moreover, this collection forms only a part of a much larger private archive of maps, reports, letters, books etc.

The Trevithick Society Collection

*The Trevithick Society
PO BOX No. 62
Camborne
Cornwall
TR14 7ZN
United Kingdom*

*E-mail: curator@trevithick-society.org.uk
Web: <http://www.trevithick-society.org.uk>*

The wide ranging collection includes a full size working replica of Trevithick's steam road locomotive of 1801, c. 50,000 images and a wide variety of documents, publications, and artefacts which relate to the industrial heritage of Cornwall.

Geevor Mine Archive

*Geevor Tin Mine
Pendeen
Penzance
Cornwall
TR19 7EW
United Kingdom*

*Tel: +44 (0)1736 788662
E-mail: bookings@geevor.com
Web: <http://www.geevor.com>*

Geevor has an extensive archive of documents which relate to the operation of the mine between 1911 and its closure in 1990. The collection is open to the public for reference as part of the heritage attraction which is operated by the Pendeen Community Heritage group.

Devon Record Office

*Devon Record Office
Great Moor House
Bittern Road
Sowton
Exeter
Devon
EX2 7NL
United Kingdom*

*Tel: +44 (0)1392 384253
E-mail: devrec@devon.gov.uk
Web: http://www.devon.gov.uk/record_office.htm*

The Devon Record Office in Exeter houses many forms of historical records relating to the County of Devon and contains historic maps and documentation relating to the district councils, the city of Exeter, religious records and information relating to families and estates. Public records and a substantial number of parish and other documents are available on microfiche and datasets of place and personal names are held in addition to an index of Wills.

Westcountry Studies Library

*Westcountry Studies Library
Exeter Central Library
Castle Street
Exeter
Devon
EX4 3PQ
United Kingdom*

*Tel: +44 (0)1392 384216
E-mail: westcountry.library@devon.gov.uk
Web: <http://www.devon.gov.uk/localstudies>*

Situated in Exeter Central Library the Westcountry Studies Library is the main local studies library in Devon. A collection of more than 60,000 books, periodicals, newspapers and maps is available in addition to some 50,000 prints, drawings and photographs dating from the late 18th century to the present.

Plymouth and West Devon Record Office

*Plymouth and West Devon Record Office
Unit 3
Clare Place
Plymouth
Devon
PL4 0JW
United Kingdom*

*Tel: +44 (0)1752 305940
E-mail: pwdro@plymouth.gov.uk
Web: <http://www.plymouth.gov.uk/homepage/creativityandculture/archives/ourservices.htm>*

Plymouth and West Devon Record Office holds a wide range of documents dating from the 12th to the 20th centuries, containing information on the City of Plymouth and the west Devon area. It holds a quantity of records relating to mining activity in both Cornwall (including Gunnislake, Calstock) and the west Devon area (including setts, plans and minute books). Further information and advice is available.

Plymouth Central Library – The History Room

*Plymouth Central Library
Drake Circus
Plymouth
Devon
PL4 8AL
United Kingdom*

*Tel: +44 (0)1752 305903
E-mail: library@plymouth.gov.uk
Web: <http://www.plymouth.gov.uk/homepage/leisureandtourism/libraries/history/historyroom.htm>*

The History Room within the Central Library holds the main collection of materials relating to Plymouth and its surrounding areas. It contains approximately 35,000 books and an extensive collection of maps, illustrations, newspapers, periodicals, and a sound and vision archive. Genealogical indexes are held in addition to six 19th century Census Enumerators' returns for Plymouth, to aid the family history researcher.

Plymouth City Museum and Art Gallery

*Plymouth City Museum and Art Gallery
Drake Circus
Plymouth
Devon
PL4 8AJ
United Kingdom*

*Tel: +44 (0)1752 304774
E-mail: museum@plymouth.gov.uk
Web: <http://www.plymouth.gov.uk/museumpcmag.htm/>*

Genealogical Societies in Cornwall and Devon

Cornwall Family History Society

*Cornwall Family History Society
18 Lemon Street
Truro
Cornwall
TR1 2LS
United Kingdom*

*Tel: +44 (0)1872 264044 between 09.00 and 16.30 Mondays to Fridays
E-mail: secretary@cornwallfhs.com or chairman@cornwallfhs.com
Web: <http://www.cornwallfhs.com>*

Devon Family History Society

*Devon Family History Society
PO Box 9
Exeter
Devon
EX2 6YP
United Kingdom*

*Tree House Research and Advice Service
Tel: 01392 433212 Mon., Tues., & Thurs., 10.30a.m. - 4.00p.m. only
E-mail: secretary@devonfhs.org.uk
Web: <http://www.devonfhs.org.uk/>*

Appendix 8.3

GLOSSARY OF PLANNING TERMS

Area Action Plan (AAP)

These are Development Plan Documents (see below) which can be used to provide the planning framework for areas where significant change or conservation is needed. A key feature is the focus on implementation. They can be used in many ways such as: help deliver planned growth areas; stimulate regeneration; protect areas sensitive to change; resolve conflicting objectives in areas subject to development pressures; or focus the delivery of area based regeneration initiative.

Core Strategy

This sets out the key elements of the planning framework for the area. It should comprise a vision and strategic objectives for the area, along with a spatial strategy, a number of core policies and a monitoring and implementation framework. Once adopted, all other Development Plan Documents must be in conformity with it. The Coalition government has re-introduced the phrase 'Local Plan' to describe the Local Development Framework plans produced by local planning authorities, and is discouraging the production of too many documents.

Development Plan Document (DPD)

The relevant plan-making authority prepares Development Plan Documents. They are spatial planning documents and subject to independent examination. There will be a right for those making representations seeking change to be heard at an independent examination. The Coalition government has re-introduced the phrase 'Local Plan' to describe the Local Development Framework plans produced by local planning authorities, and is discouraging the production of too many documents.

Infrastructure Delivery Plan

The Infrastructure Delivery Plan (IDP) is a supporting document for the Core Strategy and part of the Local Development Framework. The IDP identifies what infrastructure is required to enable development proposed in the Core Strategy to progress.

Issues & Options Report

To encourage people in the local community to become involved at an early stage in the Local Development Framework process, by inviting responses to a range of key issues affecting development and land use.

Local Development Framework (LDF)

This is the term given to the portfolio of Local Development Documents (see below) which will provide the framework for delivering the spatial planning strategy for the area. The Coalition government has re-introduced the phrase 'Local Plan' to describe the Local Development Framework plans produced by local planning authorities, and is discouraging the production of too many documents.

Local Development Document (LDD)

Local Development Documents are those documents that together make up the Local Development Framework. They comprise of Development Plan Documents (see above), Supplementary Planning Documents (see below) and the Statement of Community Involvement (see below).

Local Development Scheme (LDS)

This is the project plan for a three period for the production of all documents which it is intended will comprise the Local Development Framework. It identifies each Local Development Document (see above) stating which are to be Development Plan Documents (see above) and which are to be Supplementary Planning Documents (see below), and establishes a timetable for preparing each.

Local Plan

Can refer to an 'old style', lower tier development plan conforming to the strategic policies of the 'old style' Structure Plan, however the phrase has recently been re-introduced to refer generically to LDF plans.

Local Strategic Partnership (LSP)

Non-statutory, non-executive body bringing together representatives of the public, private and voluntary sectors; the LSP is responsible for preparing and monitoring the implementation of the Community Strategy.

Minerals Consultation Areas

Areas containing important mineral resources can be identified by Mineral Planning Authorities under Schedule 1 of the Town and County Planning Act 1990. In two tier areas, District Councils must consult the County Council about applications for planning permission for non-mineral development in these areas. The aim is to ensure that important mineral resources are not unduly sterilised by permitting surface development.

Minerals Development Document (MDD)

Any document included in the MDS.

Minerals Development Framework (MDF)

The suite of minerals DPDs and SPDs

Minerals Development Scheme (MDS)

Document setting out what documents the Council intends to include within its MDF and the programme for production.

Minerals Local Plan (MLP)

The 'old style' development plan for minerals.

Minerals Planning Guidance Notes

A series of guidance notes covering the government's minerals policies; now mostly replaced by the NPPF (see below).

National Planning Policy Framework (NPPF)

This government publication sets out the key aspects on national planning policy. It replaces a number separate topic based Planning Policy Statements (PPS) with one concise document.

Neighbourhood Plan

Neighbourhood Plans are a new tier of Development Plan introduced by the Coalition Government. Local communities will be able to establish general planning policies for the development and use of land in their neighbourhood. It can be detailed, or general, depending on what local people want and will be subject to a light touch examination and a local referendum before they can be adopted.

Preferred Options Report

This will set out policy issues, including alternative approaches where appropriate, for all the main subject areas, including possible site allocations.

Proposals Map

The function of the Proposals Map is to illustrate the policies and proposals in the Development Plan Documents (see above). It will be an Ordnance Survey based map at a scale which allows the policies and proposals to be illustrated clearly in map form.

Regional Spatial Strategy (RSS)

Document produced at the regional level which will set the context for LDFs and form part of the statutory plan. The Coalition government is abolishing this tier of planning and is in the process of revoking the existing RSSs.

Statement of Community Involvement (SCI)

This will set out the standards which the plan-making authority intend to achieve in relation to involving the community in the preparation, alteration and continuing review of all Local Development Documents (see above) and in significant development control decisions, and also how the local planning authority intends to achieve those standards. The Statement of Community Involvement will not be a Development Plan Document. A consultation statement showing how the local planning authority has complied with its statement of community involvement will be required for all Local Development Documents (see above).

Supplementary Planning Documents (SPD)

Non-statutory planning guidance to supplement the policies and proposals in development plan documents; they will not form part of the development plan or be subject to independent examination.

Sustainable Community Strategy

District, County and Unitary authorities have a duty to prepare community strategies under the Local Government Act 2000 in conjunction with other public, private and community sector organisations. Community Strategies should promote the economic, social and environmental well being of their areas and contribute to the achievement of sustainable development. The intention is that Local Development Frameworks (see below) will provide the spatial expression to those elements of the Community Strategy that relate to the use and development of land.

Strategic Environmental Assessment (SEA)

A formal process which analyses and evaluates the environmental effects of a plan or programme.

Structure Plan

An 'old style' strategic plan produced by shire counties.

Sustainability Appraisal (SA)

A formal process which analyses and evaluates the environmental, social and economic impacts of a plan or programme.

Supplementary Planning Guidance (SPG)

'Old Style' planning guidance adopted by Council.

Appendix 8.4

LIST OF WORLD HERITAGE SITE TECHNICAL PANEL MEMBERS (as of October 2012)

Mr David Appleton
Landscape Scale Delivery Team - South - Natural England
David.Appleton@naturalengland.org.uk
0300 060 1748

Mr David Attwell
Principal Countryside Officer - Cornwall Council
David.Attwell@cornwall.gov.uk
01208 262868

Mr Malcolm Bell
Head of Tourism - Visit Cornwall
malcolm.bell@visitcornwall.com
01872 322933

Ms Deborah Boden
Cornish Mining World Heritage Site Co-ordinator
dboden@cornwall.gov.uk
01872 322474

Mr Ainsley Cocks
Cornish Mining World Heritage Site Research & Information Officer
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01872 322585

Dr Alyson Cooper
Principal Historic Environment Officer - Cornwall Council
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01872 323623

Mr Ben Dancer
Planning Officer - West Devon Borough Council
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01822 813684

Ms Lesley Garlick
Planning Officer - Devon County Council
lesley.garlick@devon.gov.uk
01392 382474

Ms Colette Holden
Cornwall AONB Manager - Cornwall AONB Partnership
cholden@cornwall.gov.uk
01872 323998

Mr Bill Horner
County Archaeologist – Devon County Council
bill.horner@devon.gov.uk
01392 382494

Ms Ellie Inglis-Woolcock
Senior Development Officer - Cornwall Council
eingliswoolcock@cornwall.gov.uk
01872 224551

Mr Graham Lawrence
Conservation Officer - West Devon Borough Council
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01822 813704

Mr Ian Marsh
General Manager, West Cornwall - National Trust
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01736 796993

Mr Phil McMahon
Inspector of Ancient Monuments - English Heritage
Phil.McMahon@english-heritage.org.uk
0117 9751399

Mr Malcolm Pinch
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01872 323727

Mr Robert Plumb
Regeneration Officer - West Devon Borough Council
rplumb@westdevon.gov.uk
01822 813620

Mr Simon Ramsden
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simon.ramsden@english-heritage.org.uk
0117 975 0676 (x2276)

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Culture Programme Manager, Creative Services - Cornwall Council
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Mr Mike Simpson
Cornish Mining Attractions Marketing Association Chair
manager@geevor.com
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01209 614250

Ms Nicola Stinson
Assistant Head of Planning & Regeneration (West Cornwall) - Cornwall Council
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01326 371827

Ms Karen Willows
Cornish Mining World Heritage Site Administrator
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01872 322586

Mr Tim Wood
Assistant Head of Transportation - Cornwall Council
twood@cornwall.gov.uk
01872 22 4421

Appendix 8.5

LIST OF SURVEY AND RECORDING EVENTS WITHIN THE SITE

Site name / report title	Record type	Contractor	Grid ref.
Minions	Event - Survey	Exploration Associates	SX 2647 7218
Shaft Capping DLG Contract 9A Watching Brief	Event - Intervention	Cornwall Archaeological Unit	SW 6300 3200
Chapel Road, Tuckingmill, Camborne	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6612 4056
East Basset Stamps	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6906 3987
Marriotts Shaft	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6802 3939
Newton Moor	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6727 3898
United Mines Landfill Site	Event - Survey	Dr CN French	SW 7484 4177
Geevor Tin Mine Site	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 3726 3460
Wheal Uny	Event - Survey	Frederick Sherrel Ltd	SW 6937 4086
Taylor's Shaft, Pool	Event - Survey	Frederick Sherrel Ltd	SW 6744 4187
Taylor's Shaft, Pool	Event - Survey	Frederick Sherrel Ltd	SW 6744 4187
West Basset Stamps, Carnkie	Event - Survey	Frederick Sherrel Ltd	SW 6892 4018
West Basset Stamps	Event - Survey	Frederick Sherrel Ltd	SW 6892 4018
East Basset Stamps, Carnkie, Cornwall	Event - Survey	Frederick Sherrel Ltd	SW 6906 3987
Newton Moor, Treskillard	Event - Survey	Frederick Sherrel Ltd	SW 6727 3898
Higher Carnkie, Carnkie	Event - Survey	Frederick Sherrel Ltd	SW 6842 3955
William's Shaft, Camborne	Event - Survey	Frederick Sherrel Ltd	SW 6609 3993
William's Shaft, Camborne	Event - Survey	Frederick Sherrel Ltd	SW 6609 3993
Marriott's Shaft, Carnkie	Event - Survey	Frederick Sherrel Ltd	SW 6802 3939
Marriott's Shaft	Event - Survey	Frederick Sherrel Ltd	SW 6821 3943
Marriott's Shaft	Event - Survey	Frederick Sherrel Ltd	SW 6794 3938
Mine Leats, Brea, Camborne	Event - Survey	Frederick Sherrel Ltd	SW 6659 4017
Wheal Grenville, Camborne	Event - Survey	Frederick Sherrel Ltd	SW 6673 3885
Portreath Tramroad Phase 1	Event - Survey	South West Mining Services Ltd	SW 7222 4428
Pool	Event - Interpretation	Cornwall Archaeological Unit	SW 6660 4117
Morwellham and New Quay	Event - Interpretation	Cornwall Archaeological Unit	SX 4493 6949
Botrea	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 4014 3105
Cheesewring	Event - Survey	Cornwall Committee for Rescue Archaeology	SX 2592 7239
Kit Hill	Event - Survey	Cornwall Committee for Rescue Archaeology	SX 3741 7082
Ding Dong/Greenburrow	Event - Survey	Cornwall Archaeological Unit	SW 4345 3443
Wheal Charlotte, Bob Wall	Event - Survey	Cornwall Archaeological Unit	SW 6969 4905
Carn Praunter Processing Works	Event - Survey	The John Knevitt Practice Ltd	SW 3596 3233
National Trust Properties W Penwith	Event - Survey	CSMA Consultants Ltd	SW 4247 3501
Botallack Mine Complex	Event - Survey	The John Knevitt Practice Ltd	SW 3632 3332
Geevor Tin Mine	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 3726 3460
Carn Praunter Mine Complex	Event - Survey	Highgate Consulting Engineers	SW 3601 3237
Cot Valley Mine Complex	Event - Survey	Highgate Consulting Engineers	SW 3600 3071

Cape Cornwall Mine Complex	Event - Survey	Highgate Consulting Engineers	SW 3544 3182
Geevor Mine	Event - Survey	The Maintenance Consultancy	SW 3752 3453
Geevor Mine	Maintenance	Stratton & Holborow	SW 3748 3457
Geevor Mine	Maintenance	Stratton & Holborow	SW 3748 3457
Portreath Harbour	Curatorial Advice	Portreath Harbour Association	SW 6551 4538
Hayle Estuary	Event - Interpretation	Wessex Archaeology	SW 5567 3945
Gawton Mine and Quay, Devon	Event - Interpretation	Cornwall Archaeological Unit	SX 4530 6890
Unity Wood	Event - Interpretation	Kerrier Groundwork Trust	SW 5479 3804
Letcha, NT survey	Curatorial Advice	Cornwall Archaeological Unit	SW 3589 3041
Caradon Hill Area Landscape Character	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 2636 6998
CSUS: Hayle	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 5595 3752
Kenidjack, NT Survey	Curatorial Advice	Cornwall Archaeological Unit	SW 3614 3259
Caradon Hill Area Appraisal	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2636 6998
Phoenix United Stamps Engine House Survey	Event - Survey	Historic Environment Projects, Cornwall Council	SX 2673 7198
Lower Bostraze Clay Dry	Event - Survey	Eric Berry	SW 3829 3168
Tavistock Police Station and Guildhall	Event - Interpretation	Keystone Historic Buildings Consultants	SX 4821 7440
Levant/Higher Levant	Event - Survey	Jay Mineral Services Ltd	SW 3689 3431
Carn Gluze	Maintenance	Katrina Morris	SW 3557 3130
Botallack	Event - Survey	Highgate Consulting Engineers	SW 3632 3357
Levant	Event - Survey	Highgate Consulting Engineers	SW 3693 3428
Hingston Down Site Investigation	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 4100 7136
Mineral Tramways Conservation Management Plan	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7008 4218
Industrial Settlements: St Blazey	Curatorial Advice	The Conservation Studio and Cornwall Archaeological Unit	SX 0675 5394
West Penwith NT Surveys: Bosphorthennis	Event - Survey	Cornwall Archaeological Unit	SW 4357 3616
Minions Survey	Curatorial Advice	Cornwall Archaeological Unit	SX 2633 7132
St Austell China Clay Area	Event - Interpretation	Cornwall Archaeological Unit	SW 9917 5653
Botrea	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 4015 3103

Fal Estuary Survey	Curatorial Advice	Cornwall Archaeological Unit	SW 8391 3675
Hayle Terrace Quayside, Cornwall	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 5598 3765
Landscape Processes on Bodmin Moor	Event - Survey	Private Individual	SX 2516 7349
Wheal Coates, nr St Agnes, Cornwall	Event - Survey	Ancient Metallurgy Research Group	SW 7015 5026
Fenton-la Chapel, Troon	Event - Intervention	Private Individual	SW 6583 3816
DLG Contract 8	Event - Interpretation	Cornwall Archaeological Unit	SW 6890 3795
Cotehele House, Drainage Trenches	Event - Intervention	Cornwall Archaeological Unit	SX 4224 6860
Hallenbeagle Mine, Scorrier	Event - Interpretation	IHC Consultants	SW 7271 4470
CSUS: Redruth	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 6990 4197
CSUS: Camborne	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 6497 4008
St. Austell, NE Distributor Road	Event - Interpretation	Cornwall Archaeological Unit	SX 0334 5384
Bojewyan Stennack, Pendeen	Event - Survey	Private Individual	SW 3898 3458
Plain-an-Gwarry, St Just	Event - Intervention	West Cornwall Field Club	SW 3700 3141
Fal Estuary Survey	Curatorial Advice	Cornwall Archaeological Unit	SW 8391 3675
Blackman Landfill Site	Event - Intervention	Cornwall Archaeological Unit	SW 7508 4151
Bodmin Moor	Event - Interpretation	Institute of Cornish Studies	SX 1758 7595
Bodmin Moor	Event - Interpretation	Institute of Cornish Studies	SX 1758 7595
Rillaton Barrow Landscape	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2451 7325
Contract 9(A), DLG Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 6105 3121
Contract 10, DLG Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 6871 4068
Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 6902 4301
Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 6660 4052
Mineral Tramways Conservation Management	Event - Interpretation	Crofty Consultancy	SW 6572 4497

Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 7546 4214
Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 6633 3865
Mineral Tramways Conservation Management Plan	Event - Survey	Crofty Consultancy	SW 6602 3848
Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 7425 4202
Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 6817 3970
Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 6602 3921
Contract 8, DLG Evaluation	Event - Intervention	Cornwall Archaeological Unit	SW 6621 3878
Mineral Tramways Conservation Management Plan	Event - Interpretation	Crofty Consultancy	SW 7335 4362
Deveral Chapel	Event - Survey	Murphy & Channer	SW 5923 3519
Tywarnhayle Mine, Porthtowan	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 7018 4721
Wheal Maid Landfill	Event - Interpretation	Cornwall Archaeological Unit	SW 7473 4220
Industrial Settlement: Tremar Coombe	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2548 6871
Industrial Settlements: Troon	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 6615 3807
Industrial Settlements: Upton Cross	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2822 7211
Harvey's Foundry Farm Test Pits	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6579 3744
Contract 8, DLG Watching Brief	Event - Intervention	Cornwall Archaeological Unit	SW 6895 3782
Godolphin Survey	Event - Interpretation	Cornwall Archaeological Unit	SW 5972 3171
Wheel Peevor trial trenching	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7071 4445
Mineral Tramways Trails assessments	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6945 4273
Minions	Curatorial Advice	Caradon District Council	SX 2601 7132
Manor Mill, Perranarworthal	Event - Survey	Private Individual	SW 7749 3844

Hayle Foundry Phase 2, Stable Yard Buildings	Event - Survey	Historic Environment Projects, Cornwall Council	SW 5577 3704
Camborne-Pool-Redruth Urban Regeneration Plan	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6730 4134
Cornish Mining World Heritage Site Bid	Curatorial Advice	World Heritage Site Team, Historic Environment, Cornwall Council	SW 9188 5069
Godolphin	Curatorial Advice	Cornwall Archaeological Unit	SW 5972 3171
Camborne STW	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6347 4251
Tamar Valley Mining Heritage Project Assessments	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4412 7069
Tamar Valley Mining Heritage Project assessments	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4608 7002
Cotehele House, Barn watching brief	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 4230 6855
Sarah's Shaft, Wheal Kitty, St Agnes	Event - Survey	Cornwall Mining Services Ltd	SW 7255 5130
Cotehele Historic Building Survey	Event - Interpretation	Arcus Dendrochronology Laboratory	SX 4223 6860
Tamar Valley Mining Heritage Project Assessments	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4543 6954
Trewavas consolidation project	Event - Survey	Historic Environment Projects, Cornwall Council	SW 5983 2655
Redruth Fair Meadow, test pits	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6989 4193
CPR Road test pits	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6627 4065
Hingston Down Mine	Event - Survey	Frederick Sherrell Ltd	SX 4098 7136
Hingston Down Mine	Event - Survey	Frederick Sherrell Ltd	SX 4098 7136
Hingston Down Mine	Event - Survey	BSW Consulting (Exeter) Ltd	SX 4086 7147
Trevithick Road, Pool	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6738 4178
Hayle Steam Brewery	Event - Survey	Historic Environment Projects, Cornwall Council	SW 5645 3773

Poldice and Triplets Safety Works	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7429 4287
Charlestown Historical Assessment	Event - Survey	Cornwall Archaeological Unit	SX 0367 5188
Poldice Valley	Event - Survey	CSMA Consultants Ltd	SW 7544 4243
Poldice Valley	Event - Survey	CSMA Consultants Ltd	SW 7544 4243
Poldice Valley	Event - Survey	CSMA Consultants Ltd	SW 7544 4243
East Cornwall Regeneration Project Consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 3898 7039
Tresaddern Farm, St Day	Event - Survey	Historic Environment Projects, Cornwall Council	SW 7330 4209
Charlestown Village Design	Curatorial Advice	Restormel Borough Council	SX 0369 5183
Tamar Valley Mining Heritage Project assessments	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4563 6928
The Redruth Brewery	Event - Survey	The Trevithick Society	SW 6948 4221
Copperhouse, Hayle, assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 5694 3799
Hayle, 2-6 Fore Street	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 5676 3793
Geevor Mine	Event - Survey	Graham Gaunt Photowork	SW 3751 3453
Cusgarne House	Event - Survey	Alcibiades Archaeological Consultants	SW 7585 4076
Charlestown Foundry Pan Kiln	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 0353 5225
Camborne - Portreath SWW	Event - Interpretation	Cornwall Archaeological Unit	SW 6401 4294
Norway Inn Bridge	Event - Intervention	Cornwall Archaeological Unit	SW 7781 3867
Kit Hill Country Park	Event - Survey	Engineering Services Laboratory	SX 3764 7138
Kit Hill Country Park	Event - Survey	Mott MacDonald	SX 3764 7138
Bodmin Moor Survey	Event - Survey	Cornwall Archaeological Unit	SX 1790 7585
Caradon Hill Transmitter	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 2734 7079

Ding Dong + Boskednan Common	Event - Interpretation	Cornwall Archaeological Unit	SW 4352 3450
Wheal Harriet Shaft Dolcoath	Event - Survey	Carnon Contracting	SW 6578 4015
Wheal Harriet Shaft, Dolcoath	Event - Survey	Frederick Sherrell Ltd	SW 6578 4015
Okel Tor Consolidation	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 4453 6890
Great Work (Boscreege) DLG	Event - Interpretation	Cornwall Archaeological Unit	SW 5943 3057
Relubbus Bridge	Event - Interpretation	Cornwall Archaeological Unit	SW 5662 3194
Godolphin Blowing House Cottage	Event - Intervention	Cornwall Archaeological Unit	SW 6031 3205
Bodmin Moor MPP	Curatorial Advice	Cornwall Archaeological Unit	SX 1758 7595
Duchy of Cornwall Mine Sites	Curatorial Advice	Cornwall Archaeological Unit	SX 3088 7448
Kit Hill Survey	Event - Survey	Cornwall Archaeological Unit	SX 3764 7138
Drakewalls DLG WB	Event - Intervention	Cornwall Archaeological Unit	SX 4246 7065
Okel Tor Mine LRF Assessment	Event - Interpretation	Cornwall Archaeological Unit	SX 4453 6890
Tamar Strategy	Curatorial Advice	Cornwall Archaeological Unit	SX 4170 7165
Caradon Hill SWEB Mast	Event - Intervention	Cornwall Archaeological Unit	SX 2714 7059
Caradon Hill WB	Event - Intervention	Cornwall Archaeological Unit	SX 2707 7035
Drakewalls DLG Assessment	Event - Interpretation	Cornwall Archaeological Unit	SX 4247 7065
Kit Hill SWEB trench	Event - Intervention	Cornwall Archaeological Unit	SX 3755 7156
Luckett ETS WB	Event - Intervention	Cornwall Archaeological Unit	SX 3896 7369
Kit Hill Buildings and Shaft Capping	Event - Intervention	Cornwall Archaeological Unit	SX 3764 7138

