

# **LLANGRANNOG SEWER OUTFALL, CEREDIGION: ARCHAEOLOGICAL WATCHING BRIEF**

## **JANUARY 2011**



Prepared by Dyfed Archaeological Trust  
For: Morgan Sindall Plc



ymddiriedolaeth archaeolegol  
**DYFED**  
archaeological trust

## DYFED ARCHAEOLOGICAL TRUST

RHIF YR ADRODDIAD / REPORT NO. 2012/14  
RHIF Y PROSIECT / PROJECT RECORD NO. 102641

Mawrth 2012  
March 2012

# LLANGRANNOG SEWER OUTFALL, CEREDIGION: ARCHAEOLOGICAL WATCHING BRIEF

Gan / By

**Hubert Wilson**

*Paratowyd yr adroddiad yma at ddefnydd y cwsmer yn unig. Ni dderbynnir cyfrifoldeb gan Ymddiriedolaeth Archaeolegol Dyfed Cyf am ei ddefnyddio gan unrhyw berson na phersonau eraill a fydd yn ei ddarllen neu ddibynnu ar y gwybodaeth y mae'n ei gynnwys*

*The report has been prepared for the specific use of the client. Dyfed Archaeological Trust Limited can accept no responsibility for its use by any other person or persons who may read it or rely on the information it contains.*



**INVESTOR IN PEOPLE**  
**BUDDSODDWR MEWN POBL**

Ymddiriedolaeth Archaeolegol Dyfed Cyf  
Neuadd y Sir, Stryd Caerfyrddin, Llandeilo, Sir  
Gaerfyrddin SA19 6AF  
Ffon: Ymholiadau Cyffredinol 01558 823121  
Adran Rheoli Treftadaeth 01558 823131  
Ffacs: 01558 823133  
Epost: [info@dyfedarchaeology.org.uk](mailto:info@dyfedarchaeology.org.uk)  
Gwefan: [www.archaeolegdyfed.org.uk](http://www.archaeolegdyfed.org.uk)

*Dyfed Archaeological Trust Limited*  
*The Shire Hall, Carmarthen Street, Llandeilo,*  
*Carmarthenshire SA19 6AF*  
*Tel: General Enquiries 01558 823121*  
*Heritage Management Section 01558 823131*  
*Fax: 01558 823133*  
*Email: [info@dyfedarchaeology.org.uk](mailto:info@dyfedarchaeology.org.uk)*  
*Website: [www.dyfedarchaeology.org.uk](http://www.dyfedarchaeology.org.uk)*

*Cwmni cyfyngedig (1198990) ynghyd ag elusen gofrestredig (504616) yw'r Ymddiriedolaeth.*  
*The Trust is both a Limited Company (No. 1198990) and a Registered Charity (No. 504616)*  
**CADEIRYDD CHAIRMAN: C R MUSSON MBE B Arch FSA MIFA.**  
**CYFARWYDDWR DIRECTOR: K MURPHY BA MIFA**

