



Chynalls Point, Coverack, Cornwall:  
Archaeological Watching Brief for  
Loess Sampling





# **Chynalls Point, Coverack, Cornwall:**

## **Archaeological Watching Brief for Loess Sampling**

<b>Client</b>	<b>Dr Thomas Stevens</b>
<b>Report Number</b>	2019R067
<b>Date</b>	<b>September 2019</b>
<b>Status</b>	Draft
<b>Report author(s)</b>	<b>Catherine Parkes BA MCIfA</b>
<b>Checked by</b>	<b>Andy Jones</b>
<b>Approved by</b>	<b>Andy Jones</b>
<b>Project number</b>	146962
<b>Site code</b>	N/A
<b>Data location</b>	\\CAU\Archive\Sites\C\Chynalls Point loess sampling WSI and WB 146926
<b>Historic England / ADS OASIS online reference</b>	cornwall2-369391
<b>Planning reference</b>	N/A

The project's documentary, digital, photographic and drawn archive is maintained by Cornwall Archaeological Unit.

### **Cornwall Archaeological Unit**

Cornwall Council

Fal Building, County Hall, Treyew Road, Truro, Cornwall, TR1 3AY

Tel: (01872) 323603

Email: [enquiries@cau.org.uk](mailto:enquiries@cau.org.uk) Web: [www.cau.org.uk](http://www.cau.org.uk)

## **Acknowledgements**

This study was commissioned by Dr Thomas Stevens and carried out by Cornwall Archaeological Unit, Cornwall Council.

At CAU Project Manager was Cathy Parkes. Other CAU staff kindly contributed to the project; Fiona Fleming, and James Gossip together with two work experience volunteers, helped with illustrations and GPS plotting, and Anna-Lawson Jones assessed (from photographs) the flint found embedded in the cliff nearby.

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

## **Freedom of Information Act**

As Cornwall Council is a public authority it is subject to the terms of the Freedom of Information Act 2000, which came into effect from 1st January 2005.



Cornwall Archaeological Unit is a Registered Organisation with the  
Chartered Institute for Archaeologists

### *Cover illustration*

Project site in cliff exposure on the east of the Scheduled cliff castle, Chynalls Point, after cleaning ready for sampling of the loess above stonier clayey deposits (2m scale).

### **© Cornwall Council 2019**

No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the prior permission of the publisher.

## **Contents**

<b>1</b>	<b>Summary</b>	<b>7</b>
<b>2</b>	<b>Introduction</b>	<b>10</b>
2.1	Project background	10
2.2	Location and setting	10
2.3	Scheduled Monument 1003103 Chynalls Point	10
2.4	Previous archaeological work	11
<b>3</b>	<b>Loess and colluvium deposit at sampling site</b>	<b>11</b>
<b>4</b>	<b>Loess sampling methodology and sequence</b>	<b>11</b>
4.1	Cleaning and cutting stepped vertical planes for sampling.	11
4.2	Proxy sampling	11
4.3	Luminescence and radio isotopes sampling	11
4.4	Anisotropic Magnetic Susceptibility (AMS) sampling	12
4.5	Single Grain Provenance sampling	12
<b>5</b>	<b>Archaeological Recording and Results</b>	<b>12</b>
5.1	Sampling site	12
5.1.1	Summary of direct impact of works	12
5.1.2	Watching brief recording	12
5.1.3	Summary of heritage resource	13
5.2	North of sampling site	13
<b>6</b>	<b>Concluding Remarks</b>	<b>13</b>
<b>7</b>	<b>References</b>	<b>13</b>
7.1	Primary sources (in chronological order)	13
7.2	Publications	14
7.3	Websites	14
	<b>Appendix 1: Written Scheme of Investigation</b>	<b>25</b>

## List of Figures

- Fig 1 Location map showing Chynalls Point projecting from the east coast of the Lizard.
- Fig 2 OS map of c1880 with sampling site indicated in blue and SM outlined in red.
- Fig 3 Map showing GPS surveyed position and extent of loess sampling work.
- Fig 4 Plan with GPS surveyed top (left) and bottom corners of stepped sample section.
- Fig 5 Aerial photograph of 2016 showing cliff castle with its ramparts, and SM in red.
- Fig 6 Low cliff at sampling site prior to works, with 2m scale, looking north along coast.
- Fig 7 Sampling site prior to works, 2m scale, looking west towards cliff castle interior.
- Fig 8 Site before works (left of centre, between small burrows), 2m scale, looking west.
- Fig 9 Site with cliff exposure cleaned forming 2 small steps, 50cm scale, looking north.
- Fig 10 Cleaned face scored at 5cm intervals for sampling, 50cm scale, looking west.
- Fig 11 Proxy sample cutting at 5cm vertical intervals, 40cm scale, looking north west.
- Fig 12 Proxy sampling, showing depth of this (c3cm), 40cm scale, looking north west.
- Fig 13 Inserting upper tube for luminescence sampling, 40cm scale, looking north west.
- Fig 14 Luminescence sample tube in place, scale bar division 10cm, looking north west.
- Fig 15 Top 4 luminescence sampling tubes in situ, 50cm and 40cm scales, looking west.
- Fig 16 All 6 luminescence sampling tubes, 50cm and 40cm scales, looking north west.
- Fig 17 Upper 4 luminescence sample tube holes, 50cm and 40cm scales, looking west.
- Fig 18 All 6 4 luminescence sample tube holes, 50cm and 40cm scales, looking west.
- Fig 19 AMS sampling cubes in place (behind hammer), 40cm scale, looking north west.
- Fig 20 AMS cubes, with luminescence sample hole (right), 20cm scale, looking west.
- Fig 21 Cliff exposure following all sampling works, 50cm and 40cm scales, looking west.
- Fig 22 Site following all sampling, 2m and 40cm scales, looking north (compare Fig 6).
- Fig 23 Flint in cliff c23m north of sample site, scale bar divisions 10cm, looking west.

## Abbreviations

AMS	Anisotropic Magnetic Susceptibility (analysis of loess deposit origin)
CAU	Cornwall Archaeological Unit
CIfA	Chartered Institute for Archaeologists
GPS	Global Positioning System (highly accurate plotting using satellite signal)
HE	Historic England
HER	Cornwall and the Isles of Scilly Historic Environment Record
NGR	National Grid Reference
NT	National Trust
OS	Ordnance Survey
SM	Scheduled Monument
SMC	Scheduled Monument Consent
WSI	Written Scheme of Investigation

# 1 Summary

In July 2019 Cornwall Archaeological Unit carried out an archaeological watching brief for sampling of loess to research the environment of the last glacial, at Chynalls Point, near Coverack, on the Lizard peninsula on the south coast of Cornwall. Chynalls Point is the site of a Scheduled Monument (List Entry no. 1003103), a promontory fort dating from the later prehistoric era, possibly the Iron Age (c 800 BC- AD 43), enclosed by earthworks running across the neck of the point. Watching brief was required by Historic England to provide for protection and recording of the Monument, as set out in a Written Scheme of Investigation and agreed through Scheduled Monument Consent.

The site is a low, quite soft cliff of sub-soil just above high water, with a small open, grassy coastal shelf above it, at the outer, east side of Chynalls Point, on National Trust land. This is a relatively small yet generally steep and prominent headland, topped with rocky carns and with other outcrops on its slopes.

The works consisted of a sequence of small scale interventions including Proxy, Luminescence, Anisotropic Magnetic Susceptibility, and Single Grain Provenance sampling. Altogether the result of the works, in terms of physical impact on the Scheduled cliff castle, was a cut measuring 0.45m north-south along the cliff exposure, by up to 0.7m maximum east-west into the cliff, and 1.25m from its top on the ground surface to bottom. The cliff is subject to active erosion by the sea, likely to cause, in the course of a year, loss of a volume of material similar to that removed in the course of the sampling, potentially all along this exposed outer end of the SM.