Kit Hill western access route	Event - Interpretation	Cornwall Archaeological Unit	SX 3690 7133
Kit Hill cable trenching	Event - Intervention	Cornwall Archaeological Unit	SX 3748 7134
Minions Survey	Event - Survey	Cornwall Archaeological Unit	SX 2633 7132
Perran Foundry	Event - Intervention	Cornwall Archaeological Unit	SW 7764 3847
Luxulyan Valley Survey	Event - Survey	Cornwall Archaeological Unit	SX 0649 5620
Kennall Vale CTNC	Event - Survey	Cornwall Archaeological Unit	SW 7509 3747
Perran Foundry	Event - Interpretation	Cornwall Archaeological Unit	SW 7764 3847
Bosigran NT	Event - Survey	Cornwall Archaeological Unit	SW 4255 3660
Binner Downs DLG	Event - Interpretation	Cornwall Archaeological Unit	SW 6125 3411
Harvey's Foundry, Hayle	Event - Interpretation	Private Individual	SW 5577 3705
South Crofty	Event - Survey	Alan Stoyel	SW 6673 4134
Carn Brea South	Event - Survey	Frederick Sherrel Ltd	SW 6871 4082
Tolgarrick Road, Camborne	Event - Interpretation		SW 6584 4137
CM World Heritage Bid: Devon Great Consols	Event - Interpretation	Cornwall Archaeological Unit	SX 4248 7342
Portreath Plateway, watching brief	Event - Intervention	Cornwall Archaeological Unit	SW 7036 4473
Hayle Historic Audit	Curatorial Advice	Cornwall Archaeological Unit	SW 5617 3769
Harveys Evaluation	Event - Intervention	Cornwall Archaeological Unit	SW 5579 3709
Gunnislake Clitters, Tamar Valley	Event - Interpretation	Cornwall Archaeological Unit	SX 4242 7225
Harvey's Foundry, Hayle LRF WB	Event - Intervention	Cornwall Archaeological Unit	SW 5576 3708
Hayle Historic Survey	Curatorial Advice	Cornwall Archaeological Unit	SW 5605 3743

Hayle HERS	Event - Interpretation	Cornwall Archaeological Unit	SW 5574 3700
Harvey's Foundry LRF	Event - Interpretation	Cornwall Archaeological Unit	SW 5575 3708
Devoran Quay	Event - Survey	Cornwall Archaeological Unit	SW 7981 3891
A30 Corridor Study (Hayle, Connor Downs, Polyphant)	Event - Interpretation	Cornwall Archaeological Unit	SW 9078 5897
Harvey's Foundry, Hayle	Event - Intervention	Cornwall Archaeological Unit	SW 5577 3709
Brea Downs to Dowran Common, St Just, Cornwall	Event - Intervention	Cornwall Archaeological Unit	SW 3842 2965
Bodrifty	Event - Survey	Cornwall Archaeological Unit	SW 4464 3544
Trevellas	Event - Survey	Cornwall Archaeological Unit	SW 7277 5178
Harbour Motors, Charlestown	Event - Interpretation	Cornwall Archaeological Unit	SX 0377 5183
Wallabarrow	Event - Survey	Cornwall Archaeological Unit	SX 2523 7103
Ponsanooth Bridge and retaining wall	Event - Interpretation	Cornwall Archaeological Unit	SW 7582 3783
Holmbush Mine	Event - Interpretation	Cornwall Archaeological Unit	SX 3593 7204
Redruth-Camborne Pipeline, Cornwall	Event - Survey	Stratascan	SW 6715 4314
Hayle Foundry Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 5578 3708
Geevor Tin Mine	Event - Survey	Northumbrian Surveys	SW 3755 3448
Redmoor Mine, Kelly Bray	Event - Interpretation	Cornwall Archaeological Unit	SX 3560 7103
Penwith Improvements Programme	Event - Interpretation	Cornwall Archaeological Unit	SW 4230 3509
Harbour Motors, Charlestown	Event - Intervention	Cornwall Archaeological Unit	SX 0377 5182
Prideaux Wood, Luxulyan	Event - Interpretation	Cornwall Archaeological Unit	SX 0697 5566
Lesceave & Rinsey Cliffs & Cudden Point, Cornwall	Event - Survey	The National Trust	SW 5729 2724
Bosporthennis, Cornwall	Event - Survey	Private Individual	SW 4357 3616

Godolphin Estate	Curatorial Advice	The National Trust	SW 5972 3171
North Wardbrook, Linkinhorne, Cornwall	Event - Survey		SX 2543 7316
Wheal Coates, St Agnes	Event - Survey	Cornwall Archaeological Unit	SW 7003 5004
Mineral Tramways Project	Curatorial Advice	Cornwall Archaeological Unit	SW 7172 4126
Luxulyan Valley	Event - Survey	Luxulyan Valley Project	SX 0648 5664
Cornish Engines, Cornwall	Event - Survey	The National Trust	SW 5216 3821
Chapel Porth, Cornwall	Event - Survey	The National Trust	SW 6994 4936
Industrial Settlements: Devoran	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 7942 3918
Industrial Settlements: St Agnes	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 7200 5060
Industrial Settlements: Chacewater	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 7506 4437
Industrial Settlements: Kelly Bray	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SX 3605 7148
St Agnes Beacon	Event - Survey	The National Trust	SW 7080 5088
Robinson's Shaft, Pool	Event - Interpretation	Cornwall Archaeological Unit	SW 6683 4128
Harvey's Foundry	Curatorial Advice	Cornwall Archaeological Unit	SW 5577 3711
Perran Foundry	Event - Intervention	Cornwall Archaeological Unit	SW 7764 3847
Hayle Causeway Bridge	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 5470 3632
Lower Boscaswell to St Just SWW Pipeline	Event - Interpretation	Cornwall Archaeological Unit	SW 3688 3271
Levant Man-Engine Tunnel and Shaft	Curatorial Advice	The National Trust	SW 3682 3434
Chapel Porth Chapel, St Agnes	Event - Survey	Private Individual	SW 6975 4959
Porkellis Moor	Curatorial Advice	Cornwall Archaeological Unit	SW 6912 3273
Watchcroft Mine	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 4163 3601
Watchcroft Mine	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 4163 3601
Watchcroft Mine	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 4163 3601
Calstock Limekilns	Event - Intervention	Cornwall Archaeological Unit	SX 4355 6860

Crenver Grove	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6325 3393
Mineral Tramways Consultancy: Betty Adit, Brea	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6660 3978
Stray Park Mine, Camborne	Event - Intervention	South West Archaeology	SW 6541 3991
Old Mill, Coombe, Cusgarne	Event - Survey	The Cahill Partnership	SW 7621 4097
Geevor Tin Mine	Event - Survey	Stratton & Holborow	SW 3762 3438
South West Wave Hub	Event - Survey	Fugro Survey Limited	SW 4567 5228
Stray Park Mine, Camborne	Event - Interpretation	South West Archaeology	SW 6541 3991
South West Wave Hub	Event - Survey	Fugro Survey Limited	SW 4567 5228
East Cornwall Regeneration Project Consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 4263 7070
Broadgate Mine, Stoke Climsland	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 3816 7374
Hayle SWW rising main	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 5522 3681
West Prince of Wales Mine	Event - Survey	Kneivitt Consulting	SX 3879 7073
Wheal Brothers Mine	Event - Survey	Kneivitt Consulting	SX 3909 7001
Nancherrow Bridge	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 3706 3188
Weir Quay, Devon	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4337 6503
Camborne, Pool, Redruth road	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6735 4117
Perran Foundry geotechnical watching brief	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7764 3849
DLG Wheal Tye	Event - Interpretation	Cornwall Archaeological Unit	SW 6824 4739
Camborne, 32 Basset Road	Event - Survey	Historic Environment Projects, Cornwall Council	SW 6458 3973
Scorrier HWRC Project	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7205 4417
Geevor Phase 2 consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 3759 3438
Heartlands - Robinsons building recording	Event - Survey	Historic Environment Projects, Cornwall Council	SW 6679 4128

Heartlands - Robinsons artefact recording	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6679 4126
Carn Brea	Event - Intervention	Cornwall Archaeological Society	SW 6855 4072
Porthmeor and Treen, Zennor, Cornwall	Event - Survey	Private Individual	SW 4326 3759
Wheal Peevor	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7059 4419
Relubbus West Bridge, watching brief	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 5662 3194
Cotehele - Drainage and Lightning	Event - Intervention	Cornwall Archaeological Unit	SX 4233 6852
Lesser Known Stone Circles in Cornwall	Event - Survey	Private Individual	SX 1903 7587
Carn Brea, Illogan, Cornwall	Event - Intervention	Cornwall Archaeological Society	SW 6855 4072
Newton Moor, Treskillard - DLG Watching Brief	Event - Intervention	Cornwall Archaeological Unit	SW 6731 3900
Wheal Tye DLG Works Watching Brief	Event - Intervention	Cornwall Archaeological Unit	SW 6821 4735
Kit Hill Booklet	Presentation	Cornwall Archaeological Unit	SX 3764 7138
St Agnes Engine Houses	Event - Interpretation	Cornwall Archaeological Unit	SW 7047 4926
St Agnes Engine Houses	Event - Interpretation	Cornwall Archaeological Unit	SW 7257 4890
Bosigran NT	Event - Survey	Cornwall Archaeological Unit	SW 4255 3660
Bosigran NT	Event - Survey	Cornwall Archaeological Unit	SW 4255 3660
Bosigran NT	Event - Survey	Cornwall Archaeological Unit	SW 4255 3660
Hayle Historic Survey	Curatorial Advice	Cornwall Archaeological Unit	SW 5605 3743
Poldice Valley	Event - Survey	Carrick District Council	SW 7462 4286
Carn Brea: Contract 10	Event - Intervention	Cornwall Archaeological Unit	SW 6868 4089
Courtyard Houses of West Penwith	Event - Survey	Private Individual	SW 2073 2532
Hayle, No 24 Foundry Square	Event - Survey	Historic Environment Projects, Cornwall Council	SW 5582 3715
DLG Contract 11, Wheal Buller	Event - Survey	Cornwall Archaeological Unit	SW 6971 3990

Hingston Down	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4098 7136
Cotehele building survey	Event - Survey	Historic Environment Projects, Cornwall Council	SX 4223 6860
Marshall's Shaft, Troon	Event - Interpretation	Cornwall Archaeological Unit	SW 6603 3849
Industrial Settlements: Calstock	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 4349 6871
Industrial Settlements: Crow's Nest	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2636 6936
Industrial Settlements: Darite	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2594 6940
Industrial Settlements: Drakewalls and Albaston	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 4249 7068
Industrial Settlement: Gunnislake	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 4319 7166
Industrial Settlements; Henwood	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2659 7340
Industrial Settlements: Luxulyan	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 0503 5810
Industrial Settlements: Minions	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2619 7117
Industrial Settlements: Pensilva	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2895 6966
Industrial Settlement: Praze-an-Beeble	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 6373 3574
Industrial Settlements: St Cleer	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2488 6821
Tuckingmill Urban Village	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6604 4076
Cornwall College Assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6664 4146
Redruth, Fairfield	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6953 4182
St Agnes Head	Curatorial Advice	Cornwall Archaeological Unit	SW 7012 5124
DLG Contract 11 Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 6458 3664
Liskeard & Caradon Railway	Curatorial Advice	WS Atkins South West	SX 2576 6840

Godolphin House	Event - Survey	Private Individual	SW 6011 3183
Godolphin	Event - Interpretation	Private Individual	SW 6015 3185
West Penwith Moors	Curatorial Advice	University of Bristol	SW 4422 3435
Church View Road, Camborne	Event - Interpretation	Peninsula Projects	SW 6585 4043
SM Management: Crinnis Cliff Battery	Event - Survey	Cornwall Archaeological Unit	SX 0384 5135
DLG Areas 1-18 (West Bassett Stamps area 12)	Event - Interpretation	Cornwall Archaeological Unit	SW 6893 4018
Landscape of Bodmin Moor	Event - Interpretation	Land Use Consultants	SX 1856 7514
The Landscape of Bodmin Moor	Curatorial Advice	Land Use Consultants	SX 1856 7514
Landscape of Geevor and Levant	Event - Survey	Private Individual	SW 3699 3449
Boscregan NT	Curatorial Advice	Cornwall Archaeological Unit	SW 3589 2972
Dolcoath Mine	Event - Survey	Private Individual	SW 6796 4103
Levant/Higher Levant	Curatorial Advice	Jay Mineral Services Ltd	SW 3689 3431
Charlestown Foundry	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 0351 5222
Cornish Mining World Heritage Site Bid	Curatorial Advice	World Heritage Site Team, Historic Environment, Cornwall Council	SW 9188 5069
Cornish Mining World Heritage Site Bid	Presentation	World Heritage Site Team, Historic Environment, Cornwall Council	SW 9188 5069
St. Just Mining Survey (Industrial)	Curatorial Advice	Cornwall Archaeological Unit	SW 3788 3285
Tolgarrick Road LRF, Buildings Demolition	Event - Intervention	Cornwall Archaeological Unit	SW 6602 4122
Charlestown Smokery	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 0383 5174
Charlestown China Clay Dry	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 0395 5180
Industrial Settlements: Perranarworthal	Curatorial Advice	The Cahill Partnership and the Historic Environment Service, Cornwall County Council	SW 7772 3863
Charlestown Foundry Assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 0351 5222
Tywarnhayle Mine, Cornwall	Event - Interpretation	Cornwall Archaeological Unit	SW 7004 4728
Geevor and Levant further assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 3721 3452
Locke Stamps and Waterwheel	Maintenance	Pendeen Community Heritage	SW 3745 3453
Geevor Mine WB	Event - Intervention	Cornwall Archaeological Unit	SW 3748 3460

Mineral tramways historic buildings consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 6603 3849
Mineral tramways historic buildings consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 7365 4359
Sarah's Shaft, Wheal Kitty, St Agnes	Event - Survey	Historic Environment Projects, Cornwall Council	SW 7245 5131
Holman's No 3 Rock Drill Works, Camborne	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6489 3977
Wheal Owles DLG	Event - Intervention	Cornwall Archaeological Unit	SW 3628 3265
Watch Croft, LRF	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 4167 3596
Foundry Road Industrial Estate, Camborne	Event - Interpretation	The Trevithick Society	SW 6551 4015
Foundry Road Industrial Estate, Camborne	Event - Interpretation	The Trevithick Society	SW 6551 4015
Wheal Brothers Mine, Harrowbarrow	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 3913 7001
Harrowbarrow Chimney	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 4016 7018
Prince of Wales	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4008 7056
Hingston Down historic buildings	Event - Survey	Historic Environment Projects, Cornwall Council	SX 4098 7136
Robinson's Shaft South Wheal Crofty, Pool	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6684 4129
Hayle Harbour Conservation	Curatorial Advice	Kathryn Sather & Associates	SW 5559 3779
Holmbush Mine	Event - Survey	CSMA Consultants Ltd	SX 3593 7204
Drakewall East	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4263 7070
Hayle Foundry sewer	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 5576 3713
West Basset trail assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6845 3998
North Lands End STS Pipeline	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 3685 3356
Malvern Farm, Carnkie	Event - Survey	Private Individual	SW 6880 3976
Truthwall Common	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 3842 3258

Drakewalls, Delaware Outdoor Centre	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 4227 7091
South Crofty EIA	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6636 4083
West Penwith Moorland	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 4335 3083
Luckett	Curatorial Advice	North Cornwall District Council	SX 3877 7361
East Cornwall Regeneration Project Consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 4010 7056
Prince of Wales Mine Project Design	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 4010 7056
East Cornwall Regeneration Project Consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 3577 7206
Poldice Tramway, Portreath Pumping Station	Event - Intervention	Cornwall Archaeological Unit	SW 6634 4520
West Penwith Enclosed Land	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 4202 3397
St Agnes, Cliff Hollow, Trevaunance	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7213 5154
St Day to Redruth Gas Pipeline	Event - Interpretation	RSK Environment Ltd	SW 7174 4339
Charlestown, nos 111 & 113 Charlestown Road	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 0362 5194
Geevor Mine WB	Event - Intervention	Cornwall Archaeological Unit	SW 3740 3452
East Wheal Agar, Darite	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 2613 6951
Mineral Tramways historic buildings consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 6817 3970
Trewellard Zawn	Event - Intervention	Cornwall Archaeological Unit	SW 3721 3490
Godolphin Hill	Event - Survey	I and S Associates	SW 5928 3128
Godolphin Mill	Event - Survey		SW 5953 3239
Godolphin House and Garden	Event - Survey		SW 6015 3181
Godolphin Gardens	Event - Survey	Private Individual	SW 6016 3175
Godolphin	Event - Survey	Caroe and Partners	SW 5972 3171
Geevor 3 (extension of event 459)	Event - Intervention	Cornwall Archaeological Unit	SW 3749 3457

Luxulyan Valley: Carmears Wood	Event - Survey	South West Mining Services Ltd	SX 0725 5645
Geevor HLF bid	Curatorial Advice	Cornwall Archaeological Unit	SW 3750 3452
Charlestown Foundry	Event - Survey	Historic Environment Projects, Cornwall Council	SX 0351 5222
St Day Trinity House archaeological recording	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7285 4255
Geevor, Wethered Shaft	Event - Intervention	Cornwall Archaeological Unit	SW 3781 3415
Levant Mine LRF	Event - Interpretation	Cornwall Archaeological Unit	SW 3688 3439
King Edward Mine	Curatorial Advice	Roger Trym & Partners	SW 6636 3883
Camborne-Redruth	Event - Interpretation	Roger Trym & Partners	SW 6816 4160
Wheal Peevor Watching Brief	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7058 4419
Pool Heartlands assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6679 4115
Cape Cornwall, Priests Cove, LRF	Event - Interpretation	Cornwall Archaeological Unit	SW 3521 3171
St Agnes Head NT Survey	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7128 5106
St Agnes, Cliff Hollow, Trevaunance	Event - Survey	Historic Environment Projects, Cornwall Council	SW 7213 5155
Carn Brea	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 6864 4080
Portreath to Poldice Mineral Tramway	Event - Interpretation	Cornwall Archaeological Unit	SW 7036 4473
Carn Brea Bungalow	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 6845 4059
SM Monument: Nine Maidens	Maintenance	Historic Environment Projects, Cornwall Council	SW 4342 3512
West Prince of Wales and Wheal Brothers Mine	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 3898 7039
Penwith Improvement Programme	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 3606 3238
Tresavean Mine	Event - Interpretation	Cornwall Archaeological Unit	SW 7213 3937

St Just Area Regeneration	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 4235 3482
Penwith Improvements Programme	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 3640 3352
Engine House Assessment	Curatorial Advice	Cornwall Archaeological Unit	SW 7065 4154
Taylor's Shaft	Curatorial Advice	Cornwall Archaeological Unit	SW 6744 4187
Godolphin, December 1999 & Services WB 2002	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6015 3180
Wheal Uny DLG	Event - Survey	Cornwall Archaeological Unit	SW 6937 4086
Redruth, Bradfords Yard	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7024 4205
DLG Contracts 3 & 4	Event - Intervention	Cornwall Archaeological Unit	SW 6481 3540
Godolphin House, Cornwall	Event - Interpretation	The National Trust	SW 5969 3168
Taylor's and Davy's engine houses, Consols: assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7467 4208
Mineral Tramways historic buildings consultancy - Cusvey	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 7564 4198
Bosvargus and Tregeseal Bridges	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 3742 3184
Gulworthy Ropecourse impact assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4379 7301
Hayle Foundry Sewer	Event - Survey	Stratascan	SW 5577 3713
DLG Areas 1-18 (Old Dolcoath Tailings area 2)	Event - Interpretation	Cornwall Archaeological Unit	SW 6614 4017
Geevor Mine WB	Event - Intervention	Cornwall Archaeological Unit	SW 3782 3419
Courtyard House Survey	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 4043 3296
DLG Areas 1-18 (Seleggan area 15)	Event - Interpretation	Cornwall Archaeological Unit	SW 6943 4013
TRIP Assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6648 4151

Mineral Tramways historic buildings consultancy Higher Condurrow	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6613 3929
Wheal Tye DLG Works	Event - Intervention	Cornwall Archaeological Unit	SW 6788 4727
DLG Areas 1-18 (Daubuz' Shaft area 14)	Event - Interpretation	Cornwall Archaeological Unit	SW 6727 3898
St Just Conservation Area	Curatorial Advice	Penwith District Council	SW 3695 3125
Caradon Hill Area Heritage Project historic buildings consultancy	Curatorial Advice	Historic Environment Projects, Cornwall Council	SX 2646 7010
Trewavas Consolidation	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 5995 2656
Wheal Tom (Deer Park Farm Lucket)	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 3770 7295
Conker Burrows Assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 5838 3459
DLG Areas 1-18 (Wheal Plenty area 19)	Event - Interpretation	Cornwall Archaeological Unit	SW 7121 4491
St Day, Telegraph Street assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7292 4259
DLG Areas 1-18 (Dolcoath Stamps area 4)	Event - Interpretation	Cornwall Archaeological Unit	SW 6611 4056
DLG Areas 1-18 (Highburrow Shaft 2nd phase area 3)	Event - Interpretation	Cornwall Archaeological Unit	SW 6726 4105
DLG Contracts 5 & 6	Event - Interpretation	Cornwall Archaeological Unit	SW 7049 3973
Marriott's Shaft, Cap replacement	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6805 3936
Robinson's East, Shafts	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6695 4131
Robinson's East, landscaping	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6694 4129
Robinson's East, Asbestos Removal	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6696 4128
Contract 10, Carn Brea, Shaft Capping	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6875 4071
DLG Boscarn Park	Event - Interpretation	Cornwall Archaeological Unit	SW 6746 4094
SM Management: Botallack Calciner	Event - Intervention	Cornwall Archaeological Unit	SW 3639 3330

SM Management: Men an Tol	Maintenance	Cornwall Archaeological Unit	SW 4265 3494
SM Management: Tolgus Calciner	Maintenance	Cornwall Archaeological Unit	SW 6901 4304
DLG Areas 1-18 (Wheal Harriet Shaft area 3)	Event - Interpretation	Cornwall Archaeological Unit	SW 6578 4015
West Penwith 1983	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 4485 3707
Twelveheads Bridge recording and watching brief	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7598 4223
Wheal Harriett Shaft, Camborne	Curatorial Advice		SW 6577 4016
DLG Areas 1-18 (South Crofty area 6)	Event - Interpretation	Cornwall Archaeological Unit	SW 6636 4063
Porkellis Moor Bridge	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6882 3222
Bosence Farm, St Erth	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 5754 3231
DLG Areas 1-18 (East Basset Stamps area 11)	Event - Interpretation	Cornwall Archaeological Unit	SW 6906 3987
Devon Great Consols impact assessment	Event - Interpretation		SX 4248 7342
TVHMP Devon Great Consols impact assessment	Event - Interpretation		SX 4248 7342
CPR Road Assessment phase 2	Event - Interpretation		SW 6606 4066
Ballowall	Event - Interpretation	Cornwall Archaeological Unit	SW 3568 3106
DLG Areas 1-18 (Higher Carnkie area 13)	Event - Interpretation	Cornwall Archaeological Unit	SW 6842 3955
Morwellham steam incline winder	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4427 7035
South Hooe Mine archaeological assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4245 6557
DLG Areas 1-18 (Dolcoath Road area 1)	Event - Interpretation	Cornwall Archaeological Unit	SW 6605 4035
DLG Areas 1-18 (William's Shaft area 5)	Event - Interpretation	Cornwall Archaeological Unit	SW 6609 3993
Geevor and Levant biodiversity trail assessment	Event - Interpretation		SW 3717 3448
Mineral Tramways Project Penhallick Leats	Event - Intervention		SW 6662 4046

Mineral Tramways Project, Cornwall Watching Briefs	Event - Intervention		SW 7095 4074
Carharrack, Sparry Lane WB	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 7343 4138
DLG Areas 1-18 (Taylor's Shaft area 7)	Event - Interpretation	Cornwall Archaeological Unit	SW 6744 4187
Phoenix Stamps Engine House, Minions	Event - Intervention		SX 2673 7198
Geevor Mexico Shaft	Event - Interpretation		SW 3740 3459
DLG Areas 1-18 (Binner Downs area 18)	Event - Interpretation	Cornwall Archaeological Unit	SW 6125 3411
Phoenix United Mine - Ecological assessment	Event - Interpretation	Environmental Consultants (CTNC) Ltd	SX 2643 7210
Hayle Beach Watching Brief	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 5523 3827
The Hurlers Scoping Study	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 2582 7160
Heartlands, Pool, subsurface evaluation	Event - Intervention		SW 6673 4118
DLG Areas 1-18 (South Wheal Frances area 10)	Event - Interpretation	Cornwall Archaeological Unit	SW 6802 3939
Carnkie Tunnel recording	Event - Survey	Historic Environment Projects, Cornwall Council	SW 6888 4001
DLG Marriott's WB	Event - Intervention	Cornwall Archaeological Unit	SW 6802 3939
TRIP assessment: Priest Cove, St Just	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 3521 3171
DLG Seleggan Eval	Event - Intervention	Cornwall Archaeological Unit	SW 6943 4013
Mineral Tramways Heritage Project - New Trail Route Extensions	Event - Survey	South West Mining Services Ltd	SW 7086 4118
Hayle, Jewsons site	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 5563 3726
DLG Contract 7 Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 6598 3560
South Crofty Mine	Event - Interpretation	Baseresult Holdings Ltd	SW 6654 4116
Cape Cornwall	Event - Interpretation	Cornwall Archaeological Unit	SW 3541 3191
DLG Contract 7 Watching briefs	Event - Intervention	Cornwall Archaeological Unit	SW 8851 3840

Tamar Valley Emergency recording	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4353 6443
Wheal Uny DLG WB	Event - Intervention	Cornwall Archaeological Unit	SW 6937 4086
Geevor Mine, Pendeen	Curatorial Advice	Kingshurst Consulting Group	SW 3732 3463
St Agnes, Woodlands Chalets assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 7196 5136
East Basset Stamps DLG	Event - Intervention	Cornwall Archaeological Unit	SW 6906 3987
Binner Bridge Wall survey	Event - Survey	Historic Environment Projects, Cornwall Council	SW 6112 3277
South Crofty & Cooks Kitchen DLG	Event - Intervention	Cornwall Archaeological Unit	SW 6635 4065
Former Methodist Chapel Tuckingmill	Event - Survey	The Cahill Partnership	SW 6609 4109
Breage Conservation Area	Curatorial Advice	Cornwall Council	SW 6172 2850
Camborne Area Appraisal	Curatorial Advice	Cornwall Council	SW 6477 3992
Chacewater Conservation Area Appraisal	Curatorial Advice	Cornwall Council	SW 7505 4443
Chacewater Conservation Area Management Plan	Curatorial Advice	Cornwall Council	SW 7496 4437
DLG Contracts 5 & 6	Event - Intervention	Cornwall Archaeological Unit	SW 7049 3973
Devoran Conservation Area	Curatorial Advice	Cornwall Council	SW 7959 3907
Devoran Conservation Area Management Plan	Curatorial Advice	Cornwall Council	SW 7947 3912
Contract 11 DLG WB	Event - Intervention	Cornwall Archaeological Unit	SW 6756 4162
Plain-an-Gwarry Conservation Area Appraisal & Management Strategy	Curatorial Advice	Cornwall Council	SW 6963 4236
Redruth Town Centre Conservation Area	Curatorial Advice	Cornwall Council	SW 7000 4182
St Day Conservation Area	Curatorial Advice	Cornwall Council	SW 7300 4249
Tuckingmill & Roskear Conservation Area Character Appraisal & Management Strategy	Curatorial Advice	Cornwall Council	SW 6580 4082
Pensilva Hedgerow Survey	Event - Survey	Caradon Ecology	SX 2886 6953
Contract 12 DLG Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 6963 3944
Liskeard & Caradon Railway Survey 2008	Event - Survey	Caradon Ecology	SX 2485 6776
Mineral Tramways	Curatorial Advice		SW 7172 4126
Boscawell plot historic building record	Event - Survey	Historic Environment Projects, Cornwall Council	SW 3783 3475
Contract 12 LRF WB	Event - Intervention	Cornwall Archaeological Unit	SW 6879 4017