**LLANGRANNOG SEWER OUTFALL, CEREDIGION:  
ARCHAEOLOGICAL WATCHING BRIEF**

**CONTENTS**

|  |           |
|--|-----------|
| <b>SUMMARY</b>   | <b>1</b>  |
| <b>1. INTRODUCTION</b>   | <b>2</b>  |
| <b>1.1 Project Commission</b>  | <b>2</b>  |
| <b>1.2 Scope of the Project</b>  | <b>2</b>  |
| <b>1.3 Report Outline</b>  | <b>2</b>  |
| <b>1.4 Abbreviations</b>   | <b>3</b>  |
| <b>1.5 Illustrations</b>   | <b>3</b>  |
| <b>1.6 Timeline</b>  | <b>3</b>  |
| <b>2. THE SITE</b>   | <b>5</b>  |
| <b>2.1 Location and Topography</b>   | <b>5</b>  |
| <b>2.2 Archaeological Background</b>   | <b>5</b>  |
| <b>3. METHODOLOGY</b>  | <b>7</b>  |
| <b>4. ARCHAEOLOGICAL WATCHING BRIEF RESULTS</b>  | <b>8</b>  |
| <b>4.1 Trial Pit A</b>   | <b>8</b>  |
| <b>4.2 Trial Pit B</b>   | <b>8</b>  |
| <b>4.3 Trial Holes C, D &amp; E</b>  | <b>8</b>  |
| <b>5. CONCLUSION</b>   | <b>9</b>  |
| <br><b>ILLUSTRATIONS</b>   |           |
| <b>Figure 1:</b> Location map of watching brief from the Ordnance Survey                               | <b>4</b>  |
| <b>Figure 2:</b> Location of trial-pits  | <b>6</b>  |
| <br><b>TABLES</b>  |           |
| <b>Table 1:</b> Archaeological and Historical Timeline for Wales                                       | <b>3</b>  |
| <b>Table 2:</b> Historic Environment Record entries within a 500m radius of the development area       | <b>5</b>  |
| <br><b>PHOTOS</b>  |           |
| <b>Photo 1:</b> Looking northwest down the Nant Hawen valley towards the sea. Postcard taken of 1913   | <b>10</b> |
| <b>Photo 2:</b> Looking north across Llangrannog beach. Postcard of 1911                               | <b>10</b> |
| <b>Photo 3:</b> Looking north across the beach, showing locations of Trial-pits A and B                | <b>11</b> |
| <b>Photo 4:</b> Looking south; trial-pit A. Sewer pipe lies beneath survey staff                       | <b>11</b> |
| <b>Photo 5:</b> Looking south; trial-pit B. In situ timber-shoring associated with existing sewer pipe | <b>12</b> |

- Photo 6:** Looking south; Trial-pit B. in situ timber-shoring associated with sewer pipe 12
- Photo 7:** Looking southeast along narrow corridor between base of Pen Rhip headland and rock outcrop. Trial-hole D being excavated 13

## **LLANGRANNOG SEWER OUTFALL, CEREDIGION: ARCHAEOLOGICAL WATCHING BRIEF**

### **SUMMARY**

*An archaeological watching brief was undertaken during trial-pitting undertaken in advance of the replacement of a sewer outfall on Llangrannog beach, Ceredigion. The aim of the test pitting was to determine the exact location and depth of the existing sewer outfall pipe*

*Due to the potential for archaeological remains to be present within the beach area, possibly associated with submerged peat beds or medieval and post-medieval evidence for the use of the beach as a port, it was recommended that an archaeological watching brief be undertaken during the excavation of the test pits. Dyfed Archaeological Trust Field Services was commissioned by Morgan Sindall Plc (the site contractors), on behalf of Dwr Cymru, to undertake the watching brief. A single visit to the site was made in January 2012 to observe the excavations.*

*The test pits revealed no archaeological remains or peat deposits either within the pits themselves, or in their edges. This may be due to any such remains being removed when the existing sewer pipe was constructed. The lack of peat deposits within the backfill of the existing sewer pipe construction trench would indicate that no such deposits were present in this part of the beach.*

*No evidence for the use of the beach as a port during the medieval or post-medieval periods was recorded. This may be due to all such evidence being located at the beach head (mooring rings etc). Any such remains could have been removed by tidal action.*

*The test pits excavated between the headland of Pen Rhip and the rocky outcrop unsurprisingly revealed bedrock at a shallow depth, covered by a thin layer of beach sands.*

## **1. INTRODUCTION**

### **1.1 Project Commission**

- 1.1.1 As part of a proposed upgrade to a sewer outfall pipe at Llangrannog, Ceredigion (NGR SN 3097 5422), Dyfed Archaeological Trust were commissioned to undertake an archaeological watching brief during the excavation of three test pits being excavated to locate the depth and exact whereabouts of the existing sewer outfall pipe.
- 1.1.2 It was considered that the proposed trial-pitting had the potential to disturb significant archaeological remains, including possible buried prehistoric peat deposits, medieval fish traps, wrecks or post-medieval and modern structures associated with maritime uses of the bay at Llangrannog. Both the archaeological advisor to Dwr Cymru and Cadw recommended that an archaeological watching brief be undertaken during the test pitting works to confirm the presence or absence of archaeological remains, the results of which would determine the need or otherwise for further archaeological mitigation at a later date.
- 1.1.3 Ms Debbie Brown, on behalf of Arup Ltd (working as Environmental consultants to Dwr Cymru), contacted Dyfed Archaeological Trust Field Services (DAT-FS) to undertake the archaeological watching brief during groundworks at the site. The Trust was commissioned by Morgan Sindall Plc, the engineers for the works.
- 1.1.4 The watching brief was intended to adequately record any significant archaeological features that may be encountered during the test pitting, thereby protecting the potential archaeological interests. A written scheme of investigation (WSI) was prepared by Dyfed Archaeological Trust Field Services prior to the works commencing.