The site showed no indication of past human activity other than being located in a former coastal field appearing on the OS map of c1880. The topsoil at the site is very thin and contained no exposed pottery or other remains in the whole of the cliff around the east end of the Point. It is possible that the field here was used as coastal rough pasture rather than cultivated.

At the sampling site, below the shallow turf, the subsoil extended downwards to the top of the beach only c2m below, an accumulation of small to medium sized rocks fallen from the cliff and or boulders thrown up by the sea. The section showed a pale creamy brown clayey sub-soil, free of stones apart from a few in the lower 0.2m of the cut. No archaeological layers, cuts or other features or finds were visible.

Initial indications were that the material sampled would be interpreted geologically as primary loess (with darker colouration at around 0.5m from the surface possibly because of higher water content) and possibly loess-derived colluvium below c0.8m from the ground surface.

The watching brief enabled the sampling work to be plotted accurately; quantified its limited direct effect on the Scheduled Monument; recorded the various methods and impacts involved in this; and confirmed that no archaeological remains were disturbed. As no archaeological deposits were found the section was recorded by photography rather than drawing as envisaged in the WSI.

In the course of examining the cliff prior to selection of the exact site for sampling, a flint was observed *in situ* in the exposure 22.8m to the north of the position fixed for the work, protruding from the cliff face at a depth of 0.2m from the ground surface. This is identified (as far as possible using photographs since it was left undisturbed) as a primary waste flake on a locally derived pebble, undated, but prehistoric.

The flint to the north was not closely examined, being left *in situ*, but represents a trace of early settlement-related activity. Potentially the section there could be recorded, together with the flint, and related to the sampled section and so to the dating and environmental results to be produced by the sampling in due course. This potential is vulnerable to loss, as the site is subject to continuing coastal erosion.



Fig 1 Location map showing Chynalls Point projecting from the east coast of the Lizard.

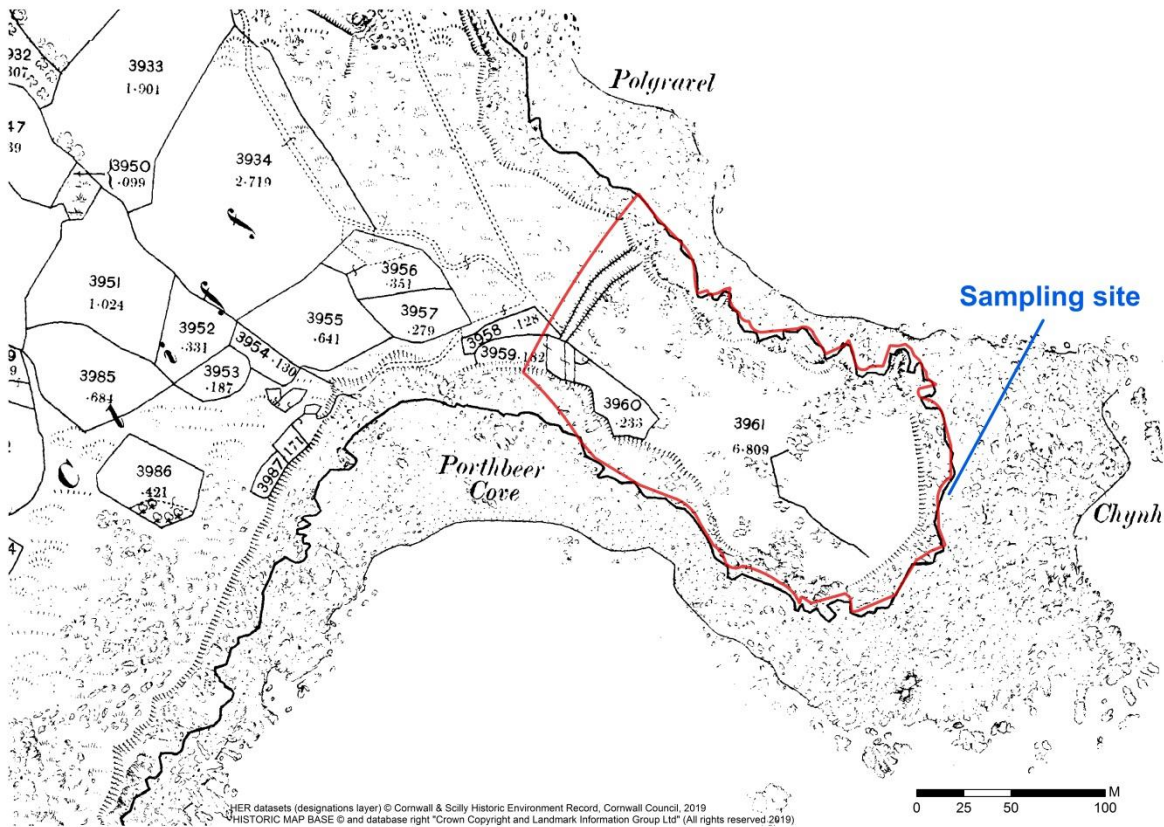


Fig 2 OS map of c1880 with sampling site indicated in blue and SM outlined in red.



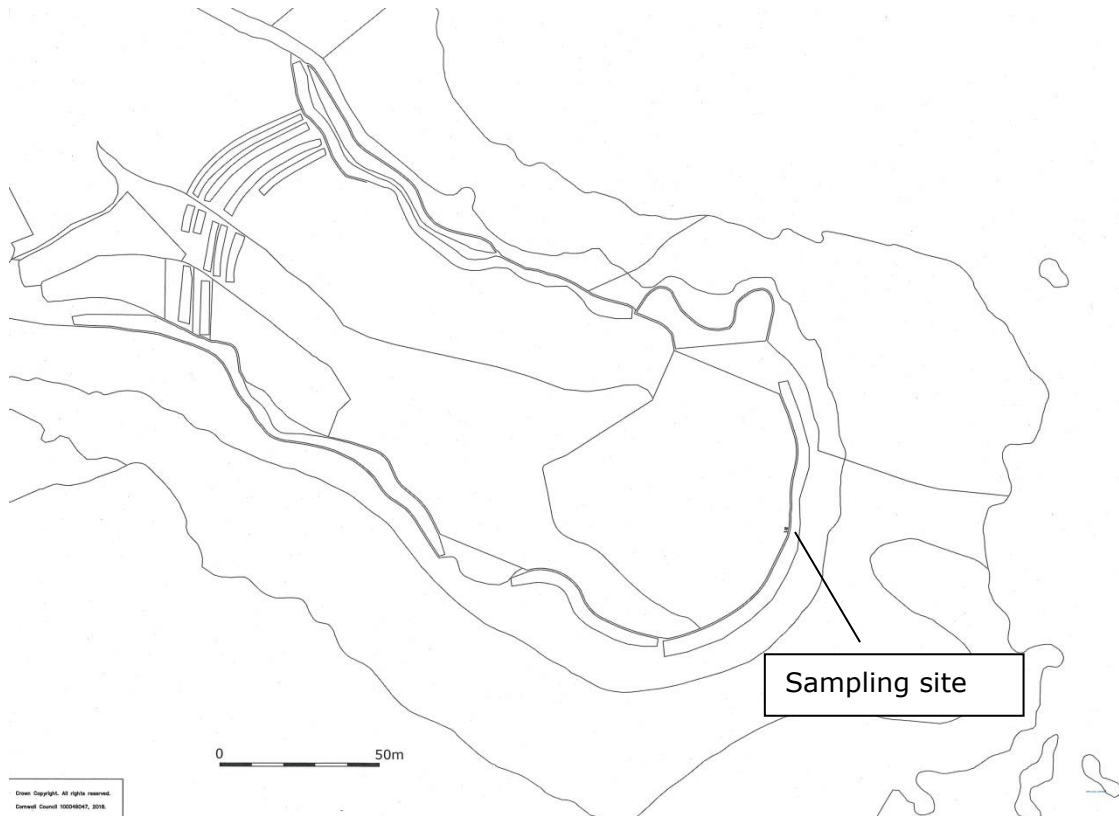


Fig 3 Map showing GPS surveyed position and extent of loess sampling work.