Wheal Edward	Event - Intervention	Cornwall Archaeological Unit	SW 3605 3261
South Dolcoath Road LRF WB	Event - Intervention	Cornwall Archaeological Unit	SW 6603 4035
Trevu - North Country WB	Event - Intervention	Cornwall Archaeological Unit	SW 6764 4242
George and Charlotte Mine Assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SX 4546 6987
South Hooe: stage 2 site works	Event - Intervention	Historic Environment Projects, Cornwall Council	SX 4245 6557
Chapel Road, Tuckingmill DLG	Event - Interpretation	Cornwall Archaeological Unit	SW 6604 4078
St Day Community Centre (wall and outbuilding), West End, St Day	Event - Survey	Eric Berry	SW 7288 4247
Tolgarrick Road DLG	Event - Interpretation	Cornwall Archaeological Unit	SW 6588 4138
Contract 13 DLG Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 7046 4257
Godolphin Piggery watching brief	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6004 3184
Wheal Harriet Shaft Winder	Event - Intervention	Cornwall Archaeological Unit	SW 6577 4013
Tregeseal Stone Circle	Event - Intervention		SW 3865 3236
Carn Brea to Pengegon SWW	Event - Interpretation	Cornwall Archaeological Unit	SW 6730 4083
Tuckingmill/Bickford Smith revised assessment	Event - Interpretation	Historic Environment Projects, Cornwall Council	SW 6603 4070
Carn Brea to Pengegon SWW WB	Event - Intervention	Cornwall Archaeological Unit	SW 6730 4083
St Helen's Oratory, Cape Cornwall	Event - Intervention		SW 3523 3185
Geevor and Levant	Event - Interpretation	Cornwall Archaeological Unit	SW 3721 3458
Tuckingmill geotechnical watching brief	Event - Intervention		SW 6603 4069
Red River Assessment	Curatorial Advice	Cornwall Archaeological Unit	SW 6373 4088
Trevu-North Country water main	Event - Interpretation	Cornwall Archaeological Unit	SW 6764 4242
Redruth Smelting Works Assessment	Event - Interpretation		SW 7019 4132

Geevor underground tour extension	Event - Intervention		SW 3739 3461
St Agnes Beacon, Wheal Coates, Chapel Coombe and Wheal Charlotte	Event - Interpretation		SW 7014 4997
Wheal Harriet Shaft, Dolcoath	Event - Intervention	Cornwall Archaeological Unit	SW 6578 4015
Higher Bal Pipeline	Event - Interpretation		SW 7136 5106
West Basset Stamps LRF WB	Event - Intervention	Cornwall Archaeological Unit	SW 6890 4014
Redruth, Alma Place	Event - Interpretation	Cornwall Archaeological Unit	SW 6994 4197
Germoe, Church Cottage, trial hole	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 5850 2943
Kennall Vale, Ponsanooth, Cornwall	Event - Interpretation		SW 7511 3745
Hallenbeagle, Cory Environmental site, EIA	Event - Interpretation		SW 7271 4478
Godolphin Shaft - Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 6016 3175
Tolgarrick Road, Site Investigation	Event - Intervention	Cornwall Archaeological Unit	SW 6588 4138
St. Agnes, Trevaunance LRF Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 7208 5166
Wheal Busy	Event - Interpretation	Cornwall Archaeological Unit	SW 7369 4473
Bissoe Arsenic Works	Event - Survey	Cornwall Archaeological Unit	SW 7702 4135
The NT Archaeological Survey Cotehele Estate, Cornwall	Event - Interpretation	The National Trust	SX 4148 6781
St. Day Church WB	Event - Intervention	Cornwall Archaeological Unit	SW 7319 4233
Tywarnhayle Mine LRF	Event - Interpretation	Cornwall Archaeological Unit	SW 7018 4721
Godolphin House, drains and floors	Event - Intervention		SW 6011 3187
Hallenbeagle Assessment	Event - Interpretation		SW 7274 4472
Wheal Charlotte, huts	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 6977 4886
South Condurrow Stamps	Event - Intervention	Cornwall Archaeological Unit	SW 6630 3887
Higher Bal pipeline watching brief	Event - Intervention		SW 7110 5100
Holmbush historic buildings consultancy	Event - Interpretation		SX 3577 7205

Dolcoath Buildings	Maintenance	Cornwall Archaeological Unit	SW 6597 4027
Cornish Mining WHS: condition assessment of CC holdings	Event - Survey		SW 9044 5142
Prince of Wales archaeological watching brief	Maintenance		SX 4008 7057
United Mines LRF WB	Event - Intervention	Cornwall Archaeological Unit	SW 7468 4185
Cornwall Aerial Photograph Reconnaissance Project: Flight 93	Event - Survey	Cornwall & Scilly HER	SW 8663 5994
Levant Fields	Event - Interpretation	Cornwall Archaeological Unit	SW 3697 3424
Tywarnhayle Mine, LRF	Event - Intervention	Cornwall Archaeological Unit	SW 6977 4724
Wheal Tom (Deer Park Farm Lockett)	Event - Intervention		SX 3820 7282
Wheal Grenville DLG Evaluation	Event - Intervention	Cornwall Archaeological Unit	SW 6677 3890
Godolphin Mines	Event - Interpretation	Cornwall Archaeological Unit	SW 5972 3171
Cornwall Aerial Photograph Reconnaissance Project: Flight 94	Event - Survey	Historic Environment Advice & Information, Cornwall Council	SW 8684 4376
Cornwall Aerial Photograph Reconnaissance Project: Flight 95	Event - Survey	Historic Environment Advice & Information, Cornwall Council	SX 0880 6520
Cornwall Aerial Photograph Reconnaissance Project: Flight 97	Event - Survey	Historic Environment Advice & Information, Cornwall Council	SW 6860 3292
Cornwall Aerial Photograph Reconnaissance Project: Flight 98	Event - Survey	Historic Environment Advice & Information, Cornwall Council	SW 8774 4591
Cornwall Aerial Photograph Reconnaissance Project: Flight 99	Event - Survey	Historic Environment Advice & Information, Cornwall Council	SW 5804 3719
Levant Calciners	Event - Survey	Cornwall Archaeological Unit	SW 3705 3479
Coach House at 17 Fore Street Gunnislake	Event - Survey	Historic Environment Projects, Cornwall Council	SX 4323 7171
Kenidjack holed stone, St Just, Cornwall - repair and restoration	Maintenance	Historic Environment Projects, Cornwall Council	SW 3898 3261
Hayle Brewery photo update	Event - Survey	Historic Environment Projects, Cornwall Council	SW 5645 3776
Trewavas CMP2011	Curatorial Advice	Historic Environment Projects, Cornwall Council	SW 5983 2655
Carnkie School Piece- Historic Building Record	Event - Survey	Historic Environment Projects, Cornwall Council	SW 6797 3973
Wheal Buller Stables	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 6973 3991
Luxulyan Valley	Curatorial Advice	URS Scott Wilson	SX 0673 5639

Norway Bridge	Event - Intervention	Cornwall Archaeological Unit	SW 7781 3867
Watch Croft and Trevean Cliff	Curatorial Advice	Cornwall Archaeological Unit	SW 4178 3544
Bosiliack Bracken Excavation - Scheduled Monuments Management	Event - Intervention	Historic Environment Projects, Cornwall Council	SW 4284 3441
Perranuthnoe to St. Hilary SWW Sewage Pipeline	Event - Intervention	Cornwall Archaeological Unit	SW 5458 3027
Levant LRF assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 3704 3403
Dolcoath, Chapel Road Geo-Technical Investigation	Event - Intervention	Cornwall Archaeological Unit	SW 6612 4056
A39 Carnon Gate Improvement	Event - Interpretation	Cornwall Archaeological Unit	SW 7914 3949
Higher Carnkie	Event - Intervention	Cornwall Archaeological Unit	SW 6834 3951
Letcha Shaft Safety Works	Event - Intervention	Cornwall Archaeological Unit	SW 3594 3042
Industrial Settlements: Camborne	Event - Interpretation	Cornwall Archaeological Unit	SW 6472 3996
Industrial Settlements: Tuckingmill and Roskear	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 6579 4072
Industrial Settlements: Redruth & Plain-an-Gwarry	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 6986 4201
Industrial Settlements: Portreath	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 6572 4529
Industrial Settlements: St Day	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 7282 4250
Industrial Settlements: Trewellard	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 3769 3391
Industrial Settlements: Beacon (Camborne/Redruth)	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 6566 3920
Ballowall Phase II	Event - Intervention	Cornwall Archaeological Unit	SW 3569 3110
Industrial Settlements: Illogan Highway	Curatorial Advice	The Cahill Partnership and Cornwall Archaeological Unit	SW 6790 4173
Industrial Settlements: Pool (Camborne/Redruth)	Event - Interpretation	The Cahill Partnership and Cornwall Archaeological Unit	SW 6693 4157

Industrial Settlements: St Just	Event - Interpretation	The Cahill Partnership and Cornwall Archaeological Unit	SW 3688 3131
The Tregothnan Estate Penwith Survey	Curatorial Advice	Cornwall Archaeological Unit	SW 3617 3215
Industrial Settlements: Pendeen and Lower Boscaswell	Event - Interpretation	The Cahill Partnership and Cornwall Archaeological Unit	SW 3830 3450
Industrial Settlements: Bojewyan	Event - Interpretation	The Cahill Partnership and Cornwall Archaeological Unit	SW 3915 3454
Industrial Settlements: Botallack and Truthwall	Event - Interpretation	The Cahill Partnership and Cornwall Archaeological Unit	SW 3685 3276
Industrial Settlements: Carnyorth	Event - Interpretation	The Cahill Partnership and Cornwall Archaeological Unit	SW 3751 3319
Industrial Settlements: Nancherrow and Tregeseal	Event - Interpretation	The Cahill Partnership and Cornwall Archaeological Unit	SW 3738 3186
Perran Foundry - Conservation Statement (consultation draft)	Curatorial Advice	Cornwall Archaeological Unit	SW 7764 3847
Lynher Valley - Historical and Archaeological Appraisal	Event - Interpretation	Cornwall Archaeological Unit	SX 3201 6716
The Tregothnan Estate Penwith Survey	Event - Survey	Cornwall Archaeological Unit	SW 3695 3220
New Roskear Shaft, Camborne	Event - Interpretation	Peninsula Projects	SW 6558 4097
Perran Foundry, Perranarworthal, Cornwall	Event - Interpretation	English Heritage	SW 7764 3847
Engine Houses in St Agnes, Cornwall	Event - Survey	Cornwall Archaeological Unit	SW 7129 4890
Shaft Capping Contract 13B	Event - Interpretation	South West Archaeology	SW 6673 3627
Geevor Tin Mine	Curatorial Advice	PLB Consulting Ltd	SW 3727 3458
Bosigran Counthouse	Event - Intervention	Cornwall Archaeological Unit	SW 4199 3640
Gunpowder Mills of Kennall Vale	Event - Survey	Private Individual	SW 7509 3745
Contract 9B, Evaluation at Wheal Vor, Carleen	Event - Intervention	Cornwall Archaeological Unit	SW 6218 3017
Carn Brea	Curatorial Advice	Kerrier Groundwork Trust	SW 6829 4068
Danescombe & Cotehele Quay LRF	Event - Interpretation	Cornwall Archaeological Unit	SX 4242 6920
Minions LRF WB	Event - Intervention	Cornwall Archaeological Unit	SX 2619 7215
Danescombe Valley LRF	Event - Intervention	Cornwall Archaeological Unit	SX 4241 6925

Okel Tor LRF Structures	Event - Intervention	Cornwall Archaeological Unit	SX 4460 6895
Calstock Quay Contract 2 LRF	Event - Intervention	Cornwall Archaeological Unit	SX 4366 6849
Gunnislake Clitters Building Survey (Contract 5)	Event - Survey	Cornwall Archaeological Unit	SX 4221 7192
Gunnislake Clitters Contract 6 Buildings	Event - Intervention	Cornwall Archaeological Unit	SX 4215 7217
Gunnislake Clitters Contract 5 Shaft	Event - Intervention	Cornwall Archaeological Unit	SX 4221 7192
Gunnislake Clitters Skinners Shaft Survey	Event - Survey	Cornwall Archaeological Unit	SX 4215 7194
Calstock Quay Phase 2	Event - Intervention	Cornwall Archaeological Unit	SX 4361 6853
Gunnislake Clitters Contract 7 (Skinners)	Event - Intervention	Cornwall Archaeological Unit	SX 4214 7196
Holmbush Mine Engine House	Event - Survey	Cornwall Archaeological Unit	SX 3577 7201
Tolgarrick Road	Event - Intervention	Cornwall Archaeological Unit	SW 6587 4138
Polgear to Carnmenellis Watching Brief	Event - Intervention	Cornwall Archaeological Unit	SW 6904 3666
Lower Polgear to Carnmenellis Pipeline	Event - Interpretation	Cornwall Archaeological Unit	SW 6904 3666
Godolphin and Great Work	Curatorial Advice	Cornwall Archaeological Unit	SW 6016 3175
Godolphin Water and Electrical Supplies	Event - Intervention	Cornwall Archaeological Unit	SW 5979 3159
Arch. Survey and Conservation in West Penwith	Event - Interpretation	Cornwall Archaeological Unit	SW 4358 3535
Duchy Minerals	Event - Interpretation	Cornwall Archaeological Unit	SX 3327 7209
Geophysical Surveys, 1978 - AM Lab	Event - Survey	Ancient Monuments Laboratory (EH)	SW 6786 3064
Portreath-Camborne SWW	Event - Survey	Geophysical Surveys of Bradford	SW 6401 4294
Drakewalls DLG Phase 3	Event - Intervention	Cornwall Archaeological Unit	SX 4245 7068

Perranuthnoe SWW	Event - Survey	GSB Prospection Ltd	SW 5458 3027
Perranuthnoe SWW	Event - Interpretation	Cornwall Archaeological Unit	SW 5458 3027
United Downs, the Structures	Event - Intervention	Cornwall Archaeological Unit	SW 7454 4199
United Downs, the Structures	Event - Intervention	Cornwall Archaeological Unit	SW 7512 4162
SM Management: Lanyon Quoit & Men an Tol	Maintenance	Cornwall Archaeological Unit	SW 4282 3429
Drakewalls DLG, Phase 2	Event - Intervention	Cornwall Archaeological Unit	SX 4245 7068
Wheal Henry Engine House	Event - Interpretation	Cornwall Archaeological Unit	SW 7519 4268
Godolphin, recording and research	Event - Survey	Cornwall Archaeological Unit	SW 5999 3149
Canyack, St Just in Penwith	Event - Survey	Cornwall Archaeological Unit	SW 3637 3069
Marshall's Shaft. Geotechnical	Event - Intervention	Cornwall Archaeological Unit	SW 6603 3851
Poldice, Triplets LRF Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 7369 4293
Norway Inn Bridge	Event - Intervention	Cornwall Archaeological Unit	SW 7781 3867
United Downs LRF	Event - Interpretation	Cornwall Archaeological Unit	SW 7484 4177
Contract 12 LRF	Event - Intervention	Cornwall Archaeological Unit	SW 6879 4017
Tolgarrick Road, Tuckingmill, Add. LRF	Event - Interpretation	Cornwall Archaeological Unit	SW 6602 4122
Boscean to Botallack, SWEB	Event - Intervention	Cornwall Archaeological Unit	SW 3652 3288
DLG Shaft Capping Contract 9B	Event - Intervention	Cornwall Archaeological Unit	SW 6149 3037
DLG Shaft Capping Contract 9B	Event - Interpretation	Cornwall Archaeological Unit	SW 6800 3439
DLG - Boscarn Park	Event - Intervention	Cornwall Archaeological Unit	SW 6746 4094
DLG Shaft Capping Contract 9B	Event - Intervention	Cornwall Archaeological Unit	SW 6255 3046

DLG Shaft Capping Contract 9B	Event - Intervention	Cornwall Archaeological Unit	SW 7279 4266
DLG Shaft Capping Contract 9B	Event - Intervention	Cornwall Archaeological Unit	SW 7267 4249
SM Management: Rillaton Barrow	Maintenance	Cornwall Archaeological Unit	SX 2602 7191
SM Management: Porthmoina Stamps	Maintenance	Cornwall Archaeological Unit	SW 4174 3669
DLG Shaft Capping Contract 9B	Event - Intervention	Cornwall Archaeological Unit	SW 6630 3887
DLG shaft Capping Contract 9B	Event - Interpretation	Cornwall Archaeological Unit	SW 6777 3719
Caradon Hill, LRF Assessment	Event - Interpretation	Cornwall Archaeological Unit	SX 2657 7073
DLG Shaft Capping Contract 9B	Event - Intervention	Cornwall Archaeological Unit	SW 6579 4010
SM Management: Folly on Kit Hill	Maintenance	Cornwall Archaeological Unit	SX 3751 7133
Boscaswell, St Just	Curatorial Advice	Cornwall Archaeological Unit	SW 3754 3502
Cotehele, Drain	Event - Intervention	Cornwall Archaeological Unit	SX 3873 6145
DLG Shaft Capping Contract 9B	Event - Intervention	Cornwall Archaeological Unit	SW 6610 3994
Kit Hill	Event - Survey	Cornwall Archaeological Unit	SX 3764 7138
NT: Rosemergy, Morvah	Event - Survey	Cornwall Archaeological Unit	SW 4200 3605
Minions Survey	Curatorial Advice	Cornwall Archaeological Unit	SX 2633 7132
Engine House Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 7065 4154
DLG Areas 1-18: Wheal Harriet, Camborne	Event - Interpretation	Cornwall Archaeological Unit	SW 6596 3953
DLG Areas 1-18: WAAF Site Portreath	Event - Interpretation	Cornwall Archaeological Unit	SW 6833 4513
Luxulyan Valley	Presentation	Cornwall Archaeological Unit	SX 0650 5663

Hayle Tidal Barrier	Event - Survey	Foundation and Exploration Services Ltd	SW 5472 3629
St Just Town Survey	Curatorial Advice	Cornwall Archaeological Unit	SW 3702 3145
Godolphin, Vane's Meadow	Event - Intervention	Cornwall Archaeological Unit	SW 5895 3204
Tywarnhayle Mine, LRF Shafts	Event - Intervention	Cornwall Archaeological Unit	SW 7018 4721
St Day to Redruth Gas Main	Event - Intervention	Cornwall Archaeological Unit	SW 7174 4339
Tywarnhayle Mine, Porthtowan	Event - Survey	The Trevithick Trust	SW 7004 4728
A39 Improvements, Norway Inn, Perranarworthal	Event - Intervention	Cornwall Archaeological Unit	SW 7779 3866
South Crofty and Cook's Kitchen Mines, Pool Redruth	Event - Intervention	Cornwall Archaeological Unit	SW 6650 4069
Kennall Vale (CTNC)	Event - Survey	Cornwall Archaeological Unit	SW 7509 3747
St Austell China Clay Area	Event - Interpretation	Cornwall Archaeological Unit	SW 9917 5653
Wendron Water Works	Event - Intervention	Cornwall Committee for Rescue Archaeology	SW 6783 3064
Market House, Camborne	Event - Survey	Cornwall Committee for Rescue Archaeology	SW 6459 4004
CWT Reserves - Report	Event - Interpretation	Cornwall Archaeological Unit	SW 9499 6316
Devon Great Consols	Event - Interpretation	Cornwall Archaeological Unit	SX 4391 7206
Relubbus West Bridge, Cornwall	Event - Interpretation	Cornwall Archaeological Unit	SW 5662 3194
Trewavas	Curatorial Advice	Carn Brea Mining Society	SW 5994 2658
Charlestown Coalyard	Event - Interpretation	Cornwall Archaeological Unit	SX 0369 5177
SM Management: Kennall Vale Leat	Maintenance	Cornwall Archaeological Unit	SW 7489 3736
Luxulyan Valley Management Plan	Curatorial Advice	Restormel Borough Council	SX 0648 5664
Sarah's Shaft, Wheal Kitty, ST Agnes	Event - Interpretation	Cornwall Archaeological Unit	SW 7243 5131
Polgear-Carmenellis, Geophysical Survey	Event - Survey	GSB Prospection Ltd	SW 6904 3666

Harrowbarrow Cist	Event - Survey	Cornwall Archaeological Unit	SX 3975 6983
Stoke Climsland - Lockett	Event - Interpretation	Cornwall Archaeological Unit	SX 3874 7339
Ballowall DLG	Event - Intervention	Cornwall Archaeological Unit	SW 3575 3103
Breage Regeneration	Event - Interpretation	South West Archaeology	SW 5982 3039
Marriotts Shaft	Event - Survey	Frederick Sherrel Ltd	SW 6802 3939
Wheal Uny, Redruth	Event - Survey	Frederick Sherrel Ltd	SW 6937 4086
Prince of Wales Engine House, Phoenix Mine, Minion	Event - Survey		SX 2662 7197
Tywarnhayle Mine, Cornwall	Maintenance	Knight Piesold	SW 7018 4721
Tywarnhayle Mine	Curatorial Advice	The John Knevitt Practice Ltd	SW 6988 4723
Tywarnhayle Mine	Curatorial Advice	The John Knevitt Practice Ltd	SW 6988 4723
Minions, DLG Assessment	Event - Interpretation	Cornwall Archaeological Unit	SX 2694 7100
Pumping Engines of the St Agnes Mines	Event - Interpretation	Private Individual	SW 7209 4883
Poldice Valley - DLG Assessment	Event - Interpretation	Cornwall Archaeological Unit	SW 7436 4284
Mines in the Kit Hill and Callington Area	Event - Survey	Plymouth Caving Group	SX 3696 7098
Phoenix Mine	Presentation	Private Individual	SX 2660 7215
Old Gunnislake Mine	Event - Interpretation	John Grimes Partnership	SX 4314 7196
Cultural Heritage Management Plan	Curatorial Advice	Halcrow Group	SX 2622 6253
Wheal Uny, Redruth	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6937 4086
West Basset Stamps	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6892 4018
West Basset Stamps	Event - Survey	Environmental Consultants (CTNC) Ltd	SW 6892 4018
Wheal Uny	Event - Survey	ADAS	SW 6937 4086
Drakewalls Mine, Gunnislake	Event - Survey		SX 4256 7066
Drakewalls Mine, Gunnislake, Cornwall	Event - Survey		SX 4256 7066
Poldice Valley	Event - Survey	Frederick Sherrel Ltd	SW 7429 4287
Pedn-an-Drea, Redruth	Event - Intervention	DARAG History & Archaeology	SW 7024 4205
Geevor Tin Mine	Event - Survey	Michael Beardsall Associates (MBA)	SW 3751 3453
South Quay, Hayle	Event - Intervention	Northamptonshire Archaeology	SW 5571 3737

Chapples Whim, Pool	Event - Survey	Michael Beardsall Associates (MBA)	SW 6653 4062
Chapples Pumping Engine House	Event - Survey	Michael Beardsall Associates (MBA)	SW 6649 4060
Higher Trescowe Farm Barns, Penzance	Event - Survey	Richard Holbrook	SW 5798 3129
Archaeological Assessment of Former Engine House at Tolgullow Vean	Event - Interpretation	South West Archaeology	SW 7322 4322
Gunnislake Clitters Mine, Tamar Valley	Event - Survey	Frederick Sherrel Ltd	SX 4217 7219
Okel Tor Mine, Calstock	Event - Survey	Frederick Sherrel Ltd	SX 4453 6890
Godolphin	Event - Survey	GSB Prospection Ltd	SW 6004 3152
Godolphin House, Cornwall	Event - Survey	Geophysical Surveys of Bradford	SW 6017 3175
East Hill Buildings, Tuckingmill, Camborne	Event - Survey	Capstone Archaeology	SW 6630 4123
Trevean Farm, Morvah, Cornwall	Event - Interpretation	Capstone Archaeology	SW 4126 3532
Caradon Hill & Craddock Moor	Event - Survey	John Grimes Partnership	SX 2613 7100
Sparry Lane, Carharrack, Redruth	Event - Survey	Archaeological Surveys Ltd	SW 7343 4138
Plymouth Sound	Event - Interpretation	Wessex Archaeology	SX 4763 5821
Marshall's Shaft, Troon	Event - Survey	Marcus Hodges Environment Limited	SW 6604 3851
The Hurlers, Cornwall	Event - Survey	Centre for Archaeology	SX 2584 7144
Carn Brea, Redruth, Cornwall	Event - Intervention	Ancient Monuments Laboratory (EH)	SW 6850 4057
Hayle Harbour, North Quay	Event - Intervention	Wessex Archaeology	SW 5542 3790
Hayle Harbour Railway	Curatorial Advice	Wessex Archaeology	SW 5538 3791
Devon Great Consols Mine, Tavistock Hamlets	Event - Survey	Exeter Museums Archaeological Field Unit	SX 4270 7328
Lower Tamar Valley Recreation and Land Management Initiative	Event - Interpretation	Exeter Archaeology	SX 4049 7292
The White Hart Hotel, 10 Foundry Square, Hayle	Event - Survey	Josephine Brown Ltd	SW 5585 3706
Phoenix United	Event - Interpretation	Environmental Services	SX 2672 7198
Perranporth Airfield, Perranzabuloe	Event - Interpretation	Archaeological Consultancy Ltd	SW 7410 5322
Perranporth Airfield	Event - Intervention	Archaeological Consultancy Ltd	SW 7426 5330
RAF Perranporth, St Agnes, Cornwall	Event - Survey	English Heritage	SW 7383 5275
Penhallick Leat, Pool	Event - Survey	Knevitt Consulting	SW 6660 4052
Goold's Shaft, Troon	Event - Survey	Knevitt Consulting	SW 6633 3865
Betty Adit Streamworks, Brea, Cornwall	Event - Survey	Knevitt Consulting	SW 6659 3979