### **1.2 Scope of the Project**

- 1.2.1 The project objectives as laid out in the WSI were:
  - *To monitor groundworks in order to identify the presence/absence of any archaeological deposits.*
  - *To establish the character, extent and date range for any archaeological deposits to be affected by the proposed groundworks.*
  - *To appropriately investigate and record any archaeological deposits to be affected by the groundworks.*
  - *To produce an archive and report of any results.*
- 1.2.2 One site visit was undertaken to the site during the trial-pitting (10<sup>th</sup> January 2012).

### **1.3 Report Outline**

- 1.3.1 This report describes the location of the site along with its archaeological background before summarising the watching brief results and the conclusions based on those results.

## 1.4 Abbreviations

- 1.4.1 Sites recorded on the Regional Historic Environment Record<sup>1</sup> (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Dyfed Archaeological Trust Field Services – DAT-FS; Written Scheme of Investigation – WSI

## 1.5 Illustrations

- 1.5.1 Record photographs are included at back of the report. Printed map extracts are not necessarily reproduced to their original scale and are illustrative only.

## 1.6 Timeline

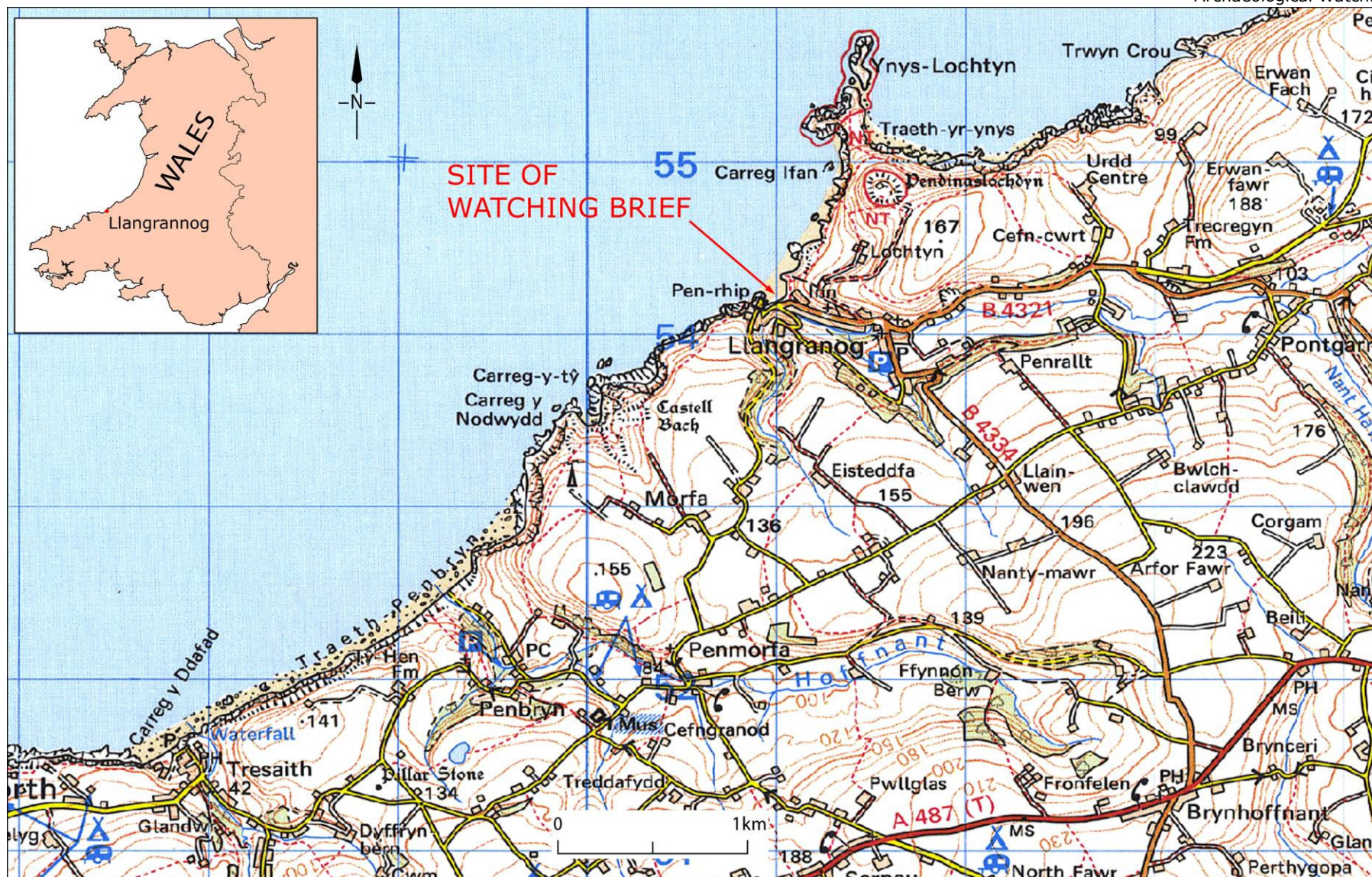
- 1.6.1 The following timeline is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text (Table 1).