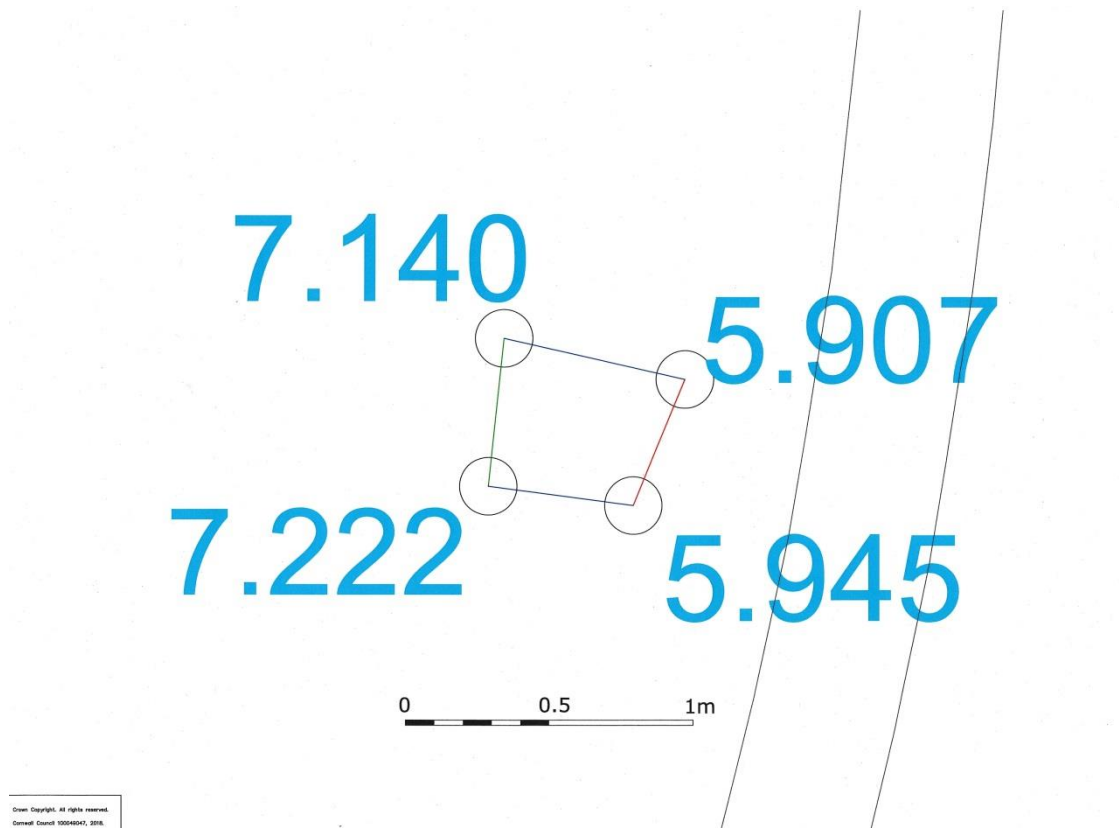


Fig 4 Plan with GPS surveyed top (left) and bottom corners of stepped sample section.

## **2 Introduction**

### **2.1 Project background**

On July 23rd 2019 Cornwall Archaeological Unit carried out an archaeological watching brief covering small-scale ground disturbance entailed in sampling of loess (ancient windblown dust deposits) by Dr Thomas Stevens of Uppsala University, Sweden, at Chynalls Point, Coverack. The sampling will inform research on when loess deposition occurred during the last glacial, whether its timing differed in different regions, and if there were multiple 'pulses' of dust activity or just a single phase; and further understanding of the timing and extent of late Quaternary ice lobe and sea level movements and past environmental conditions (client's research case documentation).

The archaeological work was required by Historic England (HE) to provide for the protection and recording of the affected site, which forms part of a Scheduled Monument (HE List Entry no. 1003103), as set out in a Written Scheme of Investigation, or WSI, reproduced here as Appendix 1 and agreed through the Scheduled Monument Consent (SMC) process. (The place-name Chynalls is sometimes spelled Chynhalls: the version of it adopted for the Scheduling documentation is used here.)

### **2.2 Location and setting**

The loess sampling site at NGR SW 78633 17415 is located at Chynalls Point, on National Trust (NT) land, near Coverack in St Keverne parish, in the Lizard district on the south coast of west Cornwall (Figs 1 – 3). Chynalls Point is a quite small yet steep and prominent headland, topped with rocky carns and with other outcrops on its slopes (Fig 5). The Scheduled Monument taking in the Point is a prehistoric promontory fort, or cliff castle as these sites are known in the region (see further Section 2.3).

The site lies just above sea level, close to maximum high water mark, on the exposed low cliff of a small open, grassy coastal shelf on the east side of Chynalls Point (cover photograph). In this area bedrocks are the Upper Hornblende Schists (Bristow 1996, 69) and the soils are of 'typical stagnogley' type (Soil Survey of England and Wales). On the site itself, the rock is a localised serpentinite, greeny or bluish grey depending on its weathering (Thomas Stevens, pers comm), and topsoil is very thin, perhaps due to exposure to natural erosion.

### **2.3 Scheduled Monument 1003103 Chynalls Point**

As described in in Historic England Scheduling documentation (1003103), Chynalls is a good example of a promontory fort, a rare type of high-status site enclosed by ramparts across its neck, used for settlement and related activities within as shown by evidence from similar sites for timber- and stone- walled round houses and other structures. Promontory forts elsewhere in the region date to the Iron Age (c800 BC – AD 43) although evidence for earlier activity has been found in excavations at some sites such as Trevelgue Head on the north coast of Cornwall (Nowakowski and Quinnell 2011).

Like other relatively undisturbed cliff castles, Chynalls Point has upstanding ramparts enclosing it (Fig 5). Here, two rampart banks with an intermediate ditch run cross the narrowest part of the headland. The outer bank is up to 1m high and the inner, with partial stone revetment, is up to 2.6m high. The original entrance was probably at the centre of these ramparts.

Within these defining earthworks Chynalls Point is expected to contain buried archaeological and palaeoenvironmental evidence relating to its past construction, longevity, territorial significance, social organisation, trade, agricultural practices, domestic arrangements, reuse and landscape. Also on the Point, within the Scheduling, are several later features, notably a reinforced concrete pillbox manned by the Home Guard in the Second World War.

## **2.4 Previous archaeological work**

Chynalls Point together with other monuments on the Lizard has benefitted from scrub clearance by a local archaeological volunteers group (Preston-Jones and Straffon 2010, 28-29). No other archaeological interventions are indicated here in the HER and accompanying events record.

It is understood that a stone ball resembling a prehistoric sling shot, preserved by the NT at Poltesco, was found during footpath works in 2019, at steps c50m outside the ramparts of the cliff castle (Coverack Village website). This illustrates potential for highly significant deposits below ground in the area including the Scheduling.

## **3 Loess and colluvium deposit at sampling site**

The works were sited, within the location on the west of Chynalls Point agreed through SMC, at the spot shown in Figures 3 and 4, where loess was clearly exposed and free of large stones, burrows or other indications of disturbance (Figs 6, 7 and 8).

The deposit investigated, identified provisionally through geological assessment in the field as both primary loess and colluvium (the distinction to be further analysed), was approximately 1.1m deep, extending down from the surface layer of turf and topsoil itself only round 0.1m thick.