Prince of Wales, Harrowbarrow, Stamps Engine House -Structural Appraisal	Event - Survey	Knevitt Consulting	SX 4000 7055
Prince of Wales, Harrowbarrow, Pumping Engine House Structural Appraisal	Event - Survey	Knevitt Consulting	SX 4007 7060
Prince of Wales, Harrowbarrow, Winding Engine House Structural Appraisal	Event - Survey	Knevitt Consulting	SX 4012 7061
Draft Structural Appraisal Sites 8, 10 & 10.1 New Quay, Devon Great Consols, Tavistock, Devon	Event - Survey	Knevitt Consulting	SX 4541 6959
Lower Boscaswell Farm	Event - Survey	ArchaeoPhysica Ltd	SW 3758 3491
Devon Great Consols and Bedford United Mines	Event - Survey	Wardell Armstrong	SX 4286 7305
Bissoe Bike Hire	Event - Intervention	Crellas	SW 7699 4151
Tywarnhayle Mine	Event - Survey	Knight Piesold	SW 6988 4723
Caradon Hill, Cornwall, Power Line Poles	Event - Intervention	AC Archaeology	SX 2700 7033
Gas Pipeline between Redruth and Camborne, Cornwall	Event - Interpretation	AC Archaeology	SW 6739 4291
Charlestown Shipwreck and Heritage Centre	Event - Interpretation	Kevin Camidge	SX 0390 5173
Manor Workshop, St Day	Event - Survey	EDP (Environmental Dimension Partnership)	SW 7297 4256
Unity Wood Site - Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 7350 4366
Grenville New Stamps - Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 6660 3859
Higher Condrurrow Site. Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 6613 3929
Marshalls Shaft Site. Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 6604 3851
Ale and Cakes Site. Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 7485 4148
Tolgus Calciner. Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 6898 4302
Cusvey Site. Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 7564 4199
Portreath Incline. Mineral Tramways Heritage Project	Event - Survey	Michael Beardsall Associates (MBA)	SW 6572 4509
Godolphin Breage Cornwall	Curatorial Advice	Keystone Historic Buildings Consultants	SW 5972 3171
Godolphin, Breage, Cornwall	Event - Survey	Keystone Historic Buildings Consultants	SW 6008 3180
Fair Meadow, Station Hill, Redruth	Event - Interpretation	CgMs Environmental Consultants	SW 6989 4193
Lelant Quay, St. Ives, Cornwall: Historic and Archaeological Recording	Event - Interpretation	Archaeological Consultancy Ltd	SW 5500 3779
Phoenix United Mine – Miners' Dry	Event - Survey	John Grimes Partnership	SX 2673 7198
Plen-an-Gwary, St Just, Cornwall	Event - Survey	ArchaeoPhysica Ltd	SW 3701 3142
A39, Carnon Gate	Event - Interpretation	Niall Oakey	SW 7912 3973
Mount Foundry and Tavistock Foundry, Tavistock	Event - Interpretation	Wessex Archaeology	SX 4859 7471

Rodda's Creamery, Scorrier. Redruth, Cornwall	Event - Interpretation	Wessex Archaeology	SW 7169 4442
Stannridge Brick Kiln, Gunnislake	Event - Survey	Exeter Archaeology	SX 4261 7106
Cable between Carnmenellis Radio Station and Burras Farm, Wendron, Cornwall	Event - Intervention	Exeter Archaeology	SW 6882 3575
Perfex Works, Hayle, Cornwall	Event - Survey	Exeter Archaeology	SW 5710 3814
King Edward Mine, Troon, Cornwall	Event - Survey	Exeter Archaeology	SW 6639 3891
Drakewalls Mine, Gunnislake, Cornwall	Event - Survey		SX 4256 7066
Carn Brea South	Event - Survey	Frederick Sherrell Ltd	SW 6871 4082
Cotehele Estate, Cornwall	Event - Interpretation	Crellas	SX 4148 6781
A38 Liskeard to Bodmin Road Improvement	Event - Interpretation	Wessex Archaeology	SX 1638 6422
Tamar Estuaries	Event - Interpretation	Plymouth Archaeology	SX 4767 6159
Phoenix United, Minions	Event - Interpretation	Environmental Services	SX 2663 7199
Gawton Mine and Arsenic Works	Event - Interpretation	Exeter Archaeology	SX 4526 6888
Blackman Landfill Site, United Downs	Event - Interpretation	Exeter Archaeology	SW 7499 4145
St Agnes Film Studio Site	Event - Interpretation	Exeter Archaeology	SW 7211 4982
Poldice Valley	Event - Survey	Frederick Sherrel Ltd	SW 7366 4292
The Old Reservoir, Hayle	Event - Survey	Katharine Sawyer	SW 5560 3693
Gawton Mine, Devon	Event - Survey	Exeter Archaeology	SX 4525 6890
Troon Adit - Phase III	Event - Survey	Cormac Solutions Ltd	SW 6621 3790
Fal Estuary	Event - Survey	University of Hull	SW 8388 3673



Our mining culture
shaped your world

The Cornwall and West Devon Mining Landscape World Heritage Site Monitoring Report

2012



United Nations
Educational, Scientific and
Cultural Organization



**Cornwall and West Devon
Mining Landscape**

inscribed on the World Heritage List in 2006

Monitoring and the Cornwall and West Devon Mining Landscape World Heritage Site Management Plan (2013-2018)

With a total area of 19,710 hectares, the CWDML WHS is the largest World Heritage Site (WHS) in the UK and contains a suite of seven landscape components or 'attributes' through which the Site's *Outstanding Universal Value* (OUV) ¹, or international significance, is expressed. The size and scope of the WHS presents significant management challenges and the remit of the WHS Partnership Board, its governing body, is correspondingly wide-ranging.

The Management Plan for the Cornwall and West Devon Mining Landscape World Heritage Site (CWDML WHS) sets out a suite of policies which address the requirement for active management of the Site in accordance with the UNESCO World Heritage Convention of 1972. These policies are expressed under the following management themes: Protection, Conservation and Enhancement, Presentation, and Transmit (see: Monitoring appendix 1). A suite of monitoring indicators has been devised to assess the application of these policies over time and the impacts of World Heritage Site (WHS) status, and these are set out below.

While WHS management activity covers a broad spectrum of issues, a significant focus of the monitoring of the CWDML WHS centres on the preservation, conservation and enhancement of the Site's OUV. The term OUV encompasses all those sites and features for which the WHS was inscribed, and maintaining the condition of these, and appropriately addressing any perceived threats, is a paramount concern, which is duly reflected in this report. The impacts of particular WHS related conservation projects should also be assessed to reflect where and how OUV is being preserved and enhanced.

Presentation of the WHS designation is of significance in raising public awareness of the Site and the values which it embodies. This, in turn, can engender a valuable sense of ownership which of itself can help to ensure preservation over the longer term. Public benefits accruing from increased knowledge and enjoyment of the CWDML WHS should be assessed, along with education through school, college and life-long learning provision. All these are important means of increasing awareness and appreciation for the status, which need to be carefully formulated, delivered and monitored to achieve the desired outcomes.

The function of monitoring, beyond its immediate usefulness to Site management, is also a mandatory requirement under the terms of the World Heritage Convention. The UNESCO Periodic Reporting requirement stipulates that all Sites around the world submit State of Conservation reports on a six-yearly basis, and as part of a group submission of similar reports from other Sites in the same geographical world region. The CWDML WHS is located within the Europe and North America region and the next round of Periodic Reporting for this group is set for 2013.

Through a process of comparing and contrasting a number of monitoring reports produced by UK World Heritage Sites, in accordance with previous UNESCO Periodic Reporting guidelines, specific monitoring indicators have been developed which aim to address key management objectives. The ICOMOS UK *Tool Kit for World Heritage Site Monitoring Indicators*² has also been used to inform the creation of this suite of indicators, although these have been augmented and otherwise adapted to suit the multi-area nature and large scale (19,710 hectares) of this serial WHS.

The monitoring indicators set out below have been grouped under three headings in accordance with the general structure of the ICOMOS UK *Tool Kit*, these being

- *Conservation of outstanding universal value (OUV)*
- *People and the World Heritage Site*
- *Environmental quality*

The respective WHS Management Plan policies have been quoted in respect to each monitoring subheading to aid cross referencing of the respective themes and the attendant management

objectives. In addition to providing descriptive information relating to the indicators, the monitoring status is also given for each monitoring theme or topic indicator, and an explanation of data gaps where these exist.

Given the scale and complexity of the CWDML WHS, effective monitoring can only be secured with the ongoing co-operation of the partner local authorities (Cornwall Council, Devon County Council, and West Devon Borough Council), agencies with particular conservation remits, and stakeholders with a related heritage tourism remit. The data contained within the Monitoring Report is the result of work undertaken directly by the WHS Office, under the aegis of the WHS Partnership Board, the Historic Environment department of Cornwall Council, West Devon Borough Council, Devon County Council, and by agencies including Natural England and the Cornwall Wildlife Trust.

Significant progress has been made to date in delivering the required monitoring across the suite of indicators identified and this is set out below. Where data gaps exist, these are acknowledged within the relevant sections. Condition monitoring of OUV has been successfully undertaken for the whole Site, surveying in excess of 900 sites and features, and producing over 12,000 digital photographic images, in addition to the condition assessment itself. In relation to the transmit, or outreach, aspects of WHS management, market research surveys have been undertaken to gauge the awareness and perceptions of visitors in relation to the World Heritage status.

Some aspects of Site management result in outcomes which pertain to more than one monitoring indicator, e.g. '5.Impact of World Heritage Site designation on principal sites', and '10.Economic impacts'. In this example, the major conservation work undertaken at mine sites across the WHS, which could be said to have been secured at least in part through the existence of WHS status, serves to preserve features of OUV, while also delivering economic benefits for Cornwall and west Devon.

During the period of the current Management Plan (2013-2018) it will be a priority to repeat the photomonitoring condition survey, in a revised form to reflect the knowledge gained from the first survey, and to address the data gaps identified, particularly in the areas of social impacts and visitor satisfaction surveys. The sustained support and co-operation of stakeholders, especially the partner local authorities Cornwall Council, Devon County Council, and West Devon Borough Council, will be an essential requirement in achieving these objectives.

Cornwall and West Devon Mining Landscape World Heritage Site

November 2012

Contents

The associated policies of the *World Heritage Site Management Plan (2013-2018)* are shown in brackets alongside each monitoring topic indicator, as set out below, and the former are detailed in Monitoring appendix 1.

Conservation of *outstanding universal value* (OUV)

- 1 Protection (Policies: P4, P5, P6, P7, P8)
- 2 Condition surveys and risk assessment (Policies: C6, C7, C8, C9, C10, C11, C12)
- 3 Development pressures and change (Policies: C2, C3, C5)
- 4 Setting of the World Heritage Site (Policy: P8)
- 5 Impact of World Heritage Site designation on principal sites (Policies: PN5, PN6, PN7, PN8)
- 6 WHS management (Policies: P1, P2, P3)

People and the World Heritage Site

- 7 WHS awareness (Policies: PN2, PN3, T1, PN4, PN5, PN6, PN7, PN8, T2, T3, T4, T5)
- 8 Education (Policies: C13, PN2, PN3, T1, T2)
- 9 Social impacts (Policies: PN5, PN6, PN7, PN8)

Economic impacts and visitor management

- 10 Economic impacts (Policies: PN5, PN6, PN7, PN8)
- 11 Visitor management (Policies: PN1, PN2, PN3, PN4, T1)

Environmental quality

- 12 Mineralogical value of the World Heritage Site (Policies: P1, P2, P3, P5, P6, P7)
- 13 Ecological value of the World Heritage Site (Policies: C7, C10)
- 14 Sustainable physical access (Policy: PN1)

Conservation of *outstanding universal value* (OUV)

1. Protection

CWDML WHS Management Plan Policies: P4, P5, P6, P7, P8

The CWDML WHS has protection within both the Cornwall Structure Plan (2004), which is a 'saved' local plan carried over into the Cornwall Council Unitary authority, and by means of subject-specific plans produced by Devon County Council. The UNESCO requirement to protect World Heritage Sites has much significance locally, as demonstrated by the responses of members of Cornwall County Council's People's Panel. This survey, undertaken in 2004, found that 87 per cent of the 1,484 respondents considered that Cornwall's historic mining remains should be protected.³

To this end a Special Planning Document (SPD) for the CWDML WHS is to be produced which details the overarching strategy to be adopted to protect the Site's OUV at unitary authority, county and borough council levels, reflecting the nature of the partner administrative bodies: Cornwall Council, Devon County Council, and West Devon Borough Council. This will be produced in accordance with the World Heritage Site related recommendations contained within the National Planning Policy Framework (2012), specifically sections 132, 137 and 138.

The structures relating to the OUV of the WHS which have protection through statutory designations should be monitored to compile a list of those sites which require priority attention by English Heritage. Research undertaken by the Historic Environment teams of Cornwall Council and Devon County Council has done much to define this task and the WHS Photomonitoring Survey, undertaken in 2010 and described below, has provided considerable additional detail to this end.

Indicator	Status	Notes
World Heritage Site governance	WHS Partnership Board inaugurated in 2011 to oversee delivery of the 34 policies of the WHS Management Plan (2013-2018); part of a three tiered governance structure, comprising Partnership Board, Technical Panel and Consultative Forum	Current Partnership Board led governance structure supersedes the previous WHS Officer Working Group, formed in 2001
World Heritage Site Office	Three FT staff members plus one PT support officer; three additional fixed term (3 year) staff in place to deliver the WHS tourism enhancement project: 'Discover the Extraordinary'*	WHS Office and staff hosted by Cornwall Council and co-funded by Cornwall Council, Devon County Council, and West Devon Borough Council* (*see also '10.Economic impacts')
Planning policy protection	National Planning Policy Framework (NPPF, 2012) in place, containing specific reference to WHS protection; WHS designated as Article 1(5) land under General Permitted Development Order (GPDO) legislation; Local Structure Plan in place for Cornwall (2004) delivering local statutory protection (with revision expected 2013) and department specific plans in place covering the west Devon area of the Site	Revised Cornwall Council Local Development Plan in consultation/finalisation phase
	WHS Special Planning Document (SPD) in preparation to define OUV	Work on planning policy SPD in Cornwall delayed due to

	and recommended planning approach for preservation of OUV; descriptive OUV Area statements (Appendix 8.1 of Management Plan) to be included as appendix to the SPD	Unitary Authority transition and related staff changes; OUV Area statements created in 2007, and revised in 2012 for inclusion in the Management Plan Appendices (see: 8.1 above)
Number of historic structures and settlements within the WHS protected as:		As of May 2012
Listed buildings:	1,388 (Cornwall: 1,309, West Devon: 79)	Data: Cornwall Council HBSMR and English Heritage
Scheduled Monuments:	148 (Cornwall: 144, West Devon: 4)	
Conservation Areas:	36 (Cornwall: 34, West Devon: 2)	

Status summary: Management structure in place to co-ordinate the delivery of the 34 policies set out in the WHS Management Plan (2013-2018); governance structure of WHS Partnership Board and Technical Panel, with Consultative Forum, in operation, with WHS Office and staff hosted by Cornwall Council. Protection of WHS OUV assets afforded at national and local levels through the National Planning Policy Framework (NPPF 2012), General Permitted Development Order legislation (Article 1(5 status), the Cornwall Structure Plan (2004), and forthcoming Local Development Plan, and department specific plans for the west Devon (A10) Area of the Site.

2. Condition surveys and risk assessment

CWDML WHS Management Plan Policies: C6, C7, C8, C9, C10, C11, C12

WHS condition monitoring

Principal features of OUV should be subject to periodic condition surveys including periodic quinquennial (five yearly) fixed-point photography to record the state of preservation over time. These should subsequently form the basis of detailed recommendations for medium and longer term remediation as required.

As part of the formulation of an ongoing monitoring methodology, a list of OUV components was prepared addressing the range of landscape component features for which the Site was inscribed. The draft OUV Area Statements assessment produced for the Site in 2007 was also used to inform this process and this work is presented in an amended form in Appendix 8.1.

Given the large number and broad range of landscape components to be monitored within the Site, a *Common Standards Monitoring* methodology has been adopted to enable perceived changes in condition, or otherwise, to be stated as trends – e. g. ‘stable and improving’ or ‘unfavourable but improving’.⁴ ‘Condition statements’ were also thought important to summarise the principal issues which may pertain to a particular site or feature. Overall this is considered a straightforward but effective means of expressing the condition of Site OUV components over time, which can subsequently be used to prepare ‘Key message’ trend-related statements if required.

Assessment categories and data recorded

Site/feature condition has been assessed in each instance using the following categories plus a short free text description:

- Favourable
- Favourable – maintained

- Favourable – recovered
- Unfavourable
- Unfavourable – no change
- Unfavourable – recovering
- Unfavourable – declining

The following data was logged as part of the survey including Global Positioning System (GPS) co-ordinates to aid future repeat surveys:

- Surveyor name
- Survey date
- Agreed date for follow-up visit
- National and local designations
- Recommended management actions
- Details of record photographs (see below) including:
 - WHS Area
 - Site type
 - Site name
 - Date of visit

In order to enable the photographic element of a survey to more readily repeatable, it was considered important that each photograph be tagged with spatial co-ordinates using a camera equipped with a Global Positioning System (GPS) data logging attachment. The EXIF files thus generated with the images contain data that can be readily converted to a National Grid Reference (NGR).

The Condition surveys include assessment of the following:

- The state of preservation of mine buildings and other related OUV structures/features
- The state of preservation of mine burrows – waste spoil heaps; these are an integral part of OUV and essential context for mine buildings and related features, which should be retained untouched
- The degree of destruction or degradation of OUV mining features and landscapes through vehicular leisure activities such as off-road cycles, motorcycles or 4 x 4 vehicles, for key 'problem' mining landscapes

The WHS also includes a number of former mineral ports and harbours which are susceptible to increasing sea level rise through progressive climate change. Sea level data gathered through the DEFRA funded *Strategic Regional Coastal Monitoring Programmes of England*⁵ could be useful in informing future monitoring.

The WHS Photomonitoring Survey

A Site-wide Photomonitoring Survey was commissioned in 2010 and was undertaken from the end of August until November that year. Over 12,000 digital still images were captured in total across the ten Areas of the Site and assessments of baseline condition for each site/feature were logged using an electronic spreadsheet. All images and data have subsequently been shared with World Heritage Site partners within west Devon - West Devon Borough Council and Devon County Council - and English Heritage, as required.

Summary of issues and list of World Heritage Site OUV sites/features in Unfavourable condition (extract from Photomonitoring Survey report, 2010)

The results of the first photomonitoring exercise carried out across the Cornish Mining World Heritage Site appear to show that the majority of its components are in good condition and that there are no major causes for concern. This is underscored by the condition survey table, which

suggests that only a relatively small proportion of the sites which make up the World Heritage Site were scored as **Unfavourable**. In cases like Geevor, whilst a number of minor elements of the site were judged to be in unfavourable condition, these represented only relatively minor components of the overall site, and thus it was judged that a favourable condition could be recorded.

In relation to structures this was almost always due to an evident deterioration in condition, usually resulting from a total lack of any conservation works or maintenance over many years. In most cases this process had not advanced to a significant degree, but a few significant exceptions to this were noted. In relation to sites, uncontrolled vegetation management leading to scrub growth, or the proximity of trees in plantations was seen to be a problem, most notably at Wheal Benny, where falling trees have already caused significant structural damage to the labyrinths, and similar future damage is likely to the calciner and wheelpits. Scrub incursion onto sites consolidated during the 1990s was also found to be an issue, reflecting a general absence of cyclic maintenance since the completion of capital-funded works. This issue is beginning to be addressed by CC (in particular on sites on the Mineral Tramways network) but the importance of ongoing vegetation management needs to be flagged up in management plans for sites on which works are currently, or may in future be envisaged.

The following lists those sites whose condition was deemed unfavourable. Concerns over condition were raised in relation to a number of other sites, though were not felt to be of sufficient concern to warrant their inclusion in this category. Notes in the spreadsheet identify these borderline sites.

Area 1: number of sites: 56

Mine sites

- Boscawell United pumping engine house (some minor deterioration)
- Botallack Carn Whim chimney/engine house (slow deterioration)
- Botallack old materials house (significant deterioration). HLS funded works proposed
- Botallack Wheal Button boiler house flue and stack (slow deterioration)
- Cape Cornwall magazine (scrubbed in)
- Carnyorth Moor pumping engine house (likely significant deterioration)
- Chyrose stamps (scrubbed in)
- Cot lower stamps (scrubbed in). HLS funded works to be undertaken
- Cot Meadowside stamps (deteriorating/scrubbed in). RDPE funded works to be undertaken
- Ding Dong dressing floors (scrubbed in)
- Geevor bottom magazine (slow deterioration)
- Geevor Carne Shaft (likely deterioration/no access)
- Geevor middle magazines (slow deterioration)
- Geevor Pig Shaft magazine (significant deterioration/scrubbed in)
- Geevor Pig Shaft stable (slow deterioration)
- Geevor powder magazine (slow deterioration)
- Geevor thickening tanks (significant risk of loss of ironwork components unless treated to arrest corrosion)
- Geevor Treweek's Shaft (now agricultural buildings, deteriorating)
- Geevor Wethered candle store (significant deterioration). Cosmetic works proposed
- Geevor Club House (significant deterioration). Cosmetic works proposed
- Grouse pumping engine house (deteriorating/scrubbed in)

- Grouse stamps engine house/dressing floors (deteriorating/scrubbed in)
- Kenidjack Bosorne stamps and buddles (deteriorating/scrubbed in)
- Kenidjack stamps (1) (deterioration/scrubbed in)
- Kenidjack stamps 2 (deterioration/scrubbed in)
- Kenidjack west rifle butts (minor deterioration)
- Leswidden chimney (ongoing deterioration). HLS funded works proposed
- Leswidden dressing floors (scrubbed in)
- Levant dressing floors (significant ongoing deterioration)
- Levant smallholdings (scrubbing in)
- Levant man engine house (slow deterioration)
- Levant precipitation building (slow deterioration)
- Levant tin floors (slow deterioration)
- Levant Rescorla's works (slow deterioration)
- Levant smithy (progressive deterioration)
- Kenidjack Nineheads Stamps (slow deterioration/scrubbed in)
- Levant west powder magazine (significant deterioration). RDPE funded works possible
- Morvah Cliff engine house (slow deterioration/scrubbed in)
- Nancherrow mine building (ongoing deterioration)
- North Boscawell dressing floors and Merton calciner (significant deterioration/vandalism/scrubbed in)
- Pendeen mine buildings (slow deterioration)
- Portheras stamps and calciner (slow deterioration/scrubbed in). HLS and RDPE funded works proposed
- Porthmeor steam stamps (slow deterioration/scrubbed in)
- Spearn Consols (slow deterioration)
- Spearn Moor (significant deterioration)
- Wheal Call dressing floors (slow deterioration)
- Wheal Castle engine house (minor deterioration)
- Wheal Cock whim boiler house and flue (slow deterioration/scrubbed in)
- Wheal Diamond calciner and floors (deterioration/scrubbed in)
- Wheal Hearle count house, magazine and engine houses (significant deterioration). HLS funded works proposed

Other sites

- Ballowall range (scrubbed in)
- Kenidjack east rifle butts (scrub)
- St. Just Drill halls (future uncertain)
- St. Just Lafrowda Club (poor condition)
- Trewellard Cliff smallholdings (scrubbed in)

- Trewellard Sunday School (significant deterioration)

On the whole, it was observed that the majority of sites within Area 1 were in favourable condition, the main issues of concern relating to a small number of sites where conservation works have not yet been undertaken – principally Wheal Hearle, Portheras Stamps, the Cot Valley stamps, Wheal Diamond and Trease (North Boscaswell). Conservation programmes are proposed for the first three of these using HLS and RDPE-funded schemes.

Concern was also raised about the condition of some minor sites and structures at Geevor and over the future of the ruinous elements of the Levant dressing floors. Scrubbing in was noted at rural sites within the Area.

Area 2: number of sites: 5

- Carnsew Quay and Dock (uncertain future)
- Carnsew Quay Sluice and Lock Gates (significant deterioration)
- Copperhouse Canal Lock (significant deterioration)
- Hayle Quay railway branch route (scrubbing in)
- Hayle South Quay (uncertain future)

Many of the issues relating to this Area are likely to be addressed during the forthcoming redevelopment of Hayle Harbour.

Area 3: number of sites: 7

Mine sites

- Great Wheal Fortune openwork (no access/scrubbing in)
- Great Wheal Fortune stamps (no access/deterioration/scrubbing in)
- Rosudgeon Chapel (stalled conversion works/deterioration)
- Tindene engine house (deterioration/vegetation issues)
- Tregonning Hill (scrubbing in)
- Wheal Reeth/Lady Gwendolyn (deterioration)

Other sites

- Godolphin Cross Church (currently disused)

The Area includes a relatively small number of sites, and only a proportion of these were recorded as unfavourable, these including one engine house at Tindene. West Godolphin engine house was considered to be a borderline case, and would benefit from conservation works. The scrubbing in of rural sites and consequent loss of access was also noted.

Area 4: number of sites: 5

Mine sites

- Basset and Grylls dressing floors and tramway (deterioration/scrubbing in)
- Basset and Grylls Tyack's engine house (deteriorating/scrubbing in)
- Porkellis Moor hatch workings (scrubbing in)
- Trumpet Consols engine house (deterioration)
- Wheal Ann engine house (deterioration)

Three engine houses were assessed as unfavourable within this Area, whilst scrub development was assessed as significant on sites on and bordering Porkellis Moor.

Area 5: number of sites: 23

Mine sites

- Betty Adit dressing floors (scrubbed in). CC to attend to this
- Cook's Kitchen engine houses (significant deterioration of pumping engine house)
- Dolcoath compressor house (deterioration/disuse)
- Dolcoath main site (significant scrubbing in)
- Grenville United stamps and dressing floors (deterioration, significant scrubbing in)
- Grenville United Goold's engine house (deterioration/scrub issues)
- North Basset Miners' Shaft whim (scrub issues)
- Roskear Shaft complex (arson/significant deterioration)
- South Wheal Crofty Bickford's and Palmer's Shaft site (significant scrub development)
- South Wheal Crofty Robinson's Shaft structures (poor condition). Works being carried out as part of Heartlands Project to conserve principal components
- South Crofty tramway building (poor condition/demolition proposed)
- Tolgus calciner and associated structures (vandalism/deterioration)
- West Basset Stamps site (mortar failing/scrubbing in). CC to address scrub issues
- West Frances Smith's Shaft engine house and associated building (deteriorating/scrub and ivy issues)
- West Wheal Peevor engine houses and smithy (deterioration/scrub issues)

Other sites

- Camborne Trelowarren Street (deterioration of fabric, especially at east end)
- Redruth Brewery (arson/severe deterioration)
- Hayle Railway Portreath Branch (access issues)
- Hayle Railway Crofty Branch (mostly destroyed/inaccessible)
- Pool Institute (deterioration)
- Pool old school (disused)
- Bennett's fuseworks (vulnerable to redevelopment)
- Bickford Smith's fuseworks (deteriorating/vulnerable to redevelopment)

Within Area 5, considerable conservation work has already been undertaken by Kerrier DC. Conservation works are required to engine houses at Cook's Kitchen, West Wheal Frances and West Peevor. Vandalism was noted as a significant issue at Tolgus calciner, whilst suitable adaptive reuses will need to be found for Redruth Brewery, a number of sites in Pool, for Dolcoath compressor house and for the Roskear Shaft complex. Scrub development was noted at sites on the Mineral Tramways trails, though this is gradually being addressed by CC.