| Period                               | Approximate date      |             |
|--------------------------------------|-----------------------|-------------|
| Palaeolithic –                       | c.450,000 – 10,000 BC | Prehistoric |
| Mesolithic –                         | c. 10,000 – 4400 BC   |             |
| Neolithic –                          | c.4400 – 2300 BC      |             |
| Bronze Age –                         | c.2300 – 700 BC       |             |
| Iron Age –                           | c.700 BC – AD 43      |             |
| Roman (Romano-British) Period –      | AD 43 – c. AD 410     | Historic    |
| Post-Roman / Early Medieval Period – | c. AD 410 – AD 1066   |             |
| Medieval Period –                    | 1066 – 1536           |             |
| Post-Medieval Period –               | 1536 – 1899           |             |
| Modern –                             | 20th century onwards  |             |

**Table 1:** Archaeological and Historical Timeline for Wales

<sup>1</sup> Held and managed by Dyfed Archaeological Trust, Shire Hall, Llandeilo, Carmarthenshire, SA19 6AF.





**Figure 1:** Location map of watching brief site from the Ordnance Survey.

Reproduced from the 2003 Ordnance Survey 1:50,000 scale Landranger Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, The Shire Hall, Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AF. Licence No AL51842A



## 2. THE SITE

### 2.1 Location and Topography

- 2.1.1 Llangrannog lies at the end of a narrow valley where Nant Hawen, its final 75m culverted and canalised, meets the sea (Figure 1). The gently sloping beach faces northwest and apart from a narrow strip of shingle at the top of the beach, it is mainly sand. Two streams enter the beach, the aforementioned Nant Hawen flows down the middle whilst Nant Eisteddfa skirts the cliff at the western edge. It is bounded in the east and west by high cliffs and to the south by a sea defence wall.
- 2.1.2 Silty mudstones of the Ordovician period represent the solid geology.