## **4 Loess sampling methodology and sequence**

The geological work involved the following stages.

### **4.1 Cleaning and cutting stepped vertical planes for sampling.**

In preparation for the sampling, the naturally exposed face of the low, quite soft cliff at the site was cut slightly, to clean it of loose material, and create a vertical plane to allow samples to be extracted (Figs 4, 10 and 9). This was made with a 'step' roughly half way down it (around 0.75m from the ground surface), so forming, with minimum loss of cliff material, a vertical face (or rather 2 faces, offset at the step), allowing the target deposit to be sampled at known, regular intervals (horizontal line markers for which were lightly scored, 5cm apart, into the face).

The preparatory cut into the cliff was 0.45m wide (avoiding burrows to either side), ran down from the ground surface to a depth of 1.25m, and extended a maximum of 0.5m deep into the cliff face (at the bottom; the cut was mostly much shallower, its lateral depth being only around 4cm nearer its top).

### **4.2 Proxy sampling**

Samples for proxy analysis (including study of grain size and magnetic minerals) were collected at 5cm vertical intervals rising up the whole of the cleaned cliff exposure (Figs 11 and 12). The samples were less than 50g each and were taken simply by digging them out of the north side of the section into small bags.

### **4.3 Luminescence and radio isotopes sampling**

Luminescence samples were collected through hammering into the prepared surface a total of 6 open-ended steel tubes each 4cm in diameter and 0.15m long (Figs 13–18). The sampling points were at depths below the surface turf of 5cm, 0.3m, 0.5m, 0.75m, 0.95m, and 1.1m, and were dispersed across the prepared face of the exposure. Black plastic was used to plug the outer ends of the tubes (to keep samples together as well as to limit light exposure). Tubes were removed by tapping and pulling, leaving their holes unexpanded.

From inside the sampling holes, further, very small samples (each less than 60g/30ml) were taken to test for water content and radio isotopes.

#### **4.4 Anisotropic Magnetic Susceptibility (AMS) sampling**

Seven very small samples were taken for Anisotropic Magnetic Susceptibility (AMS) testing of orientation of particles, for analysis of direction of dust deposition (Figs 19 and 20). Seven plastic collection cubes were tapped into the sampling face on the 'step' c0.75m from the ground surface, in a row, and then levered out and labelled to show the position of the sample cube relative to the exposure.

This process, including cube box extraction, meant slight further disturbance to the cliff material behind the 'step', measuring approximately, altogether, only 20cm along the line of the cliff by 2cm by 2cm.

#### **4.5 Single Grain Provenance sampling**

A Single Grain Provenance sample was extracted from the centre of the sampling face, at a depth of 45cm from the surface, and collected into a bag, to investigate the spectrum of loess sources, identifying minerals and their age of formation (Fig 21). The small hole in the cliff made in digging out the material for this was no more than 10cm across and 3cm deep.

### **5 Archaeological Recording and Results**

#### **5.1 Sampling site**

##### **5.1.1 Summary of direct impact of works**

Overall the physical impact on the Scheduled cliff castle of the sequence of small scale sampling interventions (above) was a cut in the low natural cliff on its east measuring 0.45m north-south along the cliff exposure, by up to 0.7m maximum east-west into the cliff, and 1.25m from its top on the ground surface to bottom (Figs 21 and 22). Among the individual interventions, those more significant in terms of dimensions were;

- Preparatory cut 0.45m wide along the cliff face; running down to 1.25m deep from the ground surface prior to the works in a vertical cut with a step at 0.75m down; extension into the cliff being c4cm at the top of the cut increasing to 0.15m at the part-way step and 0.5m at its base.
- A partial slight increase to this in the form of a largely continuous shallow slot 0.15m wide and c3cm deep into the cliff, formed by the proxy sampling running down the north side of this preparatory cut.
- Further sampling holes reaching back into the cliff, no more than 20cm across and deep.

The quantity and relative freshness of material from the cliff lying along its base indicates that the sampling area is subject to active erosion by the sea, likely to cause, in the course of a year, a loss of a volume of material similar to that removed in the course of the sampling, potentially all along this exposed outer end of the SM.

##### **5.1.2 Watching brief recording**

The watching brief archaeologist monitored the sampling works throughout. As no archaeological deposits were found, the section was recorded by photography rather than drawing as envisaged in the WSI.

The site was inspected prior to any ground disturbance; no archaeological remains were visible on the surface or in the cliff exposure, which was almost wholly clear of vegetation and readily inspected. Following the cutting and of the cliff section for sampling, the surface was trowelled lightly to examine the material exposed and clean it further for photography.

The top and bottom of the sampling cut were recorded by GPS to enable them to be plotted accurately.

### 5.1.3 Summary of heritage resource

The site showed no indication of past human activity other than its location in a former coastal field no longer in use as such. This enclosure dates from the later 19th century, appearing on the OS map of c1880. It is not marked on the tithe apportionment survey for the parish of St Keverne, made c1840, which shows no features in this area. The topsoil at the site is very thin (c0.1m) and contained no exposed pottery or other remains in the whole of the cliff around the east end of the Point. It is possible that the field here was used as coastal rough pasture rather than cultivated.

At the sampling site, below the shallow topsoil and turf, only 10cm thick at most, the subsoil extended downwards to the top of the beach only c2m below, an accumulation of small to medium sized rocks fallen from the cliff and or boulders thrown up by the sea. The section showed a pale creamy brown clayey subsoil, free of stones apart from a few in the lower 0.2m of the cut. No archaeological layers, cuts or other features or finds were visible.

Initial indications were that the material sampled would be interpreted geologically as primary loess (with darker colouration at around 0.5m from the surface possibly because of higher water content) and possibly loess-derived colluvium below c0.8m from the ground surface. Small round holes (less than 0.5cm diameter) in the lower deposit appeared to be root holes, possibly relatively recent as a few displaced dried roots this size were visible on the rocks below.

## 5.2 North of sampling site

In the course of examining the cliff prior to selection of the exact site for sampling, a flint was observed *in situ* in the exposure 22.8m to the north of the position fixed for the work, protruding from the cliff face at a depth of 0.2m from the ground surface (0.1m below the shallow turf and soil).

Anna Lawson-Jones of CAU has identified the flint (as far as possible using photographs since it was left undisturbed) as a primary waste flake on a locally derived pebble, undated, but prehistoric (Fig 23).

## 6 Concluding Remarks

The watching brief enabled the sampling work to be plotted accurately; quantified its direct effect on the Scheduled Monument (a cut reaching to 1.25m down from the surface, 0.45m north-south along the cliff, and to a maximum of 0.7m into the cliff); recorded the various methods and impacts involved in this; and confirmed that no archaeological remains were disturbed.

The flint in the same low cliff to the north of the sampling site was not closely examined, being left *in situ*, but represents a trace of early settlement-related activity. There is potential for recording the section there together with the flint and relating this to the sampled section and so to the dating and environmental results produced by the sampling in due course. This potential is vulnerable to loss as the site is subject to continuing coastal erosion.