Area 6: number of sites: 17

Mine sites

- Cathedral Mine (deterioration/scrubbed in)
- Consol's Davy's Shaft whim (significant deterioration). HLS funded works proposed
- Consols Taylor's Shaft pumping engine house and whim (significant deterioration) HLS funded works proposed

- Killifreth calciner chimney (deterioration/scrubbed in)
- Killifreth stamps engine house and dressing floors (deterioration/scrubbed in)
- Nangiles pumping engine house (slow deterioration/scrubbing in)
- Nangiles stamps engine house (deterioration/significantly scrubbed in)
- Old Wheal Jane complex (off road vehicle track/vegetation issues)
- Wheal Busy arsenic works (significant deterioration/scrub issues)
- Wheal Busy Black Dog Shaft engine house (deterioration/scrubbed in)
- Wheal Busy mill (slow deterioration)
- Wheal Busy pumping engine house (slow deterioration/vegetation issues). HLS funded works proposed
- Wheal Busy smithy (significant deterioration). HLS funded works proposed
- Wheal Unity Wood minor buildings (deterioration/scrub issues)

Other sites

- Bissoe Arsenic Works (deterioration)
- Perran Foundry (very significant deterioration). Redevelopment and conservation of the site proposed
- St. Day Chapel (inappropriate use/ changes to original appearance)

Within Area 6, seven engine houses and associated buildings would benefit from conservation as ruins or (in very limited cases) through adaptive reuse. The severe deterioration of Perran Foundry will be addressed through the proposed adaptive reuse of its structures. Again, the scrubbing in of rural sites was noted.

Area 7: number of sites: 12

- Blue Hills pumping engine house and chimney (progressive deterioration). RDPE funded works proposed
- Blue Hills whim (slow deterioration/scrub issues)
- Cligga Head dressing floors (progressive deterioration/vandalism)
- New Century dressing floors Chapel Combe (deterioration/scrubbed in). Clearance and consolidation works proposed under HLS scheme
- Polberro Turnavore engine house (deterioration suspected)
- Repper's Coombe Stamps (deterioration/vegetation issues)
- Tywarnhaile Mine complex (disuse/deterioration/vandalism)
- Wheal Coates wheelpit (slow deterioration/scrubbing in)
- Wheal Ellen engine house, calciner and buildings (progressive deterioration/scrub issues)
- Wheal Friendly dressing floors (scrubbed in)
- Wheal Kitty dressing floors and calciners (deterioration/scrubbed in/vandalism)
- Wheal Luna openwork (structural collapse)

Within Area 7, two engine houses (Wheal Ellen and Blue Hills) would significantly benefit from conservation as ruins, whilst three others (Wheal Friendly, West Kitty and Turnavore) are most likely to be conserved through adaptive reuse. Scrubbing in of rural sites was less pronounced than within other Areas except at Chapel Porth and Wheal Kitty; vandalism was noted as a significant issue at Wheal Kitty dressing floors.

Area 8: number of sites: 4

Mine sites

- Fowey Consols engine house (deteriorating/ivy issues)

Other sites

- Charlestown Chapel (disused/deteriorating)
- Charlestown clay dry (deteriorating)
- Pont's Mill Canal Basin (vegetation issues)

Within Area 8 only one structure (Austen's engine house) judged unfavourable requires significant conservation works.

Area 9: number of sites: 21

Mine sites

- Caradon Coombe waterwheel pit (progressive deterioration/scrub issues)
- Caradon Quarry east) (scrubbing in)
- Daniel's dressing floors, Marke Valley (significant deterioration/severe scrub issues)
- East Caradon Mine (slow deterioration)
- Marke Valley eastern wheelpits and calciner flue (deterioration/vegetation issues)
- Marke Valley mine engine houses and chimneys (severe deterioration/scrubbed in)
- Phoenix United main site structures (some deterioration/significant scrub issues)
- Phoenix United Hamilton's Shaft engine house (deterioration/scrub issues)
- Phoenix United West's whim engine house (deterioration/scrubbed in)
- South Caradon capstan engine chimney (deterioration). To be conserved
- South Caradon Holman's and Rule's engine houses (deterioration). To be conserved
- South Caradon Kittow's engine house (deterioration). To be conserved
- South Caradon Old Sump engine house (deterioration). To be conserved
- South Caradon Jope's engine house (deterioration/ivy issues). To be conserved
- West Caradon smithy (possibly demolished)
- West Phoenix complex (largely demolished)
- West Rosedown mine sites (significant scrub growth)
- Wheal Jenkin dressing floors (significant scrub growth)
- Wheal Jenkin stamps engine house (deterioration). To be conserved?
- Wheal Jenkin pumping engine house (deterioration). To be conserved?

Other sites

- Pensilva Chapel (disused)

Most of the engine houses rated as unfavourable within Area 9 are likely to be conserved as part of the current works programme. Scrub growth on the northern side of Caradon Hill is likely to become a significant issue affecting access, visibility and condition unless addressed soon.

Area 10: number of sites: 29

Mine sites

- Bedford United structures (probably deteriorating/vegetation issues/access issues)

- Broadgate engine house (progressive deterioration)
- Deerpark engine house (deterioration/vegetation issues)
- Devon Great Consols surviving 19th century ruinous structures (probable deterioration/vegetation issues/access issues)
- Devon Great Consols arsenic works and chimney (significant deterioration/contamination issues)
- Excelsior Tunnel (scrubbed in/access issues)
- Gawton arsenic works (significant deterioration/contamination/vegetation/access issues)
- Gawton engine houses and associated structures (deterioration/vegetation issues/access issues)
- Hingston Down whim engine house and chimney (probably demolished)
- Holmbush Windsor Road engine house (progressive deterioration/ivy issues/scrubbed in)
- New Consols arsenic Works including Lixiviation House (progressive deterioration/contamination issues/wholly scrubbed in)
- New Consols pumping engine house (severe deterioration/ivy issues)
- New Consols crusher engine house (progressive deterioration/ivy issues/scrubbed in)
- New Consols stamps engine house ruin (scrubbed in completely)
- New Consols new mill complex (vegetation issues)
- New Quay (progressive deterioration/scrubbing in)
- Okel Tor arsenic works (significant deterioration/contamination issues/scrubbing in)
- South Bedford engine house complex (progressive deterioration/vegetation issues)
- South Tamar Consols (access issues)
- Wheal Arthur (deterioration/ivy issues)
- Wheal Benny complex (severe deterioration/vegetation issues)
- Wheal Brothers (progressive deterioration)

Other sites

- Bealswood brickworks engine house and associated structures (significant deterioration/vegetation issues)
- Buttspill Quay (significant deterioration)
- Chapel at St. Ann's Chapel (disused/deteriorating)
- Gawton Quay limekiln and associated structures (deterioration/vegetation issues/access issues)
- Greenhill arsenic works and chimney (deterioration/scrubbed in)
- Lockett early miners' cottages (deterioration)
- Rumleigh brickworks (vegetation issues/probable deterioration/access issues)

Total number of sites/features considered to be in an Unfavourable condition across the ten Areas of the World Heritage Site: 179 (equivalent to 18 per cent of the overall total of 991 sites surveyed).

A programme of conservation works to industrial structures has already been undertaken within this Area and further works (including to the important group of structures at Gawton) are planned.

However, a number of key sites (including Wheal Benny, Bealswood and New Consols) exhibited significant deterioration and require fairly urgent attention. Responses to contamination issues have also led to structures at Devon Great Consols and Okel Tor being fenced off, apparently in perpetuity, without conservation and stabilisation works being envisaged. Deterioration of these important elements of the Site is inevitable if this continues to be the case.

Scrub development was an issue on some sites, but woodland management was felt to be a more significant problem, resulting in sites becoming inaccessible, invisible and, in some cases, threatened by over-close tree planting or by falling trees causing structural damage. Access to sites within this Area was notably less available than within the remainder of the World Heritage Site.

(From: Sharpe, A., *WHS Photomonitoring Survey*, 2010, pp.25-32)

Survey conclusions (extract from Photomonitoring Survey report, 2010)

The autumn 2010 Photomonitoring Survey of the World Heritage Site proved to be a cost-effective and rapid means of undertaking a baseline condition survey of most of the elements of the Site which contribute to its outstanding universal value, around 12,000 record photographs being taken. These provide a record of the majority of the engine houses, chimneys, calciners, foundries, ports and harbours and other industrial components of the Site, as well as most of its settlements, including their Methodist chapels, schools, institutes and other public buildings.

Two categories of site proved difficult to record using this methodology. The first – miners' smallholdings – could not be adequately recorded because of a combination of the extensiveness of the areas which their fields occupy and the lack of public access to or close to their dwellings. Aerial photography is recommended as the most appropriate method for recording this site type.

The second site type consisted of great houses, estates and gardens. Again, these are rarely accessible, and although some occupiers were happy to allow the surveyor access to their grounds, others were not. Again, aerial photography may prove an effective method of recording these important elements of the landscape of the World Heritage Site. It is recommended that sites of both types are included in future HE [Historic Environment] aerial photography programmes, and the results are integrated into the 2010 photomonitoring archive.

A re-survey of the Site is proposed in 2015. It is recommended that the World Heritage Site Team undertake a review of the 2010 photographic record before determining the extent and form of the re-survey. It is probable that not all sites will need to be revisited, though all of those categorised as Unfavourable or those identified as Favourable but borderline should certainly be revisited. Another category of sites which should also be re-recorded in 2015 are those where development or conservation work had taken place during the intervening period, where it is to take place or where it is proposed.

The GIS shapefile produced from the image EXIF GPS data will assist the 2015 surveyor in locating the viewpoints from which photographs were taken in 2010 where the GPS EPE [Global Positioning System estimated position error] was of sufficient accuracy. However, it will be necessary for copies of the images to be available on site if like for like versions of the 2010 images are to be recorded. A notebook computer with a suitably large hard drive and a screen suitable for daylight use may be suitable for this purpose. The notebook should also be loaded with GIS software, copies of the required mapping and GIS shapefiles.

It is further recommended that all sites recorded in 2010 (and those which could not be recorded in 2010) are revisited on a ten-yearly basis, irrelevant of their condition in 2010.

(From: Sharpe, A., *WHS Photomonitoring Survey*, 2010, pp.32,33)

The final stage in this the first photomonitoring survey is to enter the condition assessments into Cornwall Council's Exegesis-based Historic Buildings, Sites and Monuments Record (HBSMR). The

customisable architecture of the Exegesis system facilitates the generation of statistics and illustrative maps, and is ideally suited to presenting the information required to inform the mandatory six-yearly UNESCO Periodic Reporting requirement, addressing the condition of the Site. The Historic Environment Record team within Cornwall Council is also preparing a local list of 'heritage at risk' features in order to enable the future targeting of conservation initiatives, and the Photomonitoring Survey will be used to help inform this. The photomonitoring survey report, along with the associated data and imagery, has also been shared with English Heritage to aid their ongoing heritage management within Cornwall and west Devon.

As an adjunct to this work the WHS Office commissioned an assessment of Cornwall Council holdings within the Site which demonstrate OUV. The report entitled: *Cornish Mining World Heritage Site: Condition assessment of CC Holdings*, produced in 2011, concluded that, overall, the CC holdings were considered to be in a 'favourable' condition, using the common standards monitoring approach adopted for the photomonitoring survey. Of the 70 Cornwall Council owned OUV sites assessed by the survey, 17 were identified to be in an 'unfavourable' condition, however, and these have been recommended for remedial action accordingly.

Status summary: Photomonitoring condition survey undertaken in 2010 and the integration of the resultant data into the Cornwall Council Historic Buildings, Sites and Monuments Record (HBSMR) dataset is underway; condition data has been shared with West Devon Borough Council and the Historic Environment Records (HER) team of Devon County Council (DCC) for integration into DCC HER datasets; data and images also shared with English Heritage. An associated condition survey, highlighting only those Cornwall Council owned OUV sites, has also been produced.

Indicator	Status	Notes
Baseline photographic survey of features of outstanding universal value	<p>Site wide photomonitoring survey undertaken from September to November 2010</p> <p>The survey results indicate that of the 991 nominal sites surveyed, 812 were considered to be in a 'favourable' condition with 179 being 'unfavourable'. In percentage terms, 82 per cent of the sites surveyed are therefore considered as being in a 'favourable' condition; number of site photographs taken: >12,000</p>	<p>Feature condition assessments and images to be integrated into Cornwall Council HBSMR; survey data and photographs made available to West Devon Borough Council and Devon County Council.</p> <p>NB. For the purpose of the survey the term 'sites' includes individual features and clusters, and these vary considerably in scale from milestones, engine houses or chimneys, to small settlements and to areas of larger settlements. In many instances, entries are included not only for urban areas but also for specific components within them such as schools, Methodist chapels, institutes etc. The total number of 991 entries in the spreadsheet can only be taken as an outline guide to the number of sites recorded, therefore.</p>
Condition assessment of CC Holdings	<p>The WHS commissioned condition assessment of CC holdings (2011) found that 17 of the 70 sites inspected were considered to require attention</p>	<p>Report to be used as evidence to secure consolidation and vegetation management funding from core council budgets and other sources</p>
Number of buildings at risk	<p>25 entries are included currently within the English Heritage: <i>Heritage at Risk Register (2012)</i> for the World Heritage Site: 22 in</p>	<p>4 BAR entries previously included on the 2011 list have now been removed from this list due to the Heartlands related conservation</p>

	<p>Cornwall and 3 in west Devon; of these, 11 are classified as Buildings at Risk (BAR) and the remaining 14 as Scheduled Monuments at Risk (SMAR) (see: Monitoring appendix 2 for list)</p>	<p>undertaken at Robinson's Shaft, South Crofty Mine. A further 4 BAR entries are to be removed in 2013 due to the ongoing conservation development at Perran Foundry</p> <p>Cornwall Council's Historic Environment Records team are currently compiling a list of heritage at risk features for Cornwall</p>
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3. Development pressures and change

CWDML WHS Management Plan Policies: C2, C3, C5

Changes through industrial, commercial, retail, housing, agricultural or transport related development which may be neutral, advantageous or deleterious in relation to the Site's OUV should be monitored. Indicators are required to measure and gauge development pressure-stress on the WHS and should address the following:

- Loss of buildings/structures/landscapes and other OUV related features e.g. mineworkers' smallholdings. A combination of Geographical Information Systems (GIS) mapping and periodic aerial photography should be used to plot survival over time; the latter technique will be particularly appropriate for landscape scale studies.
- The dilution of authenticity of mining landscapes, settlements or related sites through the presence of excessive modern infrastructure e.g. inappropriate road/street signage, intrusive street furniture or poorly sited town surveillance cameras. Subjectivity is an issue here, but background and examples of successful modern designs within historic settings have been highlighted through the work of the Commission for Architecture and the Built Environment (CABE) and English Heritage (see: 'Building in Context: New Developments in Historic Areas', 2001).
- The inappropriate introduction of buildings/structures of different scales, character, massing, materials or colour into mining landscapes, settlements or related sites which are deleterious to the Site's OUV (see: CABE comment, above).
- The introduction of poor quality or non-locally distinctive architecture into mining landscapes, settlements or related sites which are deleterious to the Site's OUV (see: CABE comment, above)
- The massing and scale of new residential developments in relation to existing build within historic mining settlements, which could be considered deleterious to the Site's OUV (see: CABE comment, above)

The following table provides statistics relating to the number of planning applications made within the WHS Areas and the number of Historic Environment Advisor comments made for the period March 2010 to April 2012. While the data is known to be incomplete, it does provide a useful indication of the scale of applications and comments processed by the planning and Historic Environment teams across Cornwall and west Devon during this time.

Status summary: Planning application data collected from planning teams in Cornwall and west Devon for the period March 2010 to April 2012; number of WHS related comments made by historic environment advisors also logged for this period; landcover change data sourced, relating to mineworkers' smallholdings, but of limited coverage currently.

Indicator	Status	Notes
<p>Planning applications within the World Heritage Site</p>	<p>Cornwall – WHS Areas A1 to A10: A total of 2,909 pre-application and ‘live’ planning applications/ determinations were recorded for the Cornwall Areas of the Site between March 2010 and April 2012 *</p> <p>Per WHS Area:</p> <p>A1 - 263 A2 - 122 A3 - 464 A4 - 37 A5 - 748 A6 - 417 A7 - 289 A8 - 95 A9 - 177 A10 - 298</p> <p>NB. The small discrepancy in the total of the above is caused by one application falling within both World Heritage Site Areas A5 and A7</p> <p>West Devon – WHS Area A10</p> <p>63 pre-application and ‘live’ planning applications/ determinations were recorded for the west Devon A10 Area of the Site between April 2011 to February 2012</p>	<p>In Cornwall planning application validation and determination is recorded by means of the I-DOX UNI-form e-planning system, with the Northgate M3 system fulfilling this function in west Devon</p> <p>* NB. These figures are known to be incomplete as the Cornwall Council Unitary Authority area planning teams did not adopt the UNI-form e-planning system until August 2010</p> <p>NB. Updated figures forthcoming</p>
<p>Comments on planning applications made within the World Heritage Site by Historic Environment advisors</p>	<p>Cornwall – WHS Areas A1 to A10: Comments were made on 397 pre and ‘live’ planning applications by Cornwall Council Historic Environment (CC HE) planning advisors from March 2010 to April 2012 **</p> <p>West Devon – WHS Area A10: Comments were made on 30 planning applications by Devon County Council Historic Environment (DCC HE) planning advisors from March 2010 to April 2012 and of these 24 were determined by West Devon Borough Council and 6 by Devon County Council. 1 ‘breach of condition’ process was also investigated by the DCC HE team during this time</p>	<p>** NB. This figure is likely an underestimate as the Cornwall Council Unitary Authority area planning teams did not adopt the I-DOX UNI-form e-planning system until August 2010</p>

Fixed point (and aerial) photography	buffer zone was included in the WHS Nomination Options for this should be explored with the Historic Environment departments of Cornwall and Devon County councils	and any associated heritage conservation gain secured through planning conditions
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5. Impact of World Heritage Site designation on principal sites

CWDML WHS Management Plan Polices: PN5, PN6, PN7, PN8

This includes assessments of how and to what degree WHS designation has impacted on mining features and landscapes, e.g. numbers of mine sites and buildings consolidated; access improvements to mining landscapes; streetscape improvements within former mining settlements through Townscape Heritage Initiatives (THI) and Heritage Economic Regeneration Schemes (HERS).

Within the last twenty years around 100 mine sites and individual mining heritage features have been consolidated which represents a considerable conservation achievement underlining the commitment of local authorities and project partners to the preservation of mining heritage. These conservation works have been funded through a range of grant opportunities including, initially, Derelict Land Grants and, later, the Heritage Lottery Fund. In many instances this work took place over the years prior to WHS inscription, and the prospect of gaining World Heritage Site status has been used as additional justification.

Major conservation projects

Five of the major mining heritage related regeneration/conservation projects undertaken in recent years were aided considerably in their respective grant bidding through direct reference to the World Heritage Site and their importance in relation to maintaining its OUV. While the Mineral Tramways Trails Project was in operation for some years before the World Heritage Site was inscribed in 2006, reference to the Mineral Tramways project areas forming part of the World Heritage Site bid was undoubtedly made, contributing to the success of the project's own bid.

Townscape Heritage Initiatives (THI)

Townscape Heritage Initiatives (THI) are multi-funded grant schemes which fund traditional repairs and the reinstatement of architectural detailing to targeted historic buildings in Conservation Areas. These bring vacant buildings back into use, promote the use of local materials and traditional building techniques, and have done much to enhance the OUV of particular mining settlements within the WHS.

A THI scheme commenced within the Camborne, Roskear and Tuckingmill Conservation Areas (within the WHS A5 Area) in 2008, and the early take up of the initial grant funding helped a successful follow-on bid for additional THI funding, for the same area.

The Heritage Economic Regeneration Scheme (HERS)

Heritage Economic Regeneration Schemes (HERS) are property based grants schemes that target and engage property owners and leaseholders in the improvement of historic property in Conservation Areas. As with the THI funding above, this has considerable scope to enhance WHS OUV in former mining settlements.

The Redruth HERS scheme, completed in 2008, targeted historic properties within the Redruth Town Centre Conservation Area which has benefitted the WHS significantly. The scheme awarded targeted grants for building repairs (using local materials, tradesmen and traditional methods), the reinstatement of architectural detailing, and secured the reuse of vacant buildings and underused

floor-space. The HERS scheme linked closely to the Redruth Town Centre Improvements, which has seen the enhancement of key areas of the public realm, that will have an influence on private sector commercial investment decisions and public pride.

Status summary: Registers of buildings and mining features consolidated in place; major mine building consolidation and streetscape enhancements undertaken since WHS inscription.

Indicator	Status	Notes
Funds expended on the refurbishment /consolidation of OUV features	Mineral Tramways Project £6,000,000	Multi-use trail creation programme and mine site consolidation work completed
	East Cornwall Regeneration £2,200,000	Mine site consolidation and trail development works completed
	Geevor Mine £3,500,000	Extensive conservation work to the Scheduled Monument complete
	Tamar Valley Mining Heritage Project £5,000,000	Trail development work recommenced after temporary project suspension
	Caradon Hill Heritage Project £2,000,000	In progress – works to South Caradon Mine largely complete
	Heartlands, Pool c.£35,000,000	Completed and Robinson's Shaft (South Crofty) site open to the public
	Total: c.£53,700,000	
Mine sites / features consolidated	c.100+ individual mining heritage features and sites have been consolidated in Cornwall and c.24 in west Devon over the past , through a variety of conservation projects delivered by local authorities, heritage agencies or partnerships	NB. The Cornwall figure includes the major conservation/regeneration projects listed above-left
	The Taylor's and Davey's shaft sites at Consolidated Mines within the Wheal Maid Valley, near Crofthandy (WHS Area A6), are to be consolidated 2013-2014, using £270,000 of Natural England Higher Level Stewardship (HLS) funding	NB. These constitute some of the earliest surviving engine houses within the WHS and are to be conserved using funding secured by Cornwall Council Historic Environment and the World Heritage Site Office, through a partnership between the site owners Gwennap Parish Council and Natural England
THI and HERS schemes	The Camborne, Roskear and Tuckingmill THI scheme has successfully exceeded its projected outputs with 28 buildings having been enhanced including 8 Listed buildings. 15 buildings have been removed from the English heritage 'Buildings at Risk' register and a private sector contribution of £1,491,582 has been secured, in addition to c.£8 million from the residential development of the	NB. THI public realm improvement funding is currently being sought for the Bedford Square area of Tavistock (WHS Area A10), which will significantly benefit WHS OUV

	<p>former Holman's No. 3 Rock Drill Works, at Trevu Road, Camborne</p> <p>The very successful Redruth HERS scheme secured grant aid for 35 properties in the town, including the adjoining offices of the Malayan Tin Dredging Company and Abbott & Wickett in Station Road, two buildings of OUV</p> <p>The Redruth HERS was to deliver £1,073,937, and was co-funded by Objective One (ERDF), English Heritage, the Neighbourhood Renewal Fund, Kerrier District Council, Cornwall County Council, and Redruth Town Council</p>	<p>THI and HERS figures: Cornwall Council</p>
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6. WHS management

CWDML WHS Management Plan Polices: P1, P2, P3

In 2011 the WHS governance structure evolved from that provided by the Officer Working Group to a partnership board model, as agreed following the governance review process undertaken in 2008. Current governance now comprises a Partnership Board (principally local authority elected members), a Technical Panel (comprising local authority officers and professionals from partner organisations), and a Consultative Forum (largely members of the public who are 'friends' of the WHS). The WHS Office reports to the Technical Panel and Partnership Board on a quarterly basis, and when the need arises.

Status summary: WHS Co-ordinator and team in place (3.5 FTE), hosted within the Cornwall Council Protected Landscapes department; local authority commitment to continuing funding support secured from Cornwall Council, West Devon Borough Council and Devon County Council; WHS Management Plan revision undertaken following a detailed review process including themed consultation workshops with stakeholders.

Indicator	Status	Notes
Ongoing management status	<p>World Heritage Site office operational employing 3.5 FTE posts, undertaking management, research and interpretation, project development, and administration roles</p> <p>Revised WHS governance structure in place, incorporating a Partnership Board, Technical Panel and Consultative Forum</p> <p>WHS Management Plan Consultation Draft (2013-2018) completed</p>	<p>Both the WHS Partnership Board and Technical Panel meet four times per year to monitor progress and oversee the delivery of the WHS Management Plan</p> <p>Updated WHS Management Plan (2013-2018) anticipated to be finalised and signed off by spring 2013</p>
Enquiries received by the WHS Office	<p>The WHS office has been receiving increasing numbers of enquiries in recent years as awareness of WHS status has grown. During 2010, 150 general written enquires were</p>	<p>Answering the number and range of enquiries received by the WHS Office represents a significant aspect of ongoing Site management, which should be</p>

	<p>received with a further estimated 260 telephone enquiries. In 2011, written enquiries stood at 113 with the number of those by telephone remaining broadly similar to the previous year. In 2012, 148 written enquiries were received plus an estimated 300 telephone enquiries for the year to November</p> <p>In addition, the WHS Office also commented on many of the 139+ WHS related planning applications which were received during the 2010-2012 period</p>	resourced accordingly
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People and the World Heritage Site

7. WHS awareness

CWDML WHS Management Plan Polices: PN2, PN3, T1, PN4, PN5, PN6, PN7, PN8, T2, T3, T4, T5

Interpreting the values of the WHS is essential in awareness raising and to promote conservation through stakeholder and community 'ownership' of inscribed mine sites and landscapes. The effectiveness of brand value interpretation should be assessed by peer review on a periodic cycle (five yearly) if possible, and should address WHS signage, the web portal, publications and other disseminated marketing, educational and interpretative material.

Visitor surveys should also be used to assess the efficacy of interpretation available on-site at mining attractions within the WHS. A questionnaire addressing the ease of availability of WHS information and the perceived quality of such should be employed, and delivered under the auspices of CMAMA (the Cornish Mining Attractions Marketing Association), in conjunction with existing or planned visitor surveys.

Required

- Five yearly peer reviews re. WHS signage, information and interpretation

Requires standard methodology, preferably with same personnel each review

Must be independent / unbiased, and with sufficient time given to complete

- Visitor surveys at each CMAMA site in Cornwall and west Devon

Additional WHS specific question(s) in visitor surveys annually or, at minimum, five yearly

Status summary: Periodic assessment of WHS brand value interpretation by peer review yet to be implemented; visitor satisfaction surveys at CMAMA attractions also yet to be implemented; online survey in 2010 indicated that of the 500 respondents, just over 50 percent were aware of the WHS.

Indicator	Status	Notes
Peoples Panel survey	Cornwall County Council's People's Panel survey of 2004 found 87 per cent of the 1,484 respondents thought Cornwall's historic mining remains should be protected	Peoples Panel no longer active so repeat surveys not possible; WHS commissioned surveys to provide data during the period of the next Management Plan (2013-2018)
Awareness monitoring on behalf	Major visitor facility improvement	Further visitor awareness

<p>of the WHS 'Discover the Extraordinary' project (DtE)</p>	<p>and marketing project being delivered over three years as part of £2.4m scheme</p> <p>Market research commissioned in 2010 indicated that just over 50 per cent of the 500 individuals surveyed online were aware of the CWDML WHS, though less than 25 per cent had seen information on this</p>	<p>monitoring to be undertaken as part of DtE project delivery, to gauge effectiveness of project marketing</p> <p>Research commissioned on behalf of WHS DtE project (see '10. Economic Impacts', below, for further information)</p>
<p>CMAMA attraction monitoring</p>	<p>Visitor satisfaction surveys required but not yet implemented</p>	<p>Visitor surveys to be considered by CMAMA management as a medium term objective</p>

8. Education

CWDML WHS Management Plan Polices: C13, PN2, PN3, T1, T2

Future research should collect information regarding educational resources available for schools, colleges or other learning conduits. These should include teachers' packs, websites and on-site activities (with key stage groups and curriculum links) with the aim being to increase or, at a minimum, maintain provision.