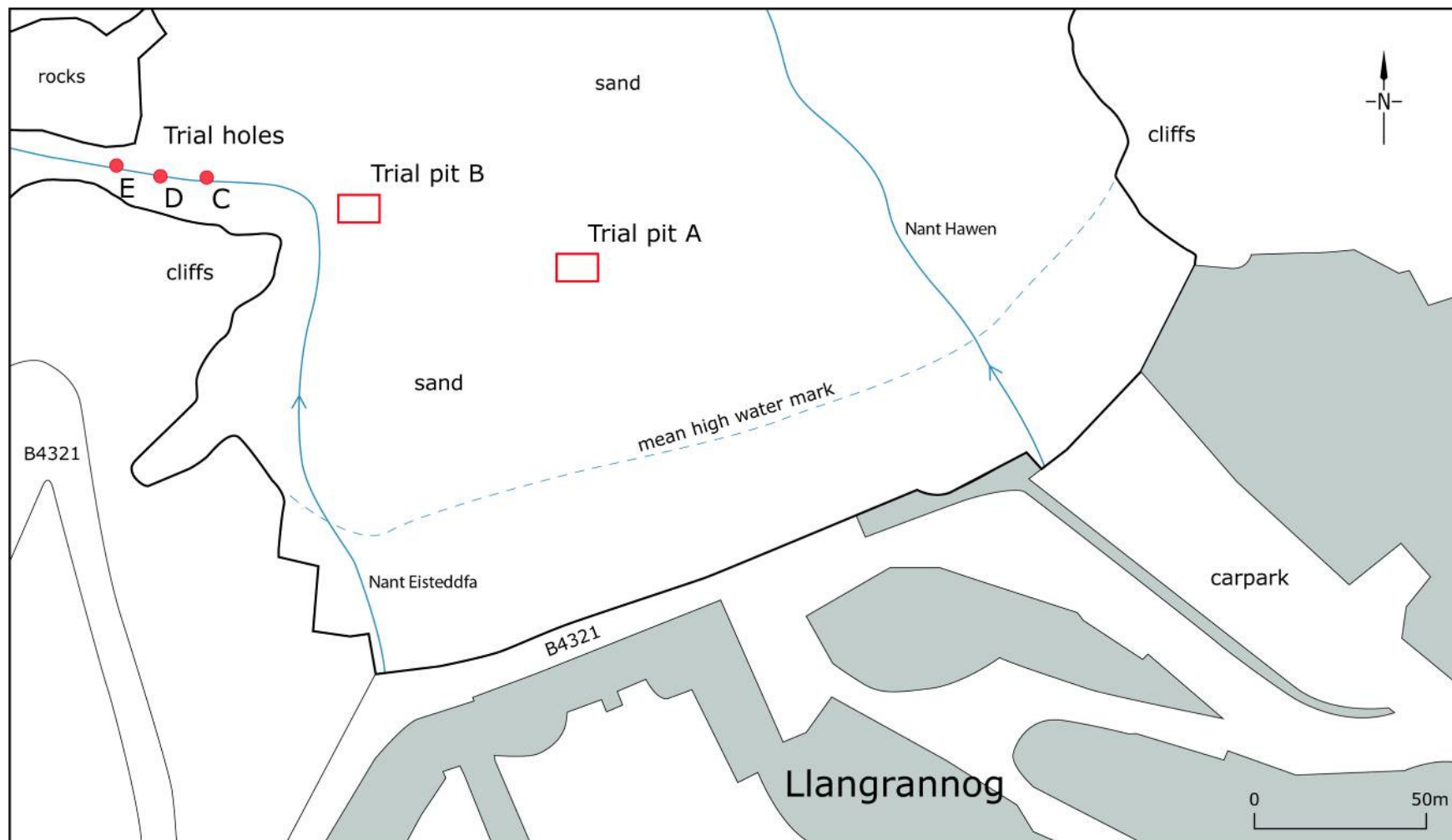
### 2.2 Archaeological Background

- 2.2.1. A search of the Regional Historic Environment Record (HER – held by Dyfed Archaeological Trust) records 12 known archaeological sites within 150m of the development area. These are shown in Table 2 below:

| PRN   | Site Name         | Grid Reference | Description  |
|-------|-------------------|----------------|--|
| 18062 | Pendinas Lochdyn  | SN 311 542     | Post-medieval quarry, cut into coastal slope   |
| 25505 | Llangrannog       | SN 309 541     | Post-medieval Lime kiln  |
| 30778 | Llangrannog       | SN 3107 5416   | Post-medieval Lime kiln  |
| 30779 | Llangrannog       | SN 3111 5419   | Post-medieval Lime kiln  |
| 32169 | Llangrannog       | SN 310 542     | Overall PRN FOR Llangrannog's post-medieval Port and maritime history which developed from the late 18 <sup>th</sup> century. There were shipyards (PRN 23520) the most important on the north beach |
| 32520 | Llangrannog beach | SN 310 542     | Post-medieval Shipyard   |
| 32521 | Llangrannog beach | SN 310 542     | Post-medieval Coal yard  |
| 32522 | Llangrannog       | SN 310 542     | Post-medieval Coal yard  |
| 32523 | Llangrannog       | SN 310 542     | Post-medieval Warehouse  |
| 32524 | Llangrannog beach | SN 3097 5420   | Post-Medieval mooring ring   |
| 32525 | Llangrannog beach | SN 311 542     | Post-medieval Mine. Various sources record prospecting for lead at the north of Llangrannog beach  |
| 57678 | Llangrannog beach | SN 30956 54121 | Post-medieval Lime Kiln, Listed building Grade II  |

