

# *Archaeology Wales*

## **Aberthaw Power Station, Aberthaw Vale of Glamorgan**

Archaeological Walkover Survey



By

Sian Thomas BA MA and Katie O'Connell BA


Report No. 1588


# Archaeology Wales

## Aberthaw Power Station, Aberthaw Vale of Glamorgan

Archaeological Walkover Survey

Prepared For: RWE Generation UK Plc

Edited by: Rowena Hart  
Signed:   
Position: Project Manager  
Date: 12 June 2017

Authorised by: Rowena Hart  
Signed:   
Position: Project Manager  
Date: 12 June 2017

By  
Sian Thomas BA MA and Katie O'Connell BA

Report No. 1588

June 2017

## Contents

1. Introduction	1
2. Methodology	2
3. Archaeological Walkover Survey Results	3
4. Conclusion	4
5. Bibliography	5

## Figures

Figure 1	Site Location Map
Figure 2	Map of the groynes
Figure 3	Map of the features recorded within the site

## Plates

Plate 1	View over the groynes at the western end of the site
Plate 2	Stakes of fish trap PRN02483s
Plate 3	Newly discovered stakes part of fish trap PRN02483s
Plate 4	Line of stakes PRN03984s
Plate 5	Line of stakes, newly recorded
Plate 6	Stakes underneath groyne 10
Plate 7	Single stake, groyne 9
Plate 8	Anchorage point
Plate 9	Lagoon exchange pipe
Plate 10	Remains of a boat
Plate 11	Remains of a boat

## **Non Technical Summary**

*This report results from work undertaken by Archaeology Wales Ltd (AW) for RWE Generation UK Plc on land south of Aberthaw Power Station, Aberthaw, Barry, Vale of Glamorgan. The report details the results of an archaeological walkover survey that took place along the coastline to the south-east of Aberthaw Power Station to identify and mark historic features prior to a program of sea defence works.*

*In the course of the survey five new sites were discovered. The remains of a previously unrecorded boat were found, located on the coastline, between groynes 12 and 13. In addition a row of stakes, a single stake, an anchorage point and a lagoon exchange pipe was recorded.*

*All work was undertaken to the Standards and Guidance for an Archaeological Watching Brief as set by the Chartered Institute for Archaeologists (2014).*

## **1. Introduction**

### **Location and scope of work**

In May 2017 Archaeology Wales Ltd (AW) was commissioned by RWE Generation UK Plc to carry out an archaeological walkover survey on land at Aberthaw Power Station, Aberthaw, Barry, Vale of Glamorgan, the site is centred on OS grid reference: ST 03394 65848 (Fig 1). The work was necessary to identify and mark by means of fencing, historic features as part of a program of sea defence repairs, focusing on groynes number 9 to 22 (Fig 2).

The work undertaken complied with Condition 8.1 of the National Resources Wales Marine Licence.

An approved Written Scheme of Investigation (WSI) was produced by AW in accordance with the Standards and Guidance set by the Chartered Institute for Archaeologists (CIfA, 2014) and was designed to provide an approved methodology of archaeological work to be implemented during the survey.

The walkover survey took place on 24<sup>th</sup> May 2017 and was conducted by Katie O’Connell (Archaeology Wales).

### **Topography and Geology**

The site comprised a 1km strip of coastline, Leys Beach, which is located to the south-east of Aberthaw Power Station, with the groynes to be repaired being located in the inter-tidal zone of the Bristol Channel. The beach itself slopes very gently down to the water line, with the top of the beach being approximately 5 metres AOD.

The underlying geology is comprised of the Porthkerry Member, which is comprised of interbedded limestones and mudstones. This is a sedimentary bedrock formation, which formed approximately 190 to 200 million years ago. This is overlain by marine beach deposits, which is sand formed over the last 3 million years (NERC, 2016).

## **Archaeological and Historical Background**

There are three sites located between groynes set within the development area. The first of these are the groynes themselves (PRN03983s), which are listed as post medieval in date. To either side of groynes 10 are the remains of 6 post medieval fish traps (PRN02483s) and a line of 29 wooden stakes, again post medieval in date (PRN03984s). These were recorded during a survey of the coast line by Glamorgan Gwent Archaeological Trust (Dunning and Howell, 2005).

Within the area surrounding the site there are a number of known archaeological sites. There are a number of Pill Boxes and anti-tank stops that stretch westwards along the coast line from the edge of the site, which are part of the coastal defence system set up during the Second World War (PRNs 02024s, 02482s and 02481s). The site of Gallant Acre lies in the inter tidal zone 1km to the west. This is thought to be a pre-Norman fort, which is now partially submerged (PRN00491s). Aberthaw Port is located just to the north of the site (PRN01698s). No date is given for the establishment of the port but as most of the surrounding sites are post medieval in date it is likely this site is contemporary. Just to the north of the port site is a medieval circular earth work, Twyn Llywelyn (PRN00507s). On the north-eastern edge of the site is the Scheduled Ancient Monument of Aberthaw Cement Works (GM318). This was constructed in the nineteenth century and had been abandoned by 1910. The site comprised a number of buildings associated with cement production including two lime kilns.