## 7 References

### 7.1 Primary sources (in chronological order)

Tithe Map and Apportionment, c1840. Parish of St Keverne (licensed digital copy at CRO)

Ordnance Survey, c1880. 25 Inch Map First Edition (licensed digital copy at CAU)

Ordnance Survey, MasterMap Topography

## **7.2 Publications**

Bristow, CM, 1996. *Cornwall's Geology and Scenery*, Cornish Hillside Publications: St Austell

Nowakowski, JA, and Quinnell, H, 2011. *Trevelgue Head, Cornwall* Cornwall Council

Preston-Jones, A, and Traffon, C, 2010. *Lizard Monitoring and Management*, Cornwall Archaeological Unit, Cornwall Council

Soil Survey of England and Wales, 1983. *Soils of England and Wales*, Sheet **5** South West England, Ordnance Survey: Southampton

## **7.3 Websites**

<http://www.heritagegateway.org.uk/gateway/> Online database of Sites and Monuments Records, and Listed Buildings

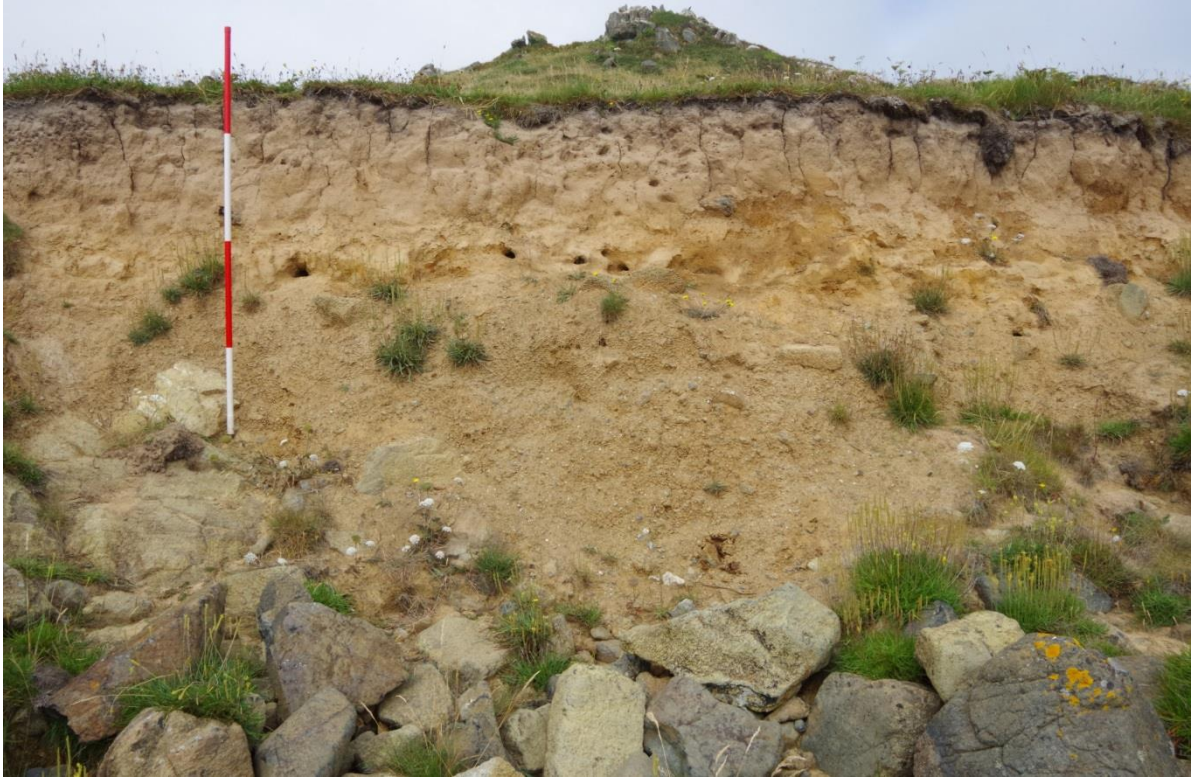
<https://coverack.org.uk/2019/09/17/sling-shot-found-at-chynalls-point> Coverack Village website, accessed 07 October 2019



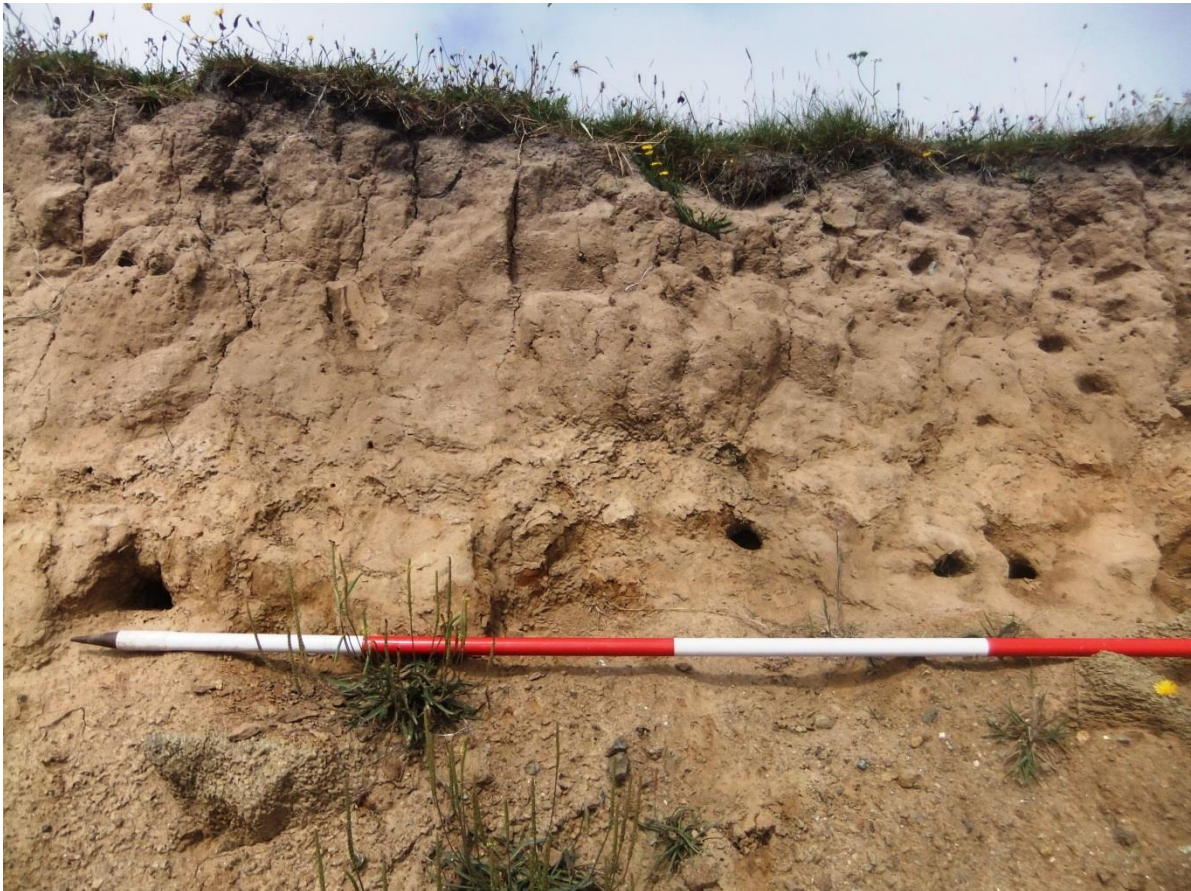
Fig 5 Aerial photograph of 2016 showing cliff castle with its ramparts, and SM in red.



Fig 6 Low cliff at sampling site prior to works, with 2m scale, looking north along coast.



*Fig 7 Sampling site prior to works, 2m scale, looking west towards cliff castle interior.*



*Fig 8 Site before works (left of centre, between small burrows), 2m scale, looking west.*





*Fig 9 Site with cliff exposure cleaned forming 2 small steps, 50cm scale, looking north.*



*Fig 10 Cleaned face scored at 5cm intervals for sampling, 50cm scale, looking west.*



Fig 11 Proxy sample cutting at 5cm vertical intervals, 40cm scale, looking north west.



Fig 12 Proxy sampling, showing depth of this (c3cm), 40cm scale, looking north west.