**Table 2:** Historic Environment Record entries

- 2.2.2 The earliest evidence for human occupation in the vicinity of Llangrannog is at Ynyslochdin (PRN 1101), an Iron Age defended enclosure situated on a promontory 1.5km to the north of the beach. There is speculation that the enclosure was later reused during early medieval times as a possible monastic site (PRN 7531).
- 2.2.3 The village established itself around the church (St Caranog's PRNs 5926 and 16987) which has Norman and possibly early medieval origins. The present building was rebuilt over the footprint of the earlier church in 1884.
- 2.2.4 During the 18<sup>th</sup> century Llangrannog developed into a port with associated shipyards, mooring points, warehouses, lime kilns and coal yards as recorded on the Regional Historic Environment Record (Table 2; Photos 1 & 2). A number of ships were built on the sands, the largest being 'Ann Catherine', a brig weighing 211 tons.



**Figure 2:** Location plan of Trial pits and holes.

### **3. METHODOLOGY**

- 3.1 The relevant methodology for the watching brief was detailed in the WSI and can be summarised as follows:
- Provision of a written scheme of investigation to outline the methodology by which Dyfed Archaeological Trust Field Services will undertake the watching brief.
  - To identify the presence/absence of any archaeological deposits.
  - To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works.
  - To appropriately investigate and record any archaeological deposits to be affected by the ground works.
  - To produce an archive and report of any results.
- 3.2 The groundworks for this scheme of work involved the location of the existing sewer outfall pipe in order to ascertain its direction and depth below beach deposits at Llangrannog. The test pits were excavated on the beach at Llangrannog (Photo 3).
- 3.3 The outfall, having been located within the trial-pits was subsequently surveyed with GPS accuracy.
- 3.4 The projected route of the pipe runs in an approximately westerly direction, from its emergence beneath the car park (to the east-southeast) to a narrow rocky channel below the headland known as Pen Rhip (west-northwest), a distance of approximately 150m.
- 3.5 Three trial holes and two larger trial-pits roughly 4m square and 1.8m deep were opened along the route by a tracked excavator with a 1.2 wide toothless bucket.
- 3.6 The archaeological watching brief consisted of a single site visit on the 10<sup>th</sup> January 2012.

#### **4. ARCHAEOLOGICAL WATCHING BRIEF RESULTS (Figure 2)**

##### **4.1 Trial Pit A (Photo 4)**

- 4.1.1 Trial-pit A measured approximately 4m by 5m and averaged 1.8m deep.
- 4.1.2 In section the topmost layer comprised of approximately 0.35m of sand beneath which an accumulation of ungraded gravels continued for 1.45m depth to the bottom of the pit.
- 4.1.3 The crown of the pipe was recorded at NGR 231011.79E, 254211.40N at a depth of -1.05m O.D.
- 4.1.4 No archaeological features or peat deposits were present (Photos 4 and 5), either within the test pit or in its edges.

##### **4.2 Trial Pit B**

- 4.2.1 Trial-pit B measured approximately 4m by 5m and averaged 1m deep.
- 4.2.2 In section the topmost layer comprised of approximately 0.4m of sand beneath which an accumulation of ungraded gravels continued for 0.6m to the bottom of the pit (Photo 5).
- 4.2.3 Timber-shoring associated with the laying of the existing pipe was observed in the south section of the pit (Photo 6).
- 4.2.4 The crown of the pipe was recorded at NGR 230977.34E, 254220.01N at a depth of -1.29m O.D.
- 4.2.5 No significant archaeological features or peat deposits were present either within the test pit or in its edges.