Research objectives

- Audit of relevant educational resources in place for Cornwall and west Devon (Commissioned by WHS in 2008 and available)
- Education Strategy in place for Cornwall and west Devon (Commissioned by WHS in 2009 and available)
- Five yearly peer review by relevant teachers at schools and colleges
- Peer review panel selection criteria and process to be identified
- Adult education/life-long learning provision monitoring (to be determined)

Status summary: Education Audit and Learning Strategy produced for the WHS but lack of delivery resources has prevented the implementation of the Strategy's recommendations to date; delivery funding to be sought and the recommendations of the Learning Strategy implemented during the period of the current Management Plan (2013-2018).

Indicator	Status	Notes
<p>Assessment of mining-related education provision</p>	<p>WHS Education Services Audit and WHS Learning Strategy (2010-2013), commissioned and completed in 2008 and 2009, respectively</p>	<p>Implement recommendations of Learning Strategy when project funding can be secured</p>

9. Social impacts

CWDML WHS Management Plan Policies: PN5, PN6, PN7, PN8

Impact of WHS on local communities

WHS Management Plan Policies PN7 and PN8 address the aim to ensure communities within and around the WHS are engaged in all the benefits the Site has to offer and that these should be available to all regardless of ability or income.⁶

Altered perceptions of quality of life and environment as a result of the WHS, and changes in attitude to mining heritage should be gauged if possible, through periodic monitoring. Local authority quality of life surveys have provided useful statistics relating to public perceptions of community wellbeing in the past (e.g. *Quality of Life Summary Report (draft)*, 2004, Research and Information Unit, Cornwall County Council), though future surveys to monitor related changes in public perception will most likely have to be externally contracted.

The impacts of WHS-derived tourism should be monitored through resident-focused surveys and ongoing contact and discussions with local interest groups and district / borough / parish councils.

Outreach - Cultural Events Programme

The WHS Cultural Events Programme was created in 2006 to expose a wider audience to the CWDML WHS who may not otherwise choose to engage with industrial heritage. This has garnered much interest in recent years and helped significantly in general awareness-raising. Eleven major performance arts events have been staged as part of the programme, principally plays and music, and walks and talks, since WHS inscription.

Qualitative evaluation of the events reveals a high level of satisfaction with, and learning impact from, the Cultural Events Programme. Given the high level of external income generated by events, the programme represents a cost effective means of raising awareness of the WHS to new audiences and communicating its values to all attendees.

Outreach – Community events

In addition to its specially commissioned events, the CWDML WHS has also supported a number of community organised events, through funding and officer time, which have a strong mining heritage theme or association. Examples of this include the very successful Smokin' Chimneys event held on the Great Flat Lode, south of Camborne, in June 2008, and the Portreath Tramway Bicentenary Celebration in August 2009, which commemorated the commencement of construction of the first iron mineral tramroad in Cornwall, in 1809.

Mining heritage volunteers

Volunteers make a significant contribution to the operation and maintenance of many mining heritage attractions and sites within the CWDML WHS and are, indeed, essential to the continued operation of some. The combined input and value of volunteers should be assessed across the WHS, and in relation to particular aims and objectives of the Management Plan. It is in the interests of achieving these aims and objectives to encourage volunteering, and to this end the CWDML WHS *Volunteering Study and Action Plan* (2012) has been produced. This explores how existing activity may be gauged and the potential for securing growth in volunteering, while defining how an action plan might be developed, and setting out the priorities and how these will be achieved. In examining existing volunteer activity in this manner, future Monitoring Reports will be able to benefit from data which has hitherto not been available.

The action plan element of the study will also hopefully raise awareness of WHS status and lead to increased engagement with the CWDML WHS by existing and new volunteers.

Social impact issues to be considered

- Five yearly survey of resident cross-section (to be co-ordinated by CWDML WHS), with Standard questions, consistent from survey to survey, and prepared by WHS Office; formulate questions along the lines of those previously put to Cornwall County Council's 'People Panel' in 2004, plus additions relating to the WHS 'Discover the Extraordinary' project (see '10. Economic impacts', below)
- Explore opportunities which may be offered by 'Devon Voice' - residents' survey panel co-ordinated by Devon County Council (1,000 resident cross-section participants)
- Devon County Council quality of life surveys – last MORI commissioned survey undertaken in 2002 – explore possibility of additional questions to future surveys
- Cornwall Council quality of life surveys – previous survey (2007) did not address the issue of cultural and/or industrial heritage but the opportunities which may be offered through any future surveys should be explored

Status summary: *Volunteering Study and Action Plan (2012)* produced by the WHS to address the issue of volunteering within the Site; aim to increase wider engagement with the WHS and mining heritage, and establish a sustained interest in related volunteering within the Site; explore local authority resident's survey opportunities

Indicator	Status	Notes
WHS Cultural Events Programme	Continue to develop WHS Cultural Events Programme delivery and use event questionnaires to gauge awareness and satisfaction levels Since 2006 over 150 performances of 11 commissioned presentations/events were made to an estimated audience of over 30,000 people; in excess of £400,000 income generated (for project partners, Cornwall Arts Centre Trust)	The WHS Cultural Events Programme has contributed to this aspect of Site management – providing audiences with the opportunity to understand aspects of the Cornish Mining story through events, performance arts, walks and talks.
Community events	Ongoing support for mining-heritage related community events is a cost effective means of raising awareness and appreciation of the WHS and those aspects which comprise its outstanding universal value	e.g. the Smokin' Chimneys event on the Great Flat Lode in 2008 attracted around 5,000 and the Tramway bicentenary celebration at Portreath in August 2009 saw an estimated 2,000 attendees
Volunteer work in relation to mining heritage	The ongoing support of volunteers is essential to the continuing operation and success of many mining heritage attractions within the WHS	Enumerate the volunteers currently active in relation to Cornish mining heritage in some capacity during this Management Plan (e.g. through the Trevithick Society, Carn Brea Mining Society, East Cornwall Mining History Association etc.)

Economic impacts and visitor management

10. Economic impacts

CWDML WHS Management Plan Policies: PN5, PN6, PN7, PN8

The influence of the WHS on the economy of Cornwall and west Devon will be felt in part through the marketing and promotion of the Site as a high-quality cultural landscape. This holistic approach is thought more appropriate and effective than through otherwise targeting the tourist 'gaze' at particular established mining attractions only. The existing mining heritage member attractions which comprise CMAMA, however, have capacity to welcome increased visitor numbers, and WHS marketing initiatives will be directed to this end, in accordance with recommendations set out in the WHS Interpretation Strategy⁷.

WHS Economic Impact Assessment

The *WHS Economic Impact Assessment* (EIA) commissioned during the WHS bid phase (2003) proposed a range of strategic actions that were thought necessary to deliver a projected degree of financial growth in the tourism sector. The EIA had identified that a potential investment of £500,000 in promotional campaigns over three years could deliver additional tourism activity to the value of £11-12 million to the local economy per annum. Marketing of the WHS status post inscription (2006) was to be undertaken with only minimal resources, however, as the £500,000 identified in the EIA was not to be forthcoming. To build on the gains which have been made following inscription, and to optimise the potential economic value of WHS status, greater investment in all aspects of the WHS tourism destination offer is needed.

The 'Discover the Extraordinary' (DtE) project

In light of the findings of the EIA, the WHS Office approached the Regional Development Agency (RDA) in 2007 with proposals for an integrated programme of tourism product improvements, tourism industry engagement and promotion, to be delivered given that WHS status had been secured. The key focus of this investment has been subsequently on building the quality experience expected by the target markets for what is perceived as a world class destination.

The initial expression of interest put to the RDA developed into a £2.4 million Rural Development Programme for England (RDPE) funded three year programme of activity, funding for which was confirmed in late 2009. A project team including tourism, marketing and interpretation posts has since delivered

- £1.1 million of physical improvements at 11 CMAMA member attractions
- A series of 14 new walking trails and audio tours around the 10 WHS landscape Areas
- A new WHS website, supporting audio, film and social media content to highlight the Cornish Mining story and how and where to access it
- A smart phone application for both Apple and Android platforms
- An online 'digi-guide' to the CWDML WHS
- Direct engagement with 300+ tourism businesses, over 100 of which host Cornish Mining content on their own websites via an embedded bespoke web 'widget'
- Extensive media coverage of the WHS via local and national outlets and publications

The DtE programme has also commissioned market research from the Arkenford consultancy which has improved understanding of visitor preferences and subsequently informed the sustainable tourism priorities for the period of the current Management Plan (2013-2018).

Visitor expenditure – future surveys

Estimations of visitor spending which can be attributed to the WHS, based on regional and national statistics (i.e. numbers of day trips, overnight stays, overseas visitors). Annual turnover figures from

mining heritage attractions would be useful if available with the aim being to increase receipts through carefully targeted marketing. CMAMA will be approached to provide baseline data from visitor surveys and site monitoring during the period of the Management Plan (2013-2018).

- Total annual visitor spend at each CMAMA attraction – future research

Must be a consistent methodology for each CMAMA site, from year to year

Required for calendar year; the variation in individual sites' accounting periods needs to be taken in to account which may differ from this

Ascertain when site accounting information will be available

Ascertain if overall total available including the relevant gross sales of catering concessions etc.

Ascertain if confidentiality of information is likely to be an issue for privately owned sites; present as combined total/percentage change for whole of CMAMA gated attraction

The economic value of conservation within the World Heritage Site

It is anticipated that economic activity will be generated as a result of WHS status through the need to conserve historic mining landscapes which together comprise the Site's OUV. In excess of £50 million has been invested in mine site consolidation and streetscape improvements in mining settlements, with much of this figure being delivered since World Heritage inscription in 2006. The consolidation and sympathetic reuse of historic mining-related buildings and structures requires specific building conservation skills, and contractors to deliver these, and WHS status will contribute to new business opportunities.

Economic impact monitoring issues to be considered

- £ spent on conservation of WHS by major conservation projects during a five yearly period
- Number of people assisted in conservation skills development as a result of WHS related projects
- Number of people trained on relevant conservation skills courses in Cornwall and west Devon during a monitoring period (data would need to be qualified by a statement that only part of this is due to WHS generated conservation; relevance to WHS monitoring can be associative only)
- Number of jobs (i.e. FTE for at least one year) created or sustained by the WHS

Estimates as to the number of jobs created or sustained by the WHS, both directly and indirectly. (Suggest only monitoring direct jobs and not estimating indirect jobs which can only be estimated using standard benchmark formulae)

Definitions

- *Created job* = new, paid job that would not have existed in the region or with that employer in the UK before
- *Sustained job* = paid jobs that existed before the relevant expenditure, and which are sustained by the relevant expenditure for the period of that spend
- *Direct jobs* = jobs in businesses directly commissioned to do project work (these will be temporary, and therefore should be listed separately as temporary project jobs); jobs in WHS

visitor attractions; jobs in relevant tourism businesses; jobs in WHS Office (see below); and jobs in local authority planning and conservation advice

- *Indirect jobs* = jobs due to supply chain impact of relevant expenditure i.e. WHS related project spend and WHS related visitor spend
- NB. Always show related jobs data subdivided as follows
 - By WHS related project spend (i.e. on conservation, public realm enhancement, development of visitor facilities, marketing and interpretation etc.) during a five yearly period
- NB. Should be presented as temporary one-year-equivalent FTE jobs, and not compared with number for previous periods as project spend may change over time for many reasons
- Using standard benchmark formulae for £ of spend per new job created / job sustained
- Methodology needs to be consistent
- By CMAMA attraction; the degree to which jobs at CMAMA attractions depend on the WHS and the contribution of this to monitoring to be decided. NB. This will measure only part of the impact on jobs or visitor spend, of CMAMA or WHS visitors
- In management and maintenance of other WHS mining heritage sites where there is good public access and which are owned by local authorities, the National Trust and other easily monitorable landowners/trusts
- Within the WHS Office
- In local authority planning and conservation advice departments

Much of the employment which may, in part, be due to the influence of the WHS would be extremely difficult to monitor and any estimates would most likely be inaccurate and easily disputed. The monitoring of jobs created or sustained by the WHS, with the exception of the above, therefore, can only be partial and of strictly limited relevance to monitoring overall. This issue should to be made clear in relation to the following

- Jobs created and sustained by spend in Cornwall and west Devon of WHS visitors (other than visitor spend at CMAMA sites)
- Jobs created in Cornwall and west Devon by businesses moving to Cornwall and west Devon due to WHS (many of these would in any case have been jobs that existed elsewhere in the UK before the move, and therefore are not 'created jobs' as defined above)
- Jobs created and sustained by the private sector's initiatives relevant to the WHS, other than for CMAMA sites in private ownership and major private sector projects for which the cost was made public

Status summary: WHS 'Discover the Extraordinary' project has delivered significant European funding (£2.4m) for targeted member sites within the Cornish Mining Attractions Marketing Association (CMAMA) group; co-ordinated management of the WHS provides for 3.5 FTE posts, and local authority funding support enables the delivery of Management Plan focused projects; impact of WHS status on wider employment within the mining heritage sector yet to be determined.

Indicator	Status	Notes
Economic impacts – directly	Product investment identified in	Recent CMAMA visitor statistics

<p>attributable to WHS status</p>	<p>WHS Economic Impact Assessment (2003) not forthcoming, but RDPE funded three-year DtE project is delivering £2.4 million for a range of visitor facility and interpretation enhancement initiatives across the CMAMA mining attractions network</p> <p>*WHS 'core' budget provides for 3.5 FTE posts, comprising WHS Co-ordinator, Research & Information Officer, Project Development Officer, and Administration Officer*</p> <p>WHS 'core' budget also funds local authority delivered WHS related Historic Environment (HE) Record support and planning advice in Cornwall, partially supporting additional posts within Cornwall Council</p>	<p>indicate that numbers have increased to member sites during the first half of 2012, indicating that DtE marketing activity is proving beneficial; further visitor research and satisfaction surveys to be undertaken to gauge longer term trends (see '11.Visitor management', below)</p> <p>*Total WHS Staffing/Overheads: £161,378</p> <p>HE Planning Advice: £87,931</p> <p>Management Plan projects contribution (Cornwall Council): £75,000**</p> <p>Management Plan projects contribution (Devon County Council): £30,000**</p> <p>Management Plan projects contribution (West Devon Borough Council): £4,000**</p> <p>Total operating budget for 2012: <u>£358,309</u></p> <p>** Secured by Memorandum of Agreement between the three local authorities</p>
<ul style="list-style-type: none"> Mine site consolidation 	<p>£270,000 has been secured from the Natural England Higher Level Stewardship scheme to consolidate engine houses at Consolidated Mines, near Crofthandy (WHS Area A6) during 2013-2014</p>	<p>See: '5. Impact of World Heritage Site designation on principal sites'</p>
<p>Economic impacts – indirectly linked to WHS status</p>	<p>Funds expended on the refurbishment or consolidation of OUV features: c.£53,700,000 (see: '5.Impact of World Heritage Site designation on principal sites', above)</p>	
<p>THI and HERS schemes</p>	<p>To date (November 2012) an estimated £2.5 million in grants has been expended through THI and HERS schemes in Cornwall, directly improving historic townscapes in the former mining settlements of Redruth and Camborne (see: '5. Impact of World Heritage Site designation on principal sites')</p>	
<p>WHS Cultural Events Programme</p>	<p>Since 2006 over 150 performances of 11 commissioned presentations/events were made,</p>	

	to an estimated audience of over 30,000 people; in excess of £400,000 income generated (for project partner, Cornwall Arts Centre Trust)	
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11. Visitor management

CWDML WHS Management Plan Polices: PN1, PN2, PN3, PN4, T1

The WHS Management Plan details the overall strategic approach which includes delivery of specific objectives set out within the *WHS Outline Marketing Strategy*. This sets out the promotion of the WHS and how Site interpretation should be developed and targeted to meet the needs of various audiences through the promotion of outstanding universal value.⁸ A framework is in place for delivery which includes the establishment of three principal interpretation points, or 'Key Centres', across the WHS, to impart the full range of WHS values and themes in addition to the histories of the sites themselves, and to act as signposts to other local mining heritage attractions.⁹ Centres within the western and eastern areas of the Site have been established, mostly using existing mining heritage facilities, to provide the necessary geographical coverage. The existing WHS Key Centres are at Geevor Tin Mine (Pendeen, in the west of the Site) and Morwellham (in west Devon). The newly created Heartlands facility at Pool will most likely fulfil the Key Centre role for the mid/west area.

The *WHS Interpretation Strategy*¹⁰ has set out specific Cornish Mining themes which together encompass the total cultural significance of the Site's OUV. Through the directed delivery of these themes, high quality interpretation will be achieved. Periodic monitoring of all affiliated interpretation sites will be required however, with the aim being to maintain and, where possible, enhance quality standards. Ideally standards monitoring should be carried out every year and at least every three years.

The Cornish Mining Attractions Marketing Association (CMAMA), the standard-setting and cross-promotion organisation for local mining heritage attractions, has the potential to be a significant driver towards raising standards for an improved visitor experience. Performance monitoring at CMAMA sites should be undertaken through ticket sales and/or the use of people counters, in addition to periodic satisfaction surveys.

Temporal and spatial issues including visitor booking trends across Cornwall and west Devon and individual sites' carrying capacities should also be considered when reviewing tourism marketing across the WHS.

CMAMA visitor surveys and collation of related data: issues to be considered

- Total annual visitor numbers at each CMAMA site which monitors visitor numbers

Individual totals including those for education groups and non-paying visitors, or overall total if more realistically deliverable

A consistent methodology is required for all CMAMA sites to be repeated for each calendar year

Existing figures to be collated with full survey implemented when possible

Confidentiality issues may need to be addressed for privately owned sites

Monitoring is required at some sites where this is not currently undertaken; all sites should be encouraged to undertake surveys, if possible

- Visitor satisfaction surveys at each CMAMA site (yearly where possible or otherwise at a minimum of 3 years)

Standard questions, consistent from year to year and provided by WHS Office, being added where these questions are not already being asked

Visitor survey questionnaires should be brief and easy to complete

CMAMA input should be sought regarding additional questions of particular use to the membership and to ensure consistency of information

Confidentiality issues may need to be addressed for privately owned sites

Visitor surveys are not at present carried out at some sites e.g. some open access sites

- Annual visitor numbers to Cornwall and to Devon (for comparison against established trends)

Staying visitors and day visitors

Status summary: Increased visitor numbers recorded for some CMAMA member attractions in 2012 due to targeted marketing through the WHS 'Discover the Extraordinary' project; aim to further increase visitor numbers to those mining heritage attractions and sites with the required carrying capacity.

Work with stakeholders to enhance and expand the skills base within the local building industry, to satisfy heritage conservation requirements; undertake assessments of direct and indirect employment which can be attributed to WHS status; implement periodic monitoring of WHS Key Centres and CMAMA member sites under the auspices of the WHS Office and designated CMAMA members by peer review.

While the WHS Discover the Extraordinary project has recently delivered significant improvements to visitor facilities and interpretation at a number of CMAMA sites, individual site satisfaction surveys have yet to be implemented; this should be addressed during the period of the Management Plan (2013-2018).

Indicator	Status	Notes
Visitor management	<p>Cornish Mining Attractions Marketing Association (CMAMA) established (2006)</p> <p>CMAMA members sites providing visitor figures for monitoring purposes; a 13.6 percent average increase was recorded across those sites which supplied numbers for the 2010-2012 period*</p> <p>Market research undertaken by the WHS Office indicates</p> <ul style="list-style-type: none"> • In 2010: <p>54 percent aware of WHS status</p> <p>23 percent responded that WHS status would influence a visit, but the majority will visit because the attraction is interesting or a 'big</p>	<p>Source of figures: Arkenford market research undertaken on behalf of the WHS DtE project</p> <p>*Recent visitor figures supplied by the CMAMA member sites give a mixed though generally positive picture, although some report reduced attendances for the first half of 2012 in comparison with the previous year. A number of sites have recorded significant double-digit increases for the period from 2010 to June 2012, though some have reported reductions due to poor weather during the February 2012 half-term period.</p> <p>When the 'snapshot' visitor figures supplied by the eight CMAMA respondent sites are averaged, the overall trend is upwards, indicating</p>

	<p>name'</p> <p>WHS status is perceived as a symbol of reassurance [quality]</p> <p>Sample: 500 interviews with respondents interested in visiting Cornwall or in visiting heritage attractions</p> <ul style="list-style-type: none"> In 2012: <p>19 percent have been to the WHS</p> <p>46 percent would consider visiting</p> <p>Potential interest in WHS is 65 percent of marketplace; demographic of respondents are the older generation, but WHS 'brand' is of most appeal to younger generations</p> <p>Sample: 1,000 respondents interested in visiting Cornwall or in visiting heritage attractions</p> <p>Visit Cornwall data indicates that 41% of visitors attended heritage sites in 2008/9 (increased from 35 percent in 2006/7)</p> <p>79% of visitors took short walks and 44% long walks in 2008/9 (broadly comparable with the 2006/7 figures) (Visit Cornwall data)</p>	<p>a 13.6 percent increase overall. This is in contrast with local tourism numbers generally for the 2010 - 2012 period, and bucks the current general trend across Cornwall and west Devon. The range of marketing initiatives delivered by the WHS Discover the Extraordinary project are having a measurable positive impact for the CMAMA group, against a difficult financial climate.</p> <p>The Visit Cornwall figures indicate a significant potential for increased visitor interest in the mining landscape</p> <p>The focus on walking as part of a holiday in Cornwall indicates significant potential for increased exploration of the mining landscape on foot, particularly along the coastal fringes, the Great Flat Lode, and on Caradon Hill and in the Tamar Valley</p>
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Environmental quality

12. Mineralogical study value of the World Heritage Site

CWDML WHS Management Plan Polices: P1, P2, P3, P5, P6, P7

In excess of 450 mineral species have been recorded in Cornwall and Devon, almost fifty per cent of the British total, with fifteen metallic ores understood to have been mined in significant economic quantities.¹¹ Cornwall '... has long been a classic area of British geology, on account of its wealth of mineral deposits...' ¹² while Devon is known to geologists the world over for its variety of rock types and as the 'type area' of the Devonian System.

Cornwall and Devon's geological importance has given rise to the inclusion of a number of sites as designated County Geology/Geological Sites, formerly known as RIGS sites (Regionally Important Geological/Geomorphological Sites). While this designation is of county status only, and is not therefore statutory, it does convey something of the significance of these areas to the science of mineralogy, and to the WHS and protection issues, through local planning policies. There are currently 108 County Geology Sites within Cornwall with these being reviewed and sites added periodically by

the Cornwall RIGS Group, the geological arm of the Cornwall Wildlife Trust. The 81 County Geological Sites in Devon are administered by the Devon RIGS Group.

A number of sites in Cornwall and west Devon are Sites of Special Scientific Interest (SSSI) through their mineralogical importance. Some of these are relevant to WHS OUV, and discussions with the administering body Natural England will be required to explore monitoring options.

Monitoring methodology: future research

- Identify on maps the mineralogical sites within the WHS which are both relevant to the WHS and particularly vulnerable to adverse impacts e.g. mineral collection, vegetation growth, damage from off-road cycles/motorcycles and 4 x 4 vehicles
- Fixed point photography undertaken five yearly following discussion with the Cornwall and Devon RIGS groups
- Discuss SSSI monitoring/data sharing options with Natural England, the administering body

Status summary: Register of relevant County Geology/Geological Sites and SSSIs in place for Cornwall and west Devon; periodic condition monitoring of SSSIs currently undertaken by Natural England; options for formal monitoring of County Geology/Geological Sites to be considered in discussion with the Cornwall and Devon RIGS groups.

Indicator	Status	Notes
County Geology (RIGS) Sites	<p>24 County Geology (CG or RIGS) Sites listed within the WHS, 19 in Cornwall and 5 in west Devon</p> <p>The total number of County Geology Sites in Cornwall and Devon: 108 and 81 respectively (see: Monitoring appendix 3)</p>	<p>Monitoring of the County Geology Sites in Cornwall comes under the remit of Cornwall Wildlife Trust with the intention being to undertake a rolling programme of site assessments and record updates, but this is understood to be dependent on the availability of funding. Currently members of the RIGS Group (Regionally Important Geological and geomorphological Sites) submit condition assessments on a voluntary basis as and when this is considered necessary. In Devon the monitoring function is undertaken by the Devon RIGS Group and Devon County Council</p> <p>No significant change of CG site status though concerns exist in regard to Redmoor Mine, near Callington, due to on-site tipping.</p>
Sites of Special Scientific Interest (SSSI)	<p>12 SSSIs with mineralogical / geological relevance listed within the WHS, 10 in Cornwall and 2 in west Devon (see: Monitoring appendix 4)</p>	<p>No significant change of status is known for these though Penberthy Croft Mine near Relubbas has been highlighted for attention due to possible recent mine waste dump removal</p>

13. Ecological value of the World Heritage Site

CWDML WHS Management Plan Policies: C7, C10

During the World Heritage Committee deliberations in Vilnius in 2006 it was concluded that the relevant 'natural' values of the Cornish Mining WHS should be fully integrated into future management of the Site.¹³ Whilst the natural environment is not part of Cornish Mining's OUV as inscribed, being a cultural landscape, it is nevertheless prudent to incorporate measures which address the conservation of that particular biodiversity which is solely dependent on the minerals at former mine sites.

Relict mining landscapes comprising burrows or spoil heaps of mineral waste are habitats for a variety of lower plants (i.e. mosses and liverworts) which have adapted and often thrive on 'soils' completely unsuitable for most vegetation. Many of these species are extremely rare and in some instances have received statutory protection in the form of Site of Special Scientific Interest (SSSI) status. In excess of 25 per cent of all the mosses and liverworts found in Cornwall have been observed on former metalliferous mine sites.¹⁴

Similarly, heathland habitats have become established at many former mine sites despite extreme environmental factors such as mineral contamination in soils and the depletion or reduced availability of nutrients. Such soils can also provide habitats for types which would normally be out-competed by more fertile species.¹⁵

From a mammalian perspective, former mine sites can also be a very attractive habitat; rabbits and badgers burrow in the waste dumps and various species of bats, some rare, often occupy open mine shafts and adit levels; the latter being extremely important roost sites for Greater Horseshoe bats in particular. Likewise, bird species use neglected mine buildings and shafts as undisturbed nesting sites in many areas.

Former dressing floors within mine sites usually contain water storage or ore/waste settling tanks which, after abandonment, can lead to the creation of micro aquatic habitats for species of insects, frogs and toads. Conversely, dry areas of exposed and semi-exposed waste dumps are often colonised by invertebrates such as common snakes, slow worms and lizards.

Priority species and habitats as identified in the IUCN International Red Data List for endangered species¹⁶ should be considered in addition to those featured in the UK Biodiversity Action Plan (BAP).¹⁷ The frequency and type of monitoring for species will be dependent on the ecology at any given site but should aim to

- Identify using GIS mapping those areas of SSSIs within WHS, and obtain any habitat information already available for each (required baseline data for future monitoring), and determine the relevance of these habitats to the WHS
- List existing records of protected species for mine sites within WHS (e.g. the non-vascular *Ditrichum cornubicum* [Cornish Path Moss] which is unique to Cornwall, only occurring on mine workings and one of 146 rare mosses recorded nationally), with details of quantities where this information is available (required baseline data for future monitoring); determine the relevance of these protected species to the WHS
- Establish a mechanism which allows perceived changes or otherwise to be stated as trends, e.g. 'stable and improving' or 'unfavourable but improving'. 'Condition statements' could also be used as a simple and straightforward means of expressing the condition of WHS-related ecology over time; could be stated as 'Key messages are' or similar
- *Pressure, state, response* models (PSR) should be used to establish if management or other activities on sites are neutral, advantageous or deleterious for WHS-related ecology

Status summary: Create register of nationally protected species with record of location and extent of protected habitats within the WHS; monitoring programme to be devised during the life of the Management Plan (2013-2018).