*Fig 13 Inserting upper tube for luminescence sampling, 40cm scale, looking north west.*



*Fig 14 Luminescence sample tube in place, scale bar division 10cm, looking north west.*



Fig 15 Top 4 luminescence sampling tubes in situ, 50cm and 40cm scales, looking west.

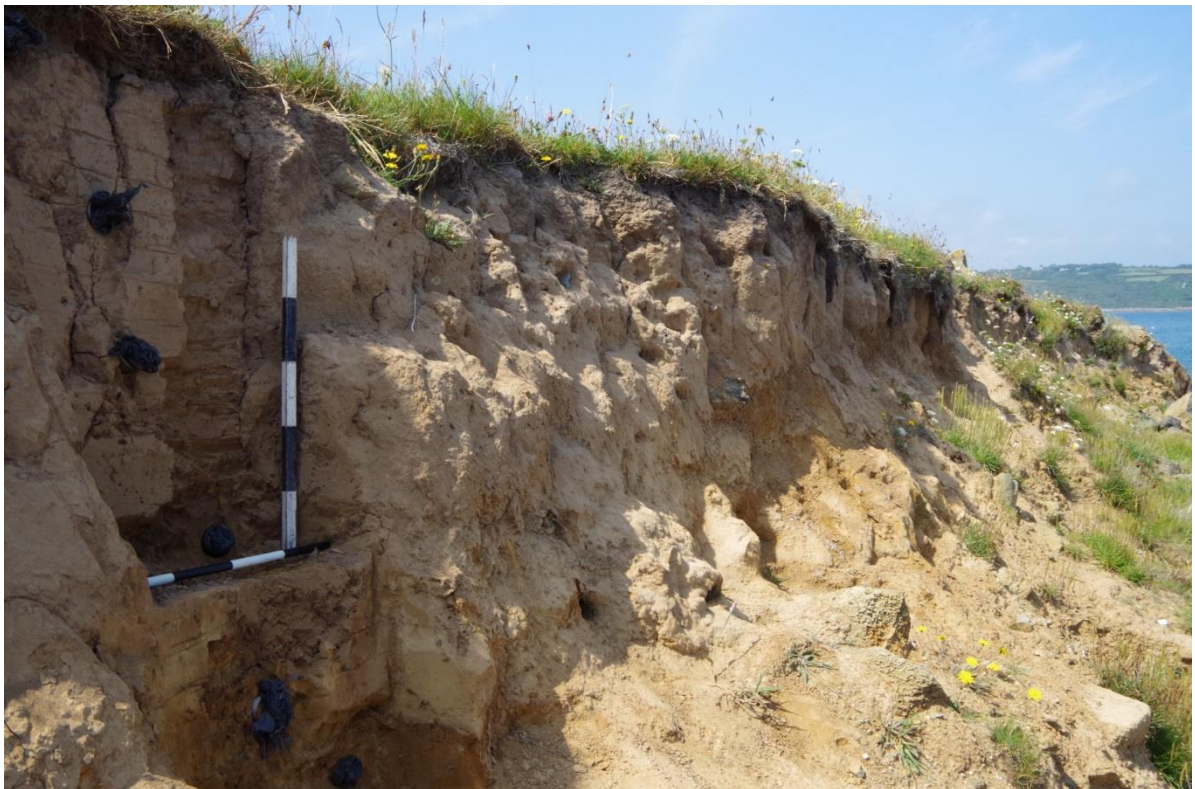


Fig 16 All 6 luminescence sampling tubes, 50cm and 40cm scales, looking north west.



Fig 17 Upper 4 luminescence sample tube holes, 50cm and 40cm scales, looking west.



Fig 18 All 6 4 luminescence sample tube holes, 50cm and 40cm scales, looking west.



Fig 19 AMS sampling cubes in place (behind hammer), 40cm scale, looking north west.



Fig 20 AMS cubes, with luminescence sample hole (right), 20cm scale, looking west.



Fig 21 Cliff exposure following all sampling works, 50cm and 40cm scales, looking west.



Fig 22 Site following all sampling, 2m and 40cm scales, looking north (compare Fig 6).



Fig 23 Flint in cliff c23m north of sample site, scale bar divisions 10cm, looking west.



## **Appendix 1: Written Scheme of Investigation**

### **Promontory fort at Chynalls Point, Coverack, Cornwall, loess sampling; Written Scheme of Investigation for watching brief**

Client: Dr Thomas Stevens

#### **Project background**

This document sets out a Written Scheme of Investigation (WSI) by Cornwall Archaeological Unit (CAU) for a programme of archaeological investigation for geological sampling work at Chynalls Point by Dr Thomas Stevens of Uppsala University, Department of Earth Sciences, Sweden. The sampling will inform study of the natural deposition of loess, an accumulation of wind-blown sediment from the end of the last Ice Age, c20-10 thousand years ago (details supplied in Scheduled Monument Consent application).

Chynalls Point lies on the south coast of Cornwall, east of the major headland of the Lizard which forms the most southerly land of Cornwall and the UK. A quite small but distinctive promontory, it was selected for the project because of its unusually thick loess deposit. It is an archaeological site of national importance, an Iron Age promontory fort, designated a Scheduled Monument (Scheduled Monument number CO 684; Historic England List Entry no. 1003103).

The loess investigation will be located at NGR SW 78650 17440, within the Scheduled Monument (SM). It involves ground disturbance, to extract small samples from a limited area of the fairly soft sediment exposed in the cliff face (Figs 1 and 2). As a result the project has required Scheduled Monument Consent (SMC) from Historic England (HE). SMC is granted (HE letter dated June 20<sup>th</sup> 2019) with conditions including the following principal archaeological requirements;

- (iv) *No works shall take place until the applicant has submitted a detailed method statement for the works to Historic England to inform the development of an appropriate programme of archaeological work under condition (v).*
- (v) *No works shall take place until the applicant has confirmed in writing the commissioning of a programme of archaeological work during the fieldwork in accordance with a written scheme of investigation which has been submitted to and approved by the Secretary of State advised by Historic England. This programme of work shall include recording of the locations of the samples and assessment of modern slope wash for the presence of artefacts washed from the main surface of the scheduled monument.*
- (vi) *Photographs to a scale and quality to be agreed in writing shall be prepared of the area(s) of the monument to be sampled before the start and after completion of the works and a set of the prints in digital format shall be sent to Historic England (Dr Helen Woodhouse) within 1 month of the completion of the works (or such other period as may be mutually agreed).*

#### **Extent of loess sampling**

The loess investigation will directly affect a single restricted area of the cliff edge, approximately 1m wide and 2m high, and extending into the cliff face (at the sampling points at intervals within this section) no more than 15cm (Figs 1 and 2). Equipment used will comprise a spade, chisel, knife, trowel and geological hammer. No drilling will be undertaken.



Fig 1 Client's map showing the SM (shaded red) with the sampling site on the east.