##### **4.3 Trial Holes C, D & E**

- 4.3.1 Trial-holes C, D and E were shallow scoops in the sand (Photo 7). These were excavated along the narrow corridor between the Pen Rhip headland and rock outcrop on the beach.
- 4.3.2 All of the trial holes reached the underlying bedrock. In trial hole C at a depth of 1.59m O.D, in trial holes D at 2.04m OD and in trial hole E at a depth of 2.41m OD.



## **5. CONCLUSION**

- 5.1 An archaeological watching brief was undertaken during trial-pitting undertaken in advance of the replacement of a sewer outfall on Llangrannog beach, Ceredigion.
- 5.2 The aim of the test pitting was to determine the exact location and depth of the existing sewer outfall pipe
- 5.3 The test pits revealed no archaeological remains or peat deposits either within the pits themselves, or in their edges.
- 5.4 The lack of archaeological remains could be attributed to the construction of the existing sewer pipe, which would have removed any remains when it was originally laid. The lack of archaeological deposits exposed in section (within the edges of the trial holes) may indicate that no such remains were present, although it is possible that the test pits were narrower than the construction trench for the existing sewer.
- 5.5 The lack of any peat deposits within the backfill material removed from the trenches would suggest that no such remains were present in this part of the beach. No peat deposits have been previously recorded at Llangrannog beach, although they are known to exist in other areas of the Ceredigion coastline. Their absence here, even at depth, may be due to the scouring effects of tides and storms within the small bay at Llangrannog having removed any such remains in antiquity. There is always, however the potential of discovering stray archaeological finds within the beach deposits.
- 5.6 No evidence for medieval or post-medieval use of Llangrannog as a port was found within the trial trenches. Any such remains are more likely to have been located at the beach head (mooring rings etc). The beach itself was used for launching and storing craft. If any such remains had been present within the area of the test pitting, it would have been washed away by tides and storms.
- 5.7 The test pits excavated between the headland of Pen Rhip and the rocky outcrop unsurprisingly revealed bedrock at a shallow depth, covered by a thin layer of beach sands.
- 5.8 The trenches were all recorded remotely from the sides of the holes (for health and safety reasons, and unstable nature of the edges). The trial holes did fill with water very soon after excavation, but it is considered that a good understanding of the deposits through which they were excavated was achieved.

## PHOTOGRAPHS



**Photo 1:** Looking northwest down the Nant Hawen valley towards the sea. A sailing vessel is moored on the beach. Postcard of 1913.



**Photo 2:** Looking north across Llangrannog beach. Postcard of 1911.



**Photo 3:** Looking north across the beach showing locations of trial-pits A and B. Same view as Photo 2.



**Photo 4:** Looking south at trial-pit A. The sewer pipe lies beneath survey staff.





**Photo 5:** Looking north; trial-pit B.  
Typical profile of ungraded gravels beneath sand deposits.



**Photo 6:** Looking south; Trial-pit B. in situ timber-shoring associated with sewer pipe.





**Photo 7:** Looking southeast along narrow corridor between base of Pen Rhip headland and rock outcrop. Trial-hole D being excavated

# **LLANGRANNOG SEWER OUTFALL, CEREDIGION: ARCHAEOLOGICAL WATCHING BRIEF**

**RHIF YR ADRODDIAD / REPORT NUMBER 2012/14**

**Mawrth 2012  
March 2012**

Paratowyd yr adroddiad hwn gan / This report has been prepared by

Hubert Wilson

Swydd / Position: Archaeologist

Llofnod / Signature .....Dyddiad / Date 20/03/12

Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith  
This report has been checked and approved by JAMES MEEK

ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf.  
on behalf of Dyfed Archaeological Trust Ltd.

Swydd / Position: HEAD OF FIELD SERVICES

Llofnod / Signature ..... Dyddiad / Date 20/03/12

*Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau  
sydd gennych ar gynnwys neu strwythur yr adroddiad hwn*

*As part of our desire to provide a quality service we would welcome any  
comments you may have on the content or presentation of this report*

ymddiriedolaeth archaeolegol



archaeological trust