Indicator	Status	Notes
Natural England monitoring	Natural England undertakes monitoring assessments to gauge the condition of SSSIs	Condition survey data to be sourced from Natural England

14. Sustainable physical access

CWDML WHS Management Plan Policy: PN1

The CWDML WHS, as an attractive cultural landscape, has much to offer in terms of its predominantly rural setting. The natural environment of Cornwall and west Devon has been shown through previous surveys to be of particular importance to residents. The Cornwall *Quality of Life* survey for 2004¹⁸ indicates that 41 per cent of the population visited the countryside for recreational purposes at least once a week, with a further 32 per cent visiting at least once a month. The preservation of the rural landscape is therefore a key objective in management terms through the promotion of environmentally responsible and sustainable access. Urban transport issues too are of importance to WHS management with enhanced public transport being an important aspect of environmental protection.

To this end baseline transport data will be required to assess the number and types of journeys into or around each of the ten WHS Areas. Data gathering should be focused on the number of cars, busses, cyclists, pedestrians etc, and detail the percentage of journeys made by differing modes of transport. Visitor surveys at specific sites to ascertain mode of arrival should be undertaken yearly: *how did you arrive?* (car / coach / bus / train / cycle / foot etc.)

Provision of public transport into and within the WHS should also be assessed five yearly with the view to influencing future strategies to increase or, as a minimum, maintain services.

Future research

- Visitor surveys at each CMAMA site to include question *how did you arrive?*
- Monitoring of damage from physical access at selected mine sites; determine

The selection criteria for sites to be monitored
 The format of the fixed-point photography to be employed
 The periodicity, probably five yearly

Status summary: aim to deliver periodic journey surveys at designated locations within the WHS – CMAMA sites and ‘landscape’ areas; use collated data to lobby transport groups and local authorities for enhanced services; update leisure trail usage statistics periodically during the life of the Management Plan (2013-2018) and obtain the same for west Devon, where available.

Indicator	Status	Notes
Leisure trail usage in Cornwall (Cycle usage monitoring)	Coast to Coast Trail – at Portreath (site 239) 1,206 (2009)	NB. Figures provided by Cornwall Council
	Coast to Coast Trail – south of Bissoe (site 234) 1,908 (2009)	Figures to be updated as part of ongoing WHS monitoring
	Mineral Tramways – near Carn Brea (Carnkie) (site 238) 312 (2009)	

Leisure trail usage in west Devon	Coast to Coast Trail – Scorrier Crossroads (site 236) 1,714	Equivalent trail usage figures for the Tamar Valley trails and AONB not yet available
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Monitoring appendix 1

Cornwall and West Devon Mining Landscape World Heritage Site Management Plan Policies (2013-2018)

The policies contained within the World Heritage Site Management Plan are grouped under four thematic headings: Protection, Conservation and Enhancement, Presentation, and Transmit, and are set out below.

Protection

- (Policy P1) The Partnership will ensure that all relevant strategic documents and programmes have regard for the Site and its Vision & Aims.
- (Policy P2) All relevant strategic planning documents should make provision for the protection, conservation and enhancement of the Site and its setting.
- (Policy P3) Planning authorities should ensure that new development protects, conserves and enhances the Site and its setting.
- (Policy P4) The review of statutory protection within the Site will continue through national designations.
- (Policy P5) Local designations and protection systems will continue to be reviewed throughout the Site.
- (Policy P6) Local authorities and other agencies should make full use of the powers available to them for the protection and conservation of the Site.
- (Policy P7) There is a presumption against the removal of historic mine waste within the Site.
- (Policy P8) Developments outside the Site that will adversely affect its outstanding universal value will be resisted.

Conservation and Enhancement

- (Policy C1) Sustainable heritage-led regeneration will be encouraged and supported.
- (Policy C2) New development should add to the quality and distinctiveness of the Site by being of high quality design and respectful of setting.
- (Policy C3) There should be a presumption in favour of retaining and re-using historic buildings which are important components of the Site.
- (Policy C4) Proposals for the resumption of mining will be supported where they do not adversely affect the Outstanding Universal Value of the Site.
- (Policy C5) Landscape, nature conservation and agri-environment management regimes should have regard for the authenticity and values of the Site.
- (Policy C6) The conservation and continuing maintenance of the historic fabric of the Site should be undertaken to the highest standards to ensure authenticity and integrity.
- (Policy C7) The historic character and distinctiveness of the Cornwall and West Devon mining landscape should be maintained.
- (Policy C8) Traditional materials and skills should be encouraged in the maintenance of the authentic historic fabric within the Site.
- (Policy C9) Where the historic fabric within the Site has been lost or compromised through non-authentic materials, inappropriate details and poor workmanship, historic character and detail will be reintroduced wherever and whenever possible.
- (Policy C10) Resources available for conservation of the Site should be prioritised to address the Vision & Aims.

- (Policy C11) Key moveable components should be preserved in situ unless relocation will conserve or enhance the outstanding universal value of the Site.
- (Policy C12) The risks to the World Heritage Site and its management should be regularly assessed and actions taken to ameliorate these risks.
- (Policy C13) Archives, collections and data concerning the World Heritage Site should be curated, catalogued and conserved and made accessible to all.

Presentation

- (Policy PN1) The Partnership should promote access to the World Heritage Site that is sustainable to the environment and consistent with the values of the Site.
- (Policy PN2) The World Heritage Site should be interpreted and presented as a distinctive, evolving, living landscape.
- (Policy PN3) Visitors should be encouraged to explore and learn about the physical, social and cultural aspects of the Cornwall and West Devon mining heritage.
- (Policy PN4) The marketing and interpretation of the World Heritage Site should be coordinated to ensure a consistent, responsible use of the World Heritage Site Inscription.
- (Policy PN5) The economic impacts of the World Heritage Site should be monitored and quantified.
- (Policy PN6) The economic benefits of the World Heritage Site should be promoted to support wider cases for sustainable heritage-led regeneration and cultural tourism.
- (Policy PN7) The communities within and outside the World Heritage Site should be engaged in the enjoyment, benefits and management of the World Heritage Site.
- (Policy PN8) Enjoyment of the World Heritage Site should be available to all regardless of ability or income.

Transmit

- (Policy T1) The values and significance of the World Heritage Site should be communicated to a wide range of educational audiences.
- (Policy T2) Research into Cornish Mining and its worldwide linkages should be facilitated and encouraged, published and disseminated.
- (Policy T3) The distinctiveness of Cornish Mining culture should be celebrated, promoted and propagated.
- (Policy T4) The Partnership will promote best practice in heritage management, heritage-led regeneration and sustainable remediation of Cornish mining landscapes worldwide.
- (Policy T5) The Partnership will actively facilitate the exchange of ideas, experiences and the stories of Cornish mining communities worldwide.

Monitoring appendix 2

World Heritage Site OUV features included within the English Heritage 'Heritage at Risk Register' (2012)

(25 features/sites - <http://www.english-heritage.org.uk/caring/heritage-at-risk>)

Feature key: BAR = Buildings at Risk

SMAR = Scheduled Monuments at Risk

Priority key:

For buildings at risk, the following priority categories are used as an indication of trend and as a means of prioritising action:

- A - Immediate risk of further rapid deterioration or loss of fabric; no solution agreed
- B - Immediate risk of further rapid deterioration or loss of fabric; solution agreed but not yet implemented
- C - Slow decay; no solution agreed
- D - Slow decay; solution agreed but not yet implemented
- E - Under repair or in fair to good repair, but no user identified; or under threat of vacancy with no obvious new user (applicable only to buildings capable of beneficial use)
- F - Repair scheme in progress and (where applicable) end use or user identified; functionally redundant buildings with new use agreed but not yet implemented

WHS A1 – A10 in Cornwall: 22 sites

WHS A10 in west Devon: 3 sites

Cornwall

WHS A4

Wesleyan Chapel, Porkellis, Wendron - Grade II* Listed building (BAR); Priority Category: C

WHS A5

Rosewarne House (Gladys Holman House), Tehidy Road, Camborne, Cornwall - Grade II* Listed building (BAR); Priority Category: A

Count House, blacksmiths' shop and miners' dry, King Edward Mine, Troon, Camborne, Cornwall - Grade II* Listed building (BAR); Priority Category: C

Weighbridge stores, assay office and brass machining shop at King Edward Mine, Troon, Camborne, Cornwall - Grade II* Listed building (BAR); Priority Category: C

Boiler house to winding engine house at King Edward Mine, Troon, Camborne, Cornwall - Grade II* Listed building (BAR); Priority Category: C

Sara's Foundry, Tolgus Place, Redruth - Grade II* Listed building (BAR); Priority Category: A

Tolgus Calciner, New Portreath Road, Redruth, Cornwall - Scheduled Monument (SMAR); Priority Category: A

Carn Brea Castle, Carn Brea - Scheduled Monument (SMAR); Priority Category: not given

WHS A6

Great Wheal Busy engine house and mine buildings, Chacewater - Scheduled Monument (SMAR); Priority Category: not given

Gunpowder storage complex at Kennall Vale, St Gluvias - Scheduled Monument (SMAR);

Priority Category: not given

Gunpowder works at Kennall Vale, St Gluvias - Scheduled Monument (SMAR);
Priority Category: not given

Dry sand and green sand shop, Perran Foundry, Perran Wharf, Mylor - Grade II* Listed building (BAR);
Priority Category: F

Engineers Shop, Perran Foundry, Perran Wharf, Mylor - Grade II* Listed building (BAR)
Priority Category: F

New Pattern Shop, Perran Foundry, Perran Wharf, Mylor - Grade II* Listed building (BAR)
Priority Category: F

Warehouse (formerly listed as office), Perran Foundry, Perran Wharf, Mylor - Grade II* Listed building (BAR); Priority Category: F

WHS A7

Wheal Kitty 20th century tin processing works, St Agnes - Scheduled Monument (SMAR);
Priority Category: not given

WHS A8

Charlestown Methodist Church, Charlestown Road, St Austell - Grade II* Listed building (BAR); Priority Category: B

Treffry Viaduct, Luxulyan Valley - Scheduled Monument (SMAR); Priority Category: B

WHS A9

South Caradon 19th century copper mine - Scheduled Monument (SMAR);
Priority Category: not given

Medieval and post-medieval tin and copper mines with medieval field system on the middle and lower northern slopes of Caradon Hill, Linkinhorne - Scheduled Monument (SMAR); Priority Category: not given

WHS A10

Prince of Wales Mine, at Harrowbarrow, Calstock, Cornwall - Scheduled Monument (SMAR);
Priority Category: not given

Okeltor 19th century arsenic, copper and tin mine, Calstock - Scheduled Monument (SMAR);
Priority Category: not given

Devon

WHS A10

Morwellham Quay: transport infrastructure, part of the water control system and a manganese mill, Gulworthy, West Devon, Devon - Scheduled Monument (SMAR); Priority Category: not given

Gawton mine complex, Gulworthy, west Devon - Scheduled Monument (SMAR);
Priority Category: A

Gawton arsenic mine and flue, Gulworthy, west Devon - Scheduled Monument (SMAR);
Priority Category: not given

Monitoring appendix 3

County Geology (RIGS) Sites within and relevant to the World Heritage Site

WHS A1 – A10 in Cornwall: 19 sites

WHS A10 in west Devon: 5 sites

Total number of sites thought directly relevant to WHS OUV: 24

WHS A1

Pendeen Old Cliff to Kenidjack Ref: P/15 NGR: SW 3793 3563 to SW3554 3230
Coastal cliffs with a series of faults and rich hydrothermal mineral veins - Con status: Good

Gryll's Bunny Ref: P1 NGR: SW 364335 Opencast & underground tin workings

Wheal Cock Ref: P3 NGR: SW 364340 Mine spoil

Wheal Hazard Ref: P4 NGR: SW 363334 Mine workings exhibiting granite contact

Wheal Drea Ref: P8 NGR: SW 365322 Large mine spoil

Geevor Mine Ore Stockpile Ref: P11 NGR: SW 373346 Recently constructed 'finger-dump' of original Geevor ore

New Mexico Shaft, Geevor Mine Ref: P12 NGR: SW 368344 18th Century mine workings exhibiting fissure veins, hand-worked stopes and an exposure of the granite/killas contact - Con status: Good

Wheal Edward Ref: P13 NGR: SW361327 Killas and hornfels mining waste

Croft Gothal Mine Ref: P14 NGR: SW 569309 Mine dumps

WHS A2

None

WHS A3

Trewavas Mine Ref: K24 NGR: SW 598265 Spoils with sulphide mineralisation

Great Wheal Fortune Ref: K6 NGR: SW 626288 Mineralisation in the Mylor metasediments

WHS A4

Poldark Mine Ref: K31 NGR: SW 682315 Old mine workings representing the roots of a lode system and the base of the tin zone

WHS A5

Wheal Basset Ref: K1 NGR: SW 690398 Mine spoils - Con status: Good declining

Wheal Uny Ref: K2 NGR: SW 695410 Only known access to the Great Flat Lode

WHS A6

Wheal Gorland Ref: K10 NGR: SW 731428 Sim's Shaft & Davey's Footway, accessing lodes

Wheal Jane East Ref: CK6 NGR: SW 786433 Underground workings on an eastward extension of the 'B lode' with an extensive exposure of the elvan hangingwall

WHS A7

None

WHS A8

None

WHS A9

Stowe's Section, Wheal Phoenix Ref: CN4 NGR: SX 262722 Surface spoils & underground workings

WHS A10 - Cornwall

Harrowbarrow Mine Ref: CN3 NGR: SX 401701 Underground lead/silver workings

Redmoor Mine Ref: CN1 NGR: SX 356711 Underground workings and surface spoils.

WHS A10 – west Devon

Wheal Anna Maria Gulworthy NGR: SX426736 Copper mine with evidence of chalcopyrite

Wheal Anna Maria Gulworthy NGR: SX426734 Copper mine with evidence of chalcopyrite and arsenopyrite

Fremontor Mine Gulworthy NGR: SX424724 The only surface exposures of Gunnislake granite body in Devon

Bedford United Mine Gulworthy NGR: SX441726 The most diverse range of copper secondary minerals in Devon

South Tamar Consols Bere Ferrers NGR: SX435645 Representative of the geology of the Bere Alston silver-lead mines

Significant mineralogical sites beyond the WHS (within Cornwall):

Lambriggan Mine Ref: CK7 NGR: SW 760511 A unique example of a mine ore pile left standing at surface. One of very few sites of its kind in Cornwall

Wheal Carpenter Ref: P9 NGR: SW 584353 Mine spoils

Carclaze Old Tin Pit Ref: R17 NGR: SX 024549 Kaolinised and mineralised granite in a china clay pit that played a part in the early development of geological science

Wheal Rose Ref: K18 NGR: SW 634249 Lead 'stringer' vein running across beach and underground workings

Wheal Johnny Ref: K11 NGR: SW 627412 Mine dumps. Good educational site

Monitoring appendix 4

SSSI sites within the World Heritage Site with mineralogical/geological significance (12 sites)

Assessment classification - main habitat classification: 'Earth heritage'

Cornwall:

1. Aire Point to Carrick Du (WHS A1) – Condition: 'Favourable'
2. Penberthy Croft Mine (WHS A3) – Condition: 'Favourable'
3. Great Wheal Fortune (WHS A3) – Condition: 'Unfavourable declining'
4. Porthcew (WHS A3) – Condition: 'Favourable'
5. Wheal Gorland (WHS A6) – Condition: 'Unfavourable declining'
6. Godrevy Head to St Agnes (WHS A7) – Condition: mostly 'Favourable' *
7. St Agnes Beacon Pits (WHS A7) – Condition: 'Favourable'
8. Trevaunce Cove (WHS A7) – Condition: 'Favourable'
9. Cligga Head (WHS A7) – Condition: 'Favourable'
10. Hingston Down Quarry and Consols (WHS A10) – Condition: 'Favourable'

West Devon:

11. Devon Great Consols (WHS A10) – Condition: 'Favourable'
12. Lockridge Mine (WHS A10) – Condition: 'Favourable'

* Five out of the six component areas of this SSSI were considered to be in 'Favourable' condition

Appendix 8.7

PUBLICATIONS AND RESEARCH COMMISSIONED OR CO-FUNDED BY THE CORNWALL AND WEST DEVON MINING LANDSCAPE WORLD HERITAGE SITE, 2005 - 2012

Under the auspices of its research budget, the Cornwall and West Devon Mining Landscape World Heritage Site (CWDMLWHS) has commissioned or supported the production of a number of publications since 2005 which accord with the policies set out in the World Heritage Site Management Plan (2005-2010).

These, fittingly, address a wide range of Cornish mining related topics, including studies of building conservation methodologies - *The conservation of historic mine buildings in Cornwall: practical guidelines to assist conservation of similar buildings internationally*; the social impacts of hard rock mining - *Voices of the Cornish Mining Landscape*; and the international dimension of mining related migration - *Mining a Shared Heritage: Mexico's 'Little Cornwall'*.

During the summer of 2009, the CWDMLWHS and the University of Stirling co-hosted the Eighth International Mining History Congress in Redruth, the business 'heart' of the Cornish mining industry. This prestigious bi-annual conference saw the presentation of a range of academic papers, a number with Cornish mining-related themes, and also provided the opportunity to showcase some of the extraordinary mining landscape of the Site to over eighty delegates from around the world. In 2011 the CWDMLWHS was delighted to be able to co-ordinate the publication of the full proceedings in partnership with the University of Stirling.

The publication of *Cornish Mines: Metalliferous and Associated Minerals, 1845-1913* in 1987 for the first time presented the mineral output statistics recorded by the Mining Records Office for all the metalliferous mines across Cornwall. Alongside its sister publication *Devon and Somerset mines: metalliferous and associated minerals, 1845-1913* (1984), this has become the standard reference work covering mine output for the period. In the intervening years Dr Burt has worked with friends and colleagues to collate other datasets such as the mining returns for the Duchy of Cornwall, with the view being to publish a greatly revised edition combining the output records for Cornwall and Devon together. To be presented in an electronic format via a CD ROM, the revised work will be fully searchable, enabling queries such as the employment of various mine management personnel to be tracked across mines, over time. The CWDMLWHS is pleased to co-ordinate the forthcoming production of both the CD ROM and the accompanying 60,000 word hard copy introduction, which sets out the background to the various datasets.

The Camborne School of Mines (CSM) has a very well established international reputation of which it is justifiably proud. Graduates of the School can be found working around the globe but the background to the early years of mining education in Cornwall is little understood. The CSM came about as the result of a number of earlier technical education initiatives and the research of Laurie Piper, a former governor on the CSM board of trustees, has brought this story together for the first time. The CWDMLWHS is currently co-ordinating production with the author, with publication expected to be later in 2012.

The promotion of the World Heritage Site online has been an important function of the office since the commencement of the nomination phase for the status in 2001. In addition to providing general and detailed information about the nature of World Heritage status and how the Cornish mining landscapes are significant internationally, the Cornish Mining website has also hosted 'Cornish Mining' the regular e-newsletter. In 2011 the new CWDMLWHS website was launched, adopting a more visitor focused approach, and 'Cornish Mining' can be found via a link from the News page.

Since inscription 'Cornish Mining' has highlighted a wide range of themes relating to the Cornish mining story locally, in and around the ten Areas of the Site, and both nationally and internationally. The overseas dimension is a particular theme which has been gaining greater prominence in recent years and to date a number of sites beyond Cornwall and Devon have been featured, including the Keweenaw Peninsula in Michigan, Kåfjord in Norway, and Timor in Australia. The aim is to progress

this aspect of the newsletter further during the duration of the Management Plan, to feature yet more sites in Britain and around the world where migrating Cornish mineworkers made their mark, while continuing to highlight significant projects and events within the Site.

Within the operational period of this Management Plan (2013-18) the CWDMLWHS aims to support and commission further publications and research on the basis of management need, and where these can be demonstrated to accord with Management Plan policies.

Publications and commissioned research: 2005 – 2012

Below is a list of publications and research produced by, or in partnership with, the CWDMLWHS, and the relevant Management Plan policies have been cited in each instance to illustrate the respective policy linkages.

The conservation of historic mine buildings in Cornwall: practical guidelines to assist conservation of similar buildings internationally

Sharpe, A. Weardale: Europamines

ISBN: 0-9551301-1-5 (2005)

CWDMLWHS Management Plan Policies: C6, C7, C8, C9, T4

Produced by the Europamines project and co-funded by the World Heritage Site, this is a detailed study covering the full breadth of issues relating to the consolidation of historic mine features, including archaeological recording, surveys, and the most appropriate materials and techniques to use; 56 pages, in both Spanish and English text.

Interpreting the Ruins of Cornish Design Engine Houses

Brown, K., Morris, J. H., Perez Sanchez, A. A., & Critchley, M. Weardale: Europamines

ISBN: 0-9551301-0-7 (2005)

CWDMLWHS Management Plan Policies: C6, C7, C8, C9

Another Europamines production co-funded by the World Heritage Site, this is a thorough work detailing how to interpret the many design features of Cornish type engine houses in order to determine the engines they once contained; 48 pages, in both Spanish and English text.

Mining a Shared Heritage: Harnessing the Potential of Cornish Transnationalism

Schwartz, S. P. Truro: Cornish Mining World Heritage Site / Cornwall County Council

2006

CWDMLWHS Management Plan Policy: T2

Research commissioned by the World Heritage Site and undertaken by an academic regarded as the foremost authority on Cornish mining related migration; addresses 40 Cornish migrant destination sites around the world and contains detailed information on individual locations, site histories, extant heritage and contacts.

Harnessing the potential of the Cornish overseas: a preliminary overseas marketing strategy for the Cornwall and West Devon Mining Landscape World Heritage Site (WHS)

Schwartz, S. P. Truro: Cornish Mining World Heritage Site / Cornwall County Council

2006

CWDMLWHS Management Plan Policies: PN3, T2, T3, T5,

Part funded by Devon and Cornwall Overseas Marketing (DACOM) and VisitCornwall, this study document focuses on the potential for those descendants of migrant Cornish mineworkers around the world to visit the World Heritage Site, and through ancestral tourism to contribute to the growth of visitor numbers.

Mining a Shared Heritage: Harnessing the Potential of Cornish Transnationalism (second series)

Schwartz, S. P. Truro: Cornish Mining World Heritage Site / Cornwall County Council

2008

CWDMLWHS Management Plan Policy: T2

This, the second series of research commissioned by the World Heritage Site on Cornish mining related migration sites, addresses 30 Cornish migrant destinations and, as with the first series (above), contains detailed information on individual locations, site histories, extant heritage and contacts.

Voices of the Cornish Mining Landscape

Schwartz, S. P. Truro: Mineral Tramways Heritage Project / Cornwall County Council

ISBN: 978-1-903798-47-8 (2008)

CWDMLWHS Management Plan Policies: PN2, PN3, T1, PN7, PN8, T2, T3

While being commissioned and funded by the Mineral Tramways Heritage Project, the World Heritage Site was delighted to be able to assist in the final publication of this very useful study. Adopting a somewhat different approach to mining heritage, it focuses on the impact of metalliferous mining on Cornish communities, when mining was in its heyday and through the years of decline and beyond into the present. It is interwoven with interviews with many of today's residents from the Camborne, Pool, Redruth area, giving their very personal accounts of how mining has influenced the lives of both themselves and their families; 128 pages.

Churks, Clidgy & Doodle-Dashers – Hayle Tales and Trails

Frears, L. (Ed.) Hayle: Hayle Oral History Project / Hayle Community Archive (2010)

CWDMLWHS Management Plan Policies: PN2, PN3, T1, PN7, PN8, T2, T3

This fascinating work, part funded by the World Heritage Site, describes Hayle as an industrial town through the use of archive photos, memories, expert articles and historic trails around the Hayle area including St. Erth, the Dynamite Works, Gwithian Tin Streams and Godrevy. An additional multimedia disc contains archive film footage, animations created based on oral testimony, and recordings and transcriptions of interviews made by the Hayle Oral History Project; 168 pages.

WHS Photomonitoring Survey

Sharpe, A. Truro: Cornish Mining World Heritage Site / Cornwall Council (2010)

CWDMLWHS Management Plan Policies: C6, C7

A Site-wide Photomonitoring Survey was commissioned in 2010 to assess the condition of those features which constituted the outstanding universal value of the World Heritage Site. In addition over 12,000 digital still images were produced across the ten Areas of the Site and assessments of baseline condition for each site/feature were logged using an accompanying electronic spreadsheet.

Cornish Mining World Heritage Site: Condition assessment of CC Holdings

Sharpe, A. Truro: Cornish Mining World Heritage Site / Cornwall Council (2011)

CWDMLWHS Management Plan Policies: C6, C7

As an adjunct to the above survey, the WHS Office commissioned an assessment of Cornwall Council holdings within the Site which demonstrate outstanding universal value. 70 Cornwall Council owned sites were assessed in total and the conclusions of the survey will be used to inform recommendations for future conservation work.

Mining a Shared Heritage: Mexico's 'Little Cornwall'

Schwartz, S. P. Wendron: Cornish-Mexican Cultural Society

ISBN: 978-1-903798-70-6 (2011)

CWDMLWHS Management Plan Policies: PN2, PN3, T1, PN7, T2, T3, T5

Written by Dr Sharron Schwartz, the foremost authority on Cornish mining related migration and funded by the World Heritage Site, this fascinating work covers the ground-breaking introduction of Cornish steam technology to the silver mines of Pachuca and Real del Monte in the State of Hidalgo, Mexico from the 1820s. It also brings the story up to date with a look at how these communities celebrate their Cornish mining heritage today; 112 pages.

Mining Perspectives – the Proceedings of the Eighth International Mining History Congress, 2009

Claughton, P., & Mills, C. (Eds.) Truro: Cornish Mining World Heritage Site / University of Stirling

ISBN: 978-1-903798-77-5 (2011)

CWDMLWHS Management Plan Policy: T2

Co-funded by the World Heritage Site with the University of Stirling and edited by Drs Peter Claughton and Catherine Mills, the 24 papers within *Mining Perspectives* cover a wide range of international mining related topics. These include *Hathorn Davey and Company Limited of Leeds*, noted steam engine manufacturers during the nineteenth century, and *The Cuban Copper Cycle*, highlighting copper production from the east of that country during the middle 1800s. Papers with a direct relevance to the World Heritage Site were also presented at the congress, including *War and Peace: the economy of Cornish copper mining 1795-1840*, and *Tasmania's Mount Bischoff tin mine: Dolcoath of the Antipodes?*, which details the history of this long-lived tin producer with established Cornish connections; 228 pages.

Metalliferous Mining in Cornwall and Devon: the Nineteenth and Early Twentieth Century

Burt, R., Burnley, R., Gill, M. & Neill, A.

Exeter: University of Exeter Press (Forthcoming, 2012)

CWDMLWHS Management Plan Policies: C13, T2

Currently in preparation, this collection of mining output statistics promises to be an essential acquisition for all those interested in the history and economics of metalliferous mining in Cornwall and Devon, and the management personnel who captained the industry. Co-funded by the World Heritage Site, the work will be available as a data CD ROM to be accompanied by a 60,000 word introduction by Dr Roger Burt, renowned mining historian and Professor Emeritus at the University of Exeter.