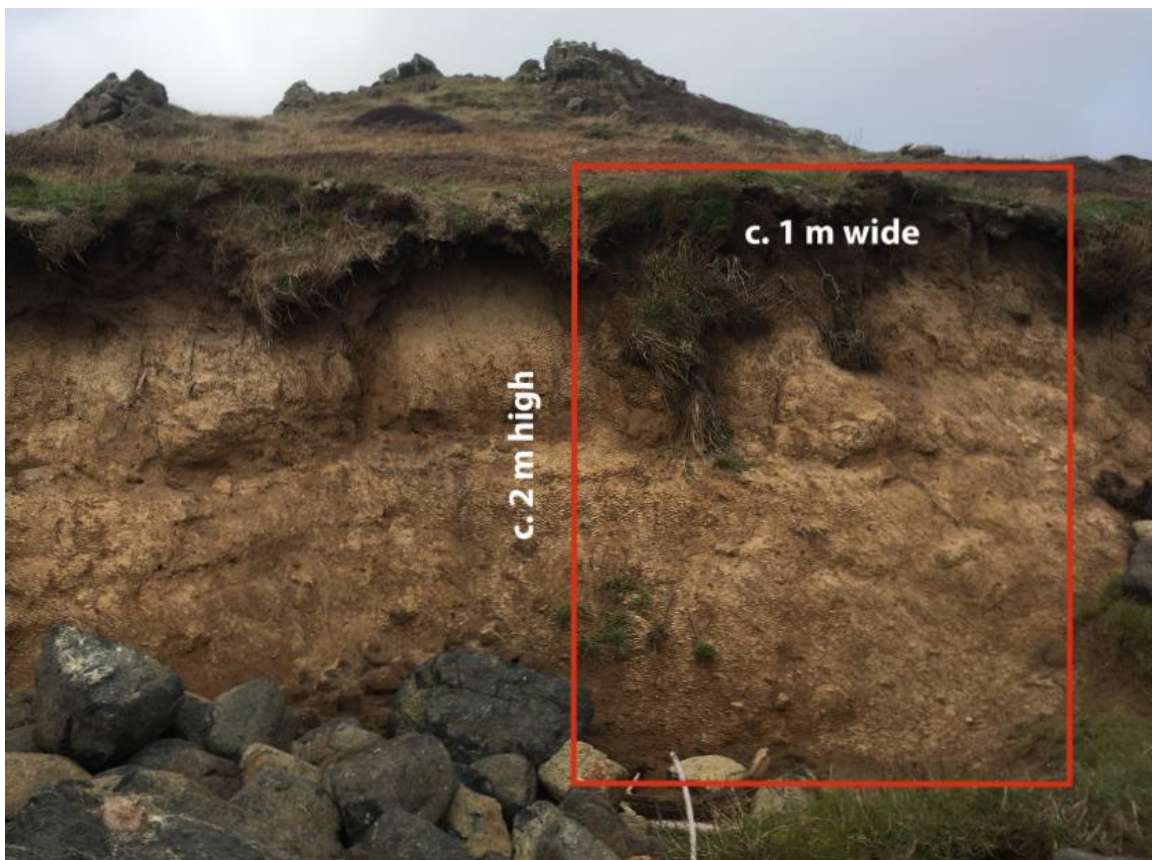


Fig 2 Client's photo of the cliff exposure, with the sampling site outlined in red.

## Summary of loess sampling methodology

The sampling will involve:

- Removing any modern slope wash or slumped material from the face of the loess at the cliff edge to obtain a clean surface (affecting the outer 5cm or so).
- Extracting, with chisel and knife, sediment samples of no more than 200g each (at intervals of 5cm).
- Sampling for luminescence dating, involving hammering small steel tubes into the exposure and then digging them out, taking care to minimise ground disturbance (at intervals of 10-20cm; tubes are 10cm long and c3cm in diameter).

## Heritage resource potentially affected by scheme

As described in the Scheduling, promontory forts (also known as cliff castles), are prominent rocky headlands enclosed by ramparts across their necks, used for settlement and related activities. They generally date from the Middle Iron Age, (sixth century BC to mid-first century AD). The fort at Chynalls survives well and will contain archaeological and environmental evidence relating to its construction, longevity, territorial significance, social organisation, trade, agricultural practices, domestic arrangements, re-use and overall landscape context.

During the Second World War a reinforced concrete pillbox manned by the Home Guard was erected at Chynalls Point overlooking the bay at Coverack.

The loess sampling will not affect the known earthworks of the fort here, that is, its large ramparts running across the narrowest part of the headland on the landward side – two banks, up to 2.6m high, and a ditch, with probable central original entrance. The work will have an effect on a small section of the interior of the fort, at its outer end which will however have extended further in prehistory, being subject to ongoing gradual coastal erosion.

The photograph of the site provided in the SMC application does not indicate archaeological remains here (Fig 2). However, the site could contain the following;

- Slight, unrecorded earthworks related to Iron Age settlement, or to later activity such as any cliff-edge pasture boundary or the known Second World War defence.
- Buried traces of the remains of Iron Age timber- and stone- walled round houses and other structures common to cliff castles, or associated deposits and artefacts.
- Buried soil or fill deposit with potential for palaeo-environmental analysis.

Initial cleaning of the cliff face will be superficial, sample extraction will be from this rather than ground level, and care will be taken to avoid localised crumbling of the face. As a result, disturbance of archaeology is considered unlikely; however, it is still possible, particularly as the cliff exposure material is relatively soft.

## WSI aims and rationale for proposed watching brief

The principal aim of the study is to contribute to the understanding and protection of the Scheduled promontory fort, Chynalls Point.

Key objectives are to:

- Promote the protection of the SM, avoiding any predictable significant adverse impact through loss of components of the archaeological resource.
- Ensure 'preservation through record' at an appropriate level of any prehistoric or otherwise important archaeological remains encountered.
- Provide for the contingency that complex early or otherwise highly sensitive remains are encountered.

It is understood that Ann Preston-Jones of HE will make a preliminary examination of the site, and agree adjustment of this if necessary to avoid any visible significant

archaeological remains (SMC application details). Therefore, the WSI is for watching brief to cover the subsequent works.

## **Watching brief working methods**

All recording work will be undertaken according to the Chartered Institute for Archaeologists (CIfA) guidance (CIfA 2014a; 2014b; 2014c; 2017). Staff will follow the CIfA *Code of Conduct* (2014d). The Chartered Institute for Archaeologists is the professional body for archaeologists working in the UK.

## **Creation of the physical and digital archive**

Following review with the CAU Project Manager the results from the fieldwork will be collated as an archive.

This will involve the following:

- All finds, etc., will be washed, catalogued, and stored in a proper manner (being clearly labelled and marked and stored according to CAU guidelines).
- All records (drawings, context sheets, photographs, etc.) will be ordered, catalogued and stored in an appropriate manner (according to CAU guidelines).
- Any black and white negative film will be catalogued and deposited with the site archive.
- An entry in the Historic England/ADS OASIS online archive index will be completed.
- Correspondence relating to the project, the WSI, and a single paper copy of the report, will be stored in an archive standard (acid-free) documentation box.
- Record drawings will be stored in plastic wallets.
- Additional digital data will be filed (survey, external reports, etc.).

## **Archive deposition**

An index to the site archive will be created and the archive contents prepared for long term storage, in accordance with CAU standards.

- The CAU project archive will be deposited initially at ReStore PLC, Liskeard and in due course (when space permits) at Cornwall Record Office.
- Digital data will be stored on the Cornwall Council network which is regularly and frequently backed up.
- Digital data (CAU reports, external reports, survey data, geophysics data, digital photographs, etc.) forming part of the site archive will be supplied to the client to arrange deposition in a suitable archive repository.

CAU uses the following file formats as required for stored digital data:

- DOCX Word processed documents
- XLSX Spreadsheets
- PDF Exports of completed documents/reports/graphics
- JPG Site graphics and scanned information
- DNG or TIF Digital photographs
- DWG AutoCAD drawings, measured surveys
- MXD ArcView GIS (electronic mapping) data
- AI Adobe Illustrator graphics

## **Pre-fieldwork**

In advance of the fieldwork CAU, will discuss and agree with the client:

- Working methods and programme.
- Health and Safety issues and requirements.
- Transfer of Title for artefacts.

## Desk-based assessment

A brief desk-based assessment will be carried out to inform the fieldwork stage, informed by CIfA's guidance on undertaking desk-based assessment (CIfA 2017). This will produce a base map for recording on site, incorporating evidence from historic maps (principally the 1<sup>st</sup> and 2<sup>nd</sup> Editions of the OS 25 inch maps of c1880 and c1907), together with modern maps and Cornwall Historic Environment Record and GIS data accessible to CAU.