The history of mining education in Cornwall: the story of the Camborne School of Mines

Piper, L. P. S. Truro: Cornish Mining World Heritage Site / Cornwall Council

ISBN: 978-1-903798-66-9 (Forthcoming, 2012)

CWDMLWHS Management Plan Policy: T2

This thoroughly researched work recounts the origins and rise of the world famous Camborne School of Mines (CSM) and the background to the early years of mining education in Cornwall. Co-funded by the World Heritage

Site and written by Laurie Piper - a former governor on the CSM Board of Trustees and education specialist - publication is expected later in 2012.

Appendix 8.8

GLOSSARY OF MINING TERMS USED IN CORNWALL AND WEST DEVON

ADIT

A level tunnel (usually driven into a hillside) in order to give access to a mine, and used for drainage or the hauling of broken ore. Deeper adits did not necessarily connect to surface, and were used to carry water back from distant workings to a pumping shaft

ADVENTURER

A shareholder in a mining operation

AGENTS

The managers of a mine

ANGLE BOB

A simple lever-based device using which the direction of a reciprocal motion (of pump rods, flat rods) could be changed (for example from horizontal to vertical)

ARSENOPYRITE

An ore of Arsenic; also termed MUNDIC or MISPICKEL

ASSAY HOUSE

The mine laboratory, where samples of ore were analysed for their mineral content

ATTLE

The waste rock produced through the mining process; also known as DEADS

BACK OF LODGE

The upper part of the lode

BAL or BALL

From Cornish 'pal' a shovel, and hence 'a digging' = a mine; generally applied to earlier mines. See also WHEAL

BALANCE BOB

A large counterweighted lever attached to the shaft pump rods and used to offset their weight and thus reduce the work of a pumping engine to lifting water alone. A surface balance bob would be mounted adjacent to the shaft on a pair of plinths or on a masonry support at ground level (balance bob mounting), the attached counterweight - a large box filled with scrap iron or rocks - working in an adjacent stone-lined pit. Other balance bobs would be installed in chambers cut into the rock adjacent to the shaft wall as needed to counterbalance the weight of the pump rods, especially on a deep shaft

BAL MAID

A woman or girl employed at surface on a mine, generally in the dressing of ore

BARGAIN

An agreement between a group of mineworkers and the mine managers to work a specified area at an agreed rate

BEAM ENGINE

A type of steam-engine much favoured in Cornwall for use in pumping, winding, and providing the power to crush ores preparatory to dressing on Cornish mines. The power from a large cylinder set vertically in an engine-house was transferred via a massive rocking beam or bob to the pumps in the shaft outside. For winding and crushing, the bob was instead attached to a flywheel and crank on a **LOADING** next to the **BOB WALL** (or in the case of all indoor engines, the side wall). In most cases, the engine house formed an integral part of the framing of the engine

BEDSTONE

The granite slab which formed the foundation for the cylinder of a Cornish Engine

BLACK TIN

The refined concentrate of tin ore or cassiterite (tin dioxide - SnO₂)

BLOWING HOUSE

An early form of tin smelting furnace, small in scale and using charcoal as a fuel

BOB WALL

The front elevation of an engine house used to support an engine's heavy rocking beam or bob, which has been robustly constructed to resist the significant loading and vibration forces produced by a working BEAM ENGINE

BOILER HOUSE

A generally lightly-built structure attached to an engine house, and designed to contain the horizontal boilers for a steam engine; the associated chimney stack may be attached to this structure, or built into one corner of the engine house

BORING MACHINE

Alternative term for a ROCK DRILL

BOUNDING

A traditional term used to describe the process of establishing a legal claim to extract tin or other minerals from a specified area

BRATTICING

Timber partition work in a mine, for instance the LAGGING BOARDS which lined the upper section of a shaft where it ran through soft ground

BROKEN ORE

Ore which has been mined and is ready for processing to remove impurities (see DRESSING)

BUCKING

The breaking down of copper ore on an anvil to about 10mm in diameter by bal maids using small hammers, after which the ore was separated from the waste by hand. This process followed cobbing, in which it had been broken down to about 25mm in diameter, the waste again being hand removed. These processes, through which the majority of the highest quality copper ore was recovered, took place within roofed structures called bucking houses

BUDDLE

A device for concentrating tin ore; in the mid 19th century these most usually took the form of a circular pit with rotating brushes; the tin from the stamps was fed into the centre or side of the pit and was graded by gravity, concentrating the heavy ore near the inlet point. These were often mechanically worked. Earlier buddles were trapezoidal in shape, and manually operated. A variation was the dumb buddle or dumb pit, which was not mechanically operated. See also ROUND FRAME

CALCINER

A furnace and heating chamber in which ores were roasted to drive off impurities such as sulphur and arsenic; these were also known as Burning Houses, later patterns being of REVERBERATORY design. The Brunton pattern calciner, introduced in the mid-19th century, was mechanically powered, and operated on a continuous basis, unlike earlier designs. Other patterns of calciner were also devised, the majority named after their designers (e.g. Oxland, Hocking and Loam)

CANDLE FACTORIES

An enormous amount of candles or DIPS were required by 18th and 19th century mineworkers to light their working areas underground. The candles were made in specialist factories across Cornwall and west Devon

CAPSTAN

A manually or steam-operated winding drum, usually installed on a mine to raise pitwork from the shaft for maintenance or repair

CATARACT PIT (or cock pit)

A sub-floor area within the foundation levels of an ENGINE HOUSE between the CYLINDER PLAT and the BOB WALL, containing the regulating apparatus, and giving access to cylinder hold-down bolts

CILL

The base of a window or other wall opening

COBBER

A mine surface worker, usually female, employed in copper ore dressing to remove waste from the mineral by means of a long-headed hammer; see BAL MAID

COFFIN or GOFFEN

The narrow excavation resulting from stoping on a lode being carried to or from surface, on part or all of a lode; see also GUNNIS, STOPE, OPENWORK

CONCENTRATE

Ore ready for smelting after having been treated to remove the maximum amount of impurities

CONDENSER

The cast-iron cylinder set in a tank of cold water immediately in front of the bob wall of an engine house in which the exhaust steam was condensed, creating a vacuum which greatly increased the efficiency of a steam engine. For a pumping engine this equipment was often contained within a pair of masonry walls projecting from the bob wall towards the shaft

CORNISH BOILER

A type of steam boiler which has a central fire-tube passing through the boiler from the fire box, and brick flues which circulate the hot gases under the boiler before being discharged

CORNISH ENGINE

Style of high-pressure steam beam engine invented and perfected in Cornwall – see BEAM ENGINE

COUNT HOUSE

Properly 'Account House', but generally shortened; the mine office, sometimes incorporating accommodation

COUSIN JACK CHUTE

A timber/steel structure used for the controlled removal of broken rock/ore from STOPES and ore passes into rail-mounted wagons

CROSSCOURSE

A geological formation which traverses the STRIKE of a mineral LODE

CROSSCUT

A drive mined across the STRIKE of a LODE for access or exploration. Often mined on a GUIDE for easier progress, and with the potential to discover unknown mineralisation

CROUST

Food – also termed 'crib', 'mossel' or 'bait'

CRUCIBLE WORKS

The process of testing ores to assess their mineral content required specialised equipment, one type being the crucible. Often of fired white clay, the crucibles were small dish-like or conical vessels and a number of works were established to produce these throughout Cornwall and west Devon

CULM

Geological strata underlying coal measures; also waste from anthracite coal mines, consisting of fine coal, coal dust and dirt

CULVERT

A small tunnel constructed to carry a channel of water

CYLINDER OPENING

The often large arched opening in the rear wall of an engine house through which the steam cylinder was brought during the erection of an engine; this opening was generally subsequently closed off with a timber partition and usually incorporated the principal doorway into the engine house

CYLINDER PLAT

The massive masonry base on which the cylinder of a Cornish Engine was bolted down (see also BEDSTONE)

DAYWORK

A form of employment where mineworkers undertook tasks, either at surface or underground, for which they received a daily rate; also known as 'company account men' or 'lord's men'

DEADS

Waste rock discarded after mining or processing

DIAL

A form of compass used to survey mineworkings

DIPS

Tallow based candles made in large quantities for use underground

DRESSING

The concentration of the tin (copper or other ores) contained in the rock excavated from the stopes of a mine. Carried out on DRESSING FLOORS

DRESSING FLOORS (also TIN MILL)

An (often extensive) area at surface on a mine where the various processes of concentration of ore took place - these consisted of crushing or stamping to attain a uniform size range, sizing (particularly on later mines), separation of waste rock, concentration (generally mechanically and hydraulically on tin mines, manually on copper mines), the removal of contaminant minerals (by calcination, flotation, magnetic separation), and finally drying and bagging for transportation to the smelter. Tin floors in particular were generally laid out down a slope to reduce mechanical or manual handling between stages in the process

DRIFT

Any horizontal or near horizontal working underground that usually does not connect with the surface

DRILL STEEL

A steel bar used by hand or machine for drilling into rock. Hand versions are usually chisel-tipped and in sets of three with the longest being 2 feet (0.6m) long

DRIVE (alternatively lode drive or heading)

A tunnel excavated on the line of a lode as the first stage of the development of a STOPE

DRY or CHANGE HOUSE (earlier MOOR HOUSE)

The building within which miners changed their clothes before and after going underground; some were heated by steam pipes connected to the engine boilers. Where there were large numbers of women or children employed on a mine, there might be two dries - one for men, the other for women and children. The pithead baths or wash houses found in collieries were rarely present in Cornwall

DUES

The royalty payment made to the owner of the mineral rights, paid by the mines' operators as a proportion of the value of the ores raised

DUMP or BURROW (alternatively spoil dump, spoil tip)

A pile of waste material, usually from a mine or quarry; may contain primary waste (where this could not be disposed of underground) or waste from various stages in the dressing process. TAILINGS LAGOONS stored the extensive slimes from the final stages in the process; in earlier mines these were flushed over cliffs or allowed to wash away in streams or rivers

DUTY

A measured assessment of the efficiency of a steam engine calculated by the weight of water lifted one foot high (0.3m) by the use of one bushel of coal

EDUCTION PIPE

The large diameter pipe through which exhaust steam was drawn into the condenser set outside the BOB WALL

ENGINE HOUSE

A building designed to contain steam, gas, oil or electric engines on a mine or other works. When forming part of the framework of a beam engine, these were particularly strongly constructed

FATHOM

The common measurement of distance or depth used in a mine equivalent to 6 feet (1.82m)

FINGER DUMP

A linear dump of waste material from a mine or quarry, flat-topped to allow material to be barrowed or trammed along it, and often equipped with a temporary tramway track

FLAT RODS

Reciprocating (or very occasionally rotative) iron rods used to transfer power from a steam-engine or water-wheel to a remote location

FLUE

A masonry-constructed tunnel or conduit connecting a furnace to a chimney stack

FOOT-WALL

The ground or 'country rock' below a mineral lode

FROTH FLOTATION

The process of ore refining where impurities or the ore itself are removed from a solution of chemicals frothed by continual aeration

FRUE VANNER

A mechanically-driven, laterally vibrated, inclined rotating belt on which fine tin-containing material in suspension in water was treated by relative density

FUSE

A combustible braided cord used for shot firing (blasting) which burns at a specific rate (also Safety Fuse)

GAD

An iron or steel wedge used to break rock when used in conjunction with a hammer

GANGUE

The valueless minerals which surround, or are intermixed with, the ore or ores being produced

GIG

A man-riding skip or cage within a mine shaft

GIRDER

The massive timber beam set across an engine house just below top floor level to which the parallel motion was attached and on which the spring beams sat, also known as the 'main beam'

GOFFEN (see COFFIN)

Generally applied to an excavation along the STRIKE of a LODE which is mined from the surface only

GOSSAN

The upper part of a mineral vein as it breaks surface. The natural weathering of the rock will decompose metallic sulphides, characteristically leaving a porous rust stained quartz

GRASS

The term for the surface of a mineworking

GUNNIS

A narrow linear excavation left where a lode has been worked, most commonly used when open to surface. See COFFEN

GUNPOWDER MILL

A works for the production of gunpowder which usually comprised a series of incorporating mills, similar in some respects to the grinding mills used for corn, and additional process buildings for the drying, finishing and storage of the explosive

HALVANS

The accumulations of discarded rock at surface, produced as a result of ore dressing operations

HANGING-WALL

The ground or 'country rock' above a mineral lode

HATCHES

Pits excavated to locate SHOAD tin deposits (cassiterite - SnO₂). See also PROSPECTING PIT / FOSSICKING PIT OR COSTEANING PIT.

HEAD or CROP

The richest part of material in a buddle - nearest its feed point

HEADFRAME (HEADGEAR)

The tall construction set over a winding shaft which carried the sheave wheels over which the winding ropes ran. Headframes usually contained ore bins or ore chutes to allow the broken rock in the skips or kibbles to be tipped into trams at surface

HORIZONTAL ENGINE

A steam engine where the cylinder(s) are set on a horizontal bed and the piston rods are attached via a cross-head to a crank and flywheel

HORSE WHIM

Similar to a capstan, but in this case power supplied by a horse walking around a circular platform (PLAT) was applied to an overhead winding drum; frequently used for winding from small shafts on Cornish mines, especially during exploratory work and shaft sinking. The smaller under-gear whims found in some 19th century farms were little used on mines

INCLINED PLANE

A slope laid with rails enabling wagons on a tramway or railway to be raised up a steep rise by rope or wire; powered by steam or gravity

JIG

A large mechanically or hand-operated sieve set in a tank of water using which ore could be separated by waste; sometimes constructed in groups within jigging houses

KIBBLE

A large, strongly-constructed, egg-shaped, iron container used for ore and rock haulage in earlier shafts. Superseded by SKIPS

LABYRINTH (colloquially 'lambreth')

A series of interconnected masonry-constructed chambers set adjacent to one another on whose walls the arsenic vaporised in a calciner or arsenic furnace was condensed out. The gas followed a zigzag path through such groups of chambers, and one end of each chamber would be closed off with a door using which the condensed arsenic could be collected

LAGGING BOARDS

The timber planks lining the upper part of a shaft, or where it ran through soft ground

LANDER

The mineworker who receives the ore kibble or skip at the top of a haulage shaft, also known as the 'banksman'

LAUNDER

A wooden or steel trough used to carry water or other liquids; often used to feed water or finely-divided material in suspension around a dressing floor

LEAT

An artificial water-course, built to carry a supply of water to a mine

LEVEL

A sub-horizontal tunnel driven to explore for valuable mineral, to remove the mineral, and/or for other purposes; alternatively a lode drive or heading

LINTEL

The horizontal timber or stone support above an opening in a wall or structure

LOADING

The masonry platform in front of an engine-house (or elsewhere on a mine) on which machinery such as cranks, flywheels or winding drums were mounted and on which the reciprocal motion of the sweep rod attached to the beam was turned into a rotative motion

LOBBY

The excavated cutting running up to an adit portal

LODE

A linear area of mineralization underground; in other parts of Britain termed a VEIN, or SEAM. Generally vertical or near-vertical, and often extending for considerable distances along its strike

LODE-BACK PIT

A shallow shaft dug from surface into shoad or the upper part (backs) of a lode, from which ore could be extracted from shallow stopes to the depth of the water table or just below. Waste material was generally dumped adjacent to the shaft mouth

MAGAZINE

Small strongly built store containing explosives (gunpowder or dynamite); often circular, sometimes with additional enclosing walls to contain the blast of an accidental explosion

MAN-ENGINE

A mechanical device used in mines to raise and lower men in a shaft using a system of platforms attached to a reciprocating rod extending the depth of the shaft

MINERAL LORD

The owner of the mineral rights to a SETT

MINeworkERS' SMALLHOLDINGS

Small plots of land, usually from 3-5 acres in extent, which were leased to miners on which to build a cottage and lay out fields

MISPICKEL

An ore of arsenic; also ARSENOPYRITE or MUNDIC

MUNDIC

An ore of arsenic

MELLIOR STONE

The granite bearing stone in which the upright shaft of a HORSE WHIM ran

MIDDLES

The material in a buddle found between the crop and the tailings, this generally containing enough ore to warrant its re-treatment

OCHRE WORKS

An ancillary industry which utilised the mining by-product ochre to produce a vivid red/brown dye, often used in the manufacture of cloth

OPENWORK or BEAM

A mineral extraction site open to the surface and similar to a quarry but usually distinguished by its elongated shape, and steep sides; generally applied to features broader in extent than a GUNNIS OR COFFIN; a variety is a STOCKWORKS, where an area of ground containing a large number of small parallel lodes was removed wholesale

ORE

A mineral or mixture of minerals which could be worked for sale

OVERBURDEN

The topsoil and subsoil removed in the process of opening or extending a quarry, streamworks or mine

PICKER

A mine surface worker, usually female, employed to hand-select copper ore during the dressing process. See BAL MAID. Term later applied to those employed to remove scrap and rubbish mixed with the ore on mechanically-operated picking belts

PELTON WHEEL

A small enclosed water turbine, working at high pressure and rotational speeds; in use from the later 19th century

PARE

A usually small group of mineworkers who through agreement work a particular area underground and share in the resulting costs and profit

PITWORK

The term used to describe the pump rods, rising main, shaft guides (buntons) etc. within a shaft

PLACER DEPOSITS

Glacial or alluvial deposits of sand or gravel containing eroded particles of valuable minerals

PORTAL

The entrance to an adit beyond its LOBBY; often timbered or stone vaulted

PROSPECTING PIT / FOSSICKING PIT OR COSTEANING PIT

A small pit dug in search of minerals, and almost always found in linear groups, often arranged cross-contour, or at right angles to the projected strike of known lodes or deposits of shoad. A COSTEANING TRENCH is a linear excavation cut for prospecting purposes

PUMP ROD

A continuous timber rod fitted in a shaft to drive underground pumps via its reciprocating action

PURSER

The treasurer and secretary of a mine who is responsible for the accounts and the payment of workers

RAG FRAME or RACK FRAME

An inclined table-like surface on which very fine slimes in slurry form were treated to recover their tin; large mines would have hundreds of such frames arranged in groups

RAISE

A vertical or angled tunnel mined upwards to connect with other workings, sometimes as the first stage in the development of a STOPE

REGULUS

The mass of metal, in an impure state, which forms in the bottom of the crucible during the smelting and reduction of ores

REVERBERATORY KILN

A design of furnace in which there was indirect contact between the heat from a hearth and ore to be roasted, usually by incorporating a baffle flue

ROCK DRILL

A machine for drilling shot holes in rock, usually powered by compressed air

ROPE-WALK

A linear strip of land set out to facilitate the braiding of long ropes intended for mining or maritime usage

ROSE

The cast-iron strainer attached to the bottom lift of pumps

ROTATIVE ENGINE

A beam engine in which the reciprocating motion of the beam was converted to rotary motion via a sweep rod, crank, and flywheel

ROUND FRAME

A timber constructed tin concentrating device with a rotating deck, employing water flow and gravity to separate fine tin ore from gangue or waste minerals; working on similar principles to the BUDDLE

SAFETY FUSE

A reliable means of detonating explosives which was developed in Cornwall by William Bickford in 1831; consisting essentially of a braided cord filled with gunpowder, safety fuse was later adopted by mines world wide

SETT

The legal boundary within which a mine could extract minerals

SETT

One of a series of stone supports for a tramway, performing the same function as sleepers

SETT

One of the components of timber framing of an adit where it ran through loose ground; also the timber framing of a shaft to which the shaft guides and LAGGING BOARDS were attached

SHAFT

A vertical or near-vertical tunnel sunk to give access to the extractive areas of a mine

SHAFT HEDGE

A surrounding safety wall, usually of stone rubble, constructed to prevent people or animals from falling down an open mine shaft

SHAKING TABLE

A slightly inclined, mechanically vibrated table on which fine tin (as sands or slimes) in suspension in water was concentrated by relative density

SHEARS or SHEAR LEGS

A tall timber frame carrying a pulley or sheave wheel erected in front of an engine house over a shaft and used for the installation and maintenance of PITWORK

SHOAD or SHODE

Ore weathered from the load and moved (in geological time) downslope under the force of gravity. Material reaching a river valley would be to some degree concentrated before redeposition in horizontal beds. These beds of detrital material (placer deposits) were exploited in streamworks

SKIP

A (generally elongated) iron or steel container equipped with small wheels or brackets running on the shaft guides (buntons) and used for rock and ore haulage in later mines

SOLLAR

A small boarded platform at the base of a ladder within a shaft, or within a STOPE or other working area underground

SPALLERS

Mine surface workers, usually female, employed in the dressing of copper ore to reduce the mineral to a size suitable for further processing; see BAL MAID

SPRING BEAMS

The pair of longitudinal timbers extending from the rear of an engine house parallel to and on either side of the BEAM at top floor level. These served to arrest any unwanted excess indoor motion of the beam via catches set onto its rear and were extended out from the front of the house to form the foundation for the bob-plat (the timber platform from which the bearings on the outdoor section of the beam could be serviced)

STACK

A chimney on an industrial site used to carry away smoke or fumes from boilers, furnaces and calciners; often situated at the end of a FLUE

STAMPS

A mechanical device for crushing ore-bearing rock to fine sand; heavy vertically-mounted beams (or later iron rods) carrying cast or forged iron heads were sequentially lifted and dropped onto the prepared ore beneath them by a series of cams mounted on a rotating drum; this usually being driven by a water-wheel or rotative steam engine

STANNARY

Pertaining to tin mines or miners and with its roots in the Latin 'stannum' (tin); the Stannary Parliament and Stannary Courts existed for the administration of justice among the tinner within Cornwall, Devon and elsewhere, and were also courts of record. The powers of the Stannary Parliament included the right to veto laws from the Parliament at Westminster and some claim that these powers have fallen into abeyance but have never been repealed

STOPE

Excavated area produced during the extraction of ore-bearing rock; often narrow, deep and elongated, reflecting the former position of the lode. Where open to the surface these form GUNNISES or COFFENS

STREAMWORKS

An area worked for detrital (redeposited) tin deposits by shallow excavation; often characterised by linear dumps, river diversion, and evidence for LEATs. Some streamworks (dryworks) exploited deposits of shoad in now dry valleys and on hillsides, where concentrations of this material were economically workable. Leats and reservoirs were necessary to work these sites, and are characteristic of them

STRIPS (settling strips)

Elongated shallow tanks in which the primary settlement and subsequent separation of tin ore from waste took place after it had been stamped

STULL

Timbers placed in the upper parts of levels or stopes to support the walls; or to form platforms to store waste rock, or to provide support for staging while working

SWEEP ROD

The elongated iron rod which connected the beam of a Cornish engine to a crank and fly wheel

TAILINGS

The waste sand and slime from a mine dressing floor, not containing workable quantities of mineral

TAILRACE

The channel along which water flows after having passed over or under a water-wheel and is then generally returned to the water course

TICKETINGS

Regular meetings, often weekly, for the purpose of selling refined ore

TIN MILL

See **DRESSING FLOORS**

TRAMROAD (or TRAMWAY)

A method of transportation for ore and materials at surface using iron plates or rails; similar to a modern railway and operated using either horse or locomotive power

TRIBUTE

A system of payment ('by results') in which groups of mineworkers bid against one another for contracts to work sections of the mine for a percentage of the value of the ore raised from that area

TUTWORK

A system of payment relating directly to the extent of ground broken or by depth of shaft sunk or length of level driven, whereby groups of mineworkers contracted to work at previously agreed rates

UNDERHAND

Describing a STOPE worked from the top downwards

UNDERLIE

Angle of inclination of a LODE or geological structure as measured from the vertical

VANNER

A person employed on the surface of a mine to check or assess the tin content at each stage of the refining process. The VANNING SHOVEL was used to test the relative concentration of ore in a sample of finely crushed ore or partially dressed ore

WATER-WHEEL

Wheel fitted with buckets or paddles around its periphery, and driven by the weight or force of a stream of water directed onto them

WHEAL also WHELE, WHILE, HUEL

A mineworking

WHEELPIT

A structure built to house a water-wheel, often excavated and stone-lined, but sometimes free-standing

WHIM

The winding gear used for hauling from a shaft; consists of a power source and a winding drum. See also HORSE WHIM

WHIM PLAT

The level and usually circular platform on which a HORSE WHIM was sited

WIND BORE

The cast-iron strainer attached to the bottom lift of pumps within the sump of an engine shaft

WINZE

A vertical or angled shaft mined downwards and not connecting to surface

Appendix 8.9

LIST OF OWNERSHIPS OR MANAGEMENT BODIES RESPONSIBLE FOR SOME OUV SITES

(A1) St Just Mining District

Cornwall Council - Geevor Mine

National Trust - most of the key coastal mining sites within this area including Botallack, manage a large proportion of the Levant Mine site on behalf of Cornwall Council

(A2) The Port of Hayle

Royal Society for the Protection of Birds - wildlife reserves in west Cornwall covering Carnsew Pool and Copperhouse Pool

Cornwall Trust for Nature Conservation - manage the Harvey's casting sand pits at St. Erth

Cornwall Council - Harvey's Foundry

(A3) Tregonning and Gwinear Mining Districts (A3i) with Trewavas (A3ii)

Cornwall Council - Binner Downs South Mine

National Trust - own Godolphin Hill, Godolphin Mine Count House, and Wheal Prosper and two small agricultural properties at Trenow and Venton Farm

(A4) Wendron Mining District

National Trust - Porkellis Moor

(A5) Camborne and Redruth Mining District (A5i) with Wheal Peevor (A5ii) and Portreath Harbour (A5iii)

Cornwall Council - substantial portions of the Red River from Roskear to Gwithian, and former mining land at West Wheal Seton, Roskear, Tolvaddon, Cooks Kitchen, Dolcoath, South Condurrow, West Basset and Newton Moor, the Basset Mines, Seleggan, Carn Brea, Tresavean, South Crofty and Tolskithy and leases parts of Grenville United, Wheal Uny and Buller Downs

National Trust - Trevithick's Cottage, Michell's Whim, the Taylor's Shaft site and the Robinson's Shaft pumping engine

(A6) Gwennap Mining District (A6i) with Devoran and Perran (A6ii) and Kennall Vale (A6iii)

Cornwall Council - parts of Carn Marth

Tregothnan Estate - Wheal Busy

Cornwall Wildlife Trust - Kennall Vale Gunpowder Works

(A7) St Agnes Mining District

Cornwall Council - Wheal Kitty, the lower part of Trevellas Coombe, St. Agnes Head, parts of Poldice and West Poldice, Cligga Head and Point Mills, Bissoe, as well as a number of unrelated development plots and industrial estates. It also leases part of Killifreth Mine near Chacewater

National Trust - own Wheal Coates and Chapel Porth, St. Agnes Head, St. Agnes Beacon, and Wheal Prudence

(A8) The Luxulyan Valley (A8i) and Charlestown (A8ii)

Cornwall Council - Luxulyan Valley

(A9) Caradon Mining District

Cornwall Council - Prince of Wales Shaft site, Phoenix United and Houseman's engine house, South Phoenix

(A10) Tamar Valley Mining District (A10i) with Tavistock (A10ii)

Cornwall Council - Kit Hill, Drakewalls Mine

Duchy of Cornwall - Drakewalls Mine, Prince of Wales Mine, Gunnislake Clitters Mine

Caradon District Council - an area on Hingston Downs and the course of the leat running from Higher Sherwell to Drakewalls

National Trust - Cotehele Estate

Morwellham Quay Ltd. - Morwellham Quay

Devon County Council - parts of Tavistock

West Devon Borough Council - parts of Tavistock

Tavistock Town Council - parts of Tavistock

South West Water - Tavistock Canal

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