## Fieldwork: watching brief

Prior to any ground disturbance, before and after the cleaning of the cliff exposure, the archaeologist will record the exposure and ground surface through scaled photographs as appropriate (see Recording, below, for details of photography).

Archaeological watching brief will be conducted on the site throughout the ground disturbing works, and will be guided by CIfA's guidance on undertaking watching briefs (CIfA 2014b).

All groundworks which might potentially contain archaeological features will be undertaken under continuous archaeological supervision. This will include the cleaning of the cliff face, sample collection, any removal of soil, or other activities which would disturb the present ground level or cliff face. Should archaeological features be revealed, the archaeologist will clean these by hand trowelling to determine their significance prior to either their recording or further excavation. The client will allow reasonable time for the excavation and recording of any features thus revealed.

In the event that archaeologically significant features are revealed further excavation and recording may be required as follows:

- In the eventuality that features are exposed, these will be excavated as necessary to evaluate their significance and phasing (in the case of large numbers of very small features such as stakeholes a sampling strategy may be adopted).
- Larger discrete features (pits >1m) will be half-sectioned.
- Linear/curvilinear features will have 1m wide sections excavated, where practical, in sufficient quantity to evaluate the feature.

(See below for treatment of any human remains encountered.)

If highly complex and/or significant archaeological deposits are encountered then the archaeological requirements will be reviewed by the client, Historic England, and CAU.

**In the event that remains cannot be preserved *in situ* then full-scale excavation may subsequently be required.** A contingency should be allowed to record any significant archaeological remains uncovered during the groundworks. The significance of the remains will be agreed between the client, the Inspector of Ancient Monuments (IAM) on behalf of Historic England, and CAU.

## Recording

During the archaeological recording the archaeologist will:

- Identify and record any archaeological features that are revealed; the level of recording will be appropriate to the character/importance of the archaeological remains.

- Produce site drawings (plans and sections) made by pencil (4H) on drafting film; all drawings will include standard information: site details, personnel, date, scale, north-point.
- Locate the sampling site and all features and finds accurately at an appropriate scale.
- Describe all archaeological contexts using a standard format linked to a continuous numbering sequence.
- Record significant features (or absence of these), method and progress of sampling, and 'before and after' views of the site as necessary by colour photography using a digital SLR camera (with a resolution of 10 million pixels or higher; CAU will follow Historic England's 2015 guidance on digital image capture and storage), or black and white negative photography using an SLR camera. A metric scale, site and context identifier, and a north arrow where appropriate, will be included in all record shots.

### **Treatment of human remains**

- It is considered unlikely that human remains will be encountered. Should any be found, the presumption is that they will be excavated, removed and treated in accordance with Historic England guidance, updated as ethics and standards evolve in this highly sensitive area of archaeological practice.
- If human remains are discovered within an archaeological context on the site the client, Historic England, and Public Health, Cornwall Council will be informed.
- A coroner's license must be obtained from the Ministry of Justice before any remains are disturbed.
- Any consents or licenses required will be obtained on behalf of the client by CAU.
- If human remains are uncovered, they will be excavated with due reverence. The methodology used will follow that outlined in published guidance (Advisory Panel on the Archaeology of Burials in England 2017; Historic England online guidance); while the presumption of non-disturbance of such remains in the 2017 publication has been reviewed as noted in the first bullet point above, the standards set out there for their excavation (Annex 53, points 221-225) will apply. Remains will not be exposed to public view, the site being adequately screened. CAU will ensure respectful treatment, stratigraphic excavation, accurate location and detailed context recording of all remains.

### **Treatment of finds**

The fieldwork is likely to produce artefactual material. The following recording and retention policies will be followed:

- In the event that objects containing precious metal(s) are encountered, the coroner will be informed as per the provisions of the Treasure Act 1996.
- Significant finds in stratified contexts will be plotted on a scaled base plan or with a Leica GPS unit and recorded as small finds.
- All finds will be collected in sealable plastic bags which will be labelled immediately with the site code, the context number or other identifier, the type of material, and the finder's initials. The only exception to this policy will be that large assemblages of modern (post-1800) material may be representatively sampled.
- Modern (post-1800) finds may be disposed of at the cataloguing stage. This process will be reviewed ahead of its implementation.

### **Treatment of samples**

The fieldwork may produce environmental samples, should sealed deposits such as pit fills occur. The following collection, recording and processing policies will be followed:

- Sealed/undisturbed archaeological contexts in the form of buried soils, layers or deposits within significant archaeological features that have the potential to

contain palaeoenvironmental evidence and/or material suitable for scientific dating will be sampled.

- Where bulk samples are taken a minimum of 40 litres will be sampled from these deposits where feasible.
- In the event that significant organic remains are encountered, advice may be sought from the Historic England Regional Advisor for Archaeological Science.
- All samples will be described to a standard format linked to a continuous numbering sequence.
- Bulk samples will be processed using flotation with appropriate mesh sizes.

## Reporting

The results from the project will be drawn together and presented in a concise report. The scope of the report will be dependent on the scale and significance of the results from the project. In the case of negative results the findings will be presented in a CAU short report format. In the case of limited results the findings will be presented in a concise archive report. Which type of report is most appropriate will be agreed by the client and Historic England at the conclusion of the fieldwork stage.

In the case of significant and/or extensive results a post excavation assessment report will be produced in accordance with Cifa's guidelines for post-excavation assessment (2014c). This will include a summary of the site archive and work carried out for assessment, a discussion of the potential of the data, and an updated project design (UPD) setting out proposals for analysis and publication.

The report will include the following elements:

- Summary
- Project background
- Aims and objectives
- Methodology
- Location and setting
- Archaeological results, including site history and dating evidence
- Conclusions
- References
- Project archive index
- Supporting illustrations: location map, historic maps, plans, elevations/sections, photographs.

## Timetable

CAU will require at least 2 weeks' notice before commencement of work, in order to allocate field staff and arrange other logistics.

The archive report will be completed within 3 months of the end of the fieldwork. The deposition of the archive will be completed within 3 months of the completion of the archive report.

## Monitoring and Signing Off Condition

Monitoring of the project will be carried out by Historic England. Where HE is satisfied with the archive report and the deposition of the archive, written discharge of the planning condition will be expected.

- Historic England will monitor the work and should be kept regularly informed of progress (in addition to requiring application for Scheduled Monument Consent).
- Notification of the start of work shall be given preferably in writing to the Historic England at least one week in advance of its commencement.
- Any variations to the WSI will be agreed with Historic England in writing, prior to them being carried out.
- If significant detail is discovered, all works must cease and a meeting convened with the client and Historic England to discuss the most appropriate way forward.

Monitoring points during the study will include:

- Approval of the WSI
- Completion of fieldwork
- Completion of archive report
- Deposition of the archive

## References

Advisory Panel on the Archaeology of Burials in England, 2017. *Guidance for Best practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England* 2nd Ed

CIfA, 2014a. *Standard and guidance for archaeological field evaluation*, CIfA, Reading

CIfA, 2014b. *Standard and guidance for an archaeological watching brief*, CIfA, Reading

CIfA, 2014c. *Standard and guidance for archaeological excavation*, CIfA, Reading

CIfA, 2014d. *Code of Conduct*, CIfA, Reading

CIfA, 2017. *Standard and guidance for historic environment desk-based assessment*, CIfA, Reading

Historic England 2015. *Guidance note on Digital Image Capture and File Storage*, Historic England, Swindon

### Website

<https://historicengland.org.uk/.../human-remains-advice>





## **Cornwall Archaeological Unit**

Fal Building, County Hall, Treyew Road, Truro,  
Cornwall  
TR1 3AY



(01872) 323603  
[enquiries@cau.org.uk](mailto:enquiries@cau.org.uk)  
[www.cau.org.uk](http://www.cau.org.uk)