## **2. Methodology**

An archaeological walkover survey was undertaken in order to locate the previously recorded archaeological sites. Once located these were fenced off using road pins and netlon fencing to highlight their locations and provide a visible barrier during the course of repairs to the sea defences. As part of the works the site was walked over to ensure any previously unknown sites were also located. These were recorded, through detailed descriptions and photographs, with the locations being recorded with GPS. All photographs were taken using a 12MP digital camera. These were then fenced off, again with road pins and netlon fencing.

The survey also provided an opportunity to assess the features previously recorded, to see how their states of preservation had altered over the last decade or so. Detailed descriptions and photographs were taken of these features as part of this. It was only possible to fully assess how the state of preservation had changed for one of the previously recorded sites, the line of stakes (PRN03984s) on the eastern side of groyne 10. This was the only feature with published photographs and a corresponding description, which is contained with the coastline survey conducted by Glamorgan Gwent Archaeological Trust (Dunning and Howell, 2005: 52). Only one of the groynes is featured within this report ((Dunning and Howell, 2005: 52), while the fish trap (PRN02483s) was not included within the report. It was detailed in an

earlier report which suggested the stakes formed part of six fish traps but no other details were available.

### **3. Archaeological Walkover Survey Results (Fig 3, Plates 1-11)**

A walkover survey was conducted across the site to identify and mark all previously recorded and any newly identified archaeological features. The survey began at the western edge of the site at groyne number 9 and proceeded up the beach to the east. Two of the previously recorded sites were observed to have altered in nature since their initial recording and a number of new sites were identified during the survey, the results of which are detailed in this section (Fig 3).

#### Previously Recorded Sites

Within the area of the site are 14 post medieval groynes (PRN PRN03983s), which extend along the beach (Plate 1). These were all constructed from concrete that was poured into a frame, a construction method that post-dates the First World War. Analysis of the historic mapping for the area shows that these groynes first appear on the 1940s Ordnance Survey map sheets but not on the 1920's Ordnance Survey map.

The remains of 6 wooden fish traps (PRN02483s), located on the western side of groyne 10 were previously recorded as part of the Thaw Valley Survey conducted by Glamorgan Gwent Archaeological Trust (Graves-Brown, 1997). This site was not definitely found, rather a T-shaped arrangement of 31 stakes in the correct location was apparent. Stakes 1-17 extend south-west at approximately 45 degrees from groyne 10. Stake number 1 is within the concrete of groyne 10. Stakes 18-31 the run at 90 degrees across the top of this line, forming the top of the T (Plate 2). Stake 31 has been knocked out of alignment and lies 1.5 metres from stake 30. The tallest visible stake is 0.23 metres above ground level but on average they are approximately only 0.1 metres and some are hardly visible (Plate 3). The stakes are on average 0.14 metres diameter but several are severely eroded and so smaller. The alignment of these stakes makes it unlikely that they belong to separate fish traps, but are instead one much larger feature.

The remains of 29 post-medieval wooden stakes (PRN03984s) are located on the eastern side of groyne 10. This site had also altered since it was recorded in the 2005 coastline survey (Dunning and Howell, 2005). There are now 46 stakes visible that extend at 45 degrees to the south-east from groyne 10 (Plate 4). There is approximately 0.13-0.15 metres between each stake and the extant heights range from 0.6 – 0.2 metres. The stakes are more heavily eroded in the middle of the alignment than in 2005.

It appears that these two stake alignments were originally part of the same feature that was truncated by groyne 10 when the sea defences were constructed.

## New Sites

Just to the north of PRN03984s, on the eastern side of groyne 10, a further row of stakes was identified (NGR ST03143 65786). There were 20 stakes in total, in a linear alignment, that extended approximately 4.5 metres from the groyne on a north-west to south-east alignment (Plate 5). Five of the stakes were visible below the concrete of groyne 10, where the sand had eroded out from underneath it (Plate 6). The tallest stake stands to approximately 0.8 metres above ground level, although several have are likely to have eroded and are barely visible above the sand. On average the stakes are approximately 0.08 metres in diameter and there is on average 0.15 metres between each. The stakes appear to be connected to both PRN03948s and 02483s as they are on the same alignment and a similar diameter/spacing.

A single wooden stake was identified approximately 0.8 metres from groyne 9, towards the southern end of the groyne at NGR ST03087 65741 (Plate 7). It is 0.26 metres height and 0.08 metres in diameter. Its function is unknown and no others are evident nearby.

At the end of groyne 17 (NGR ST 03584 65803) an unknown feature was recorded. This is an east-west aligned linear wooden feature with a metal loop at the western end (Plate 8). The loop is embedded in the sand and it is unclear whether it is a fixed or separate feature. The wooden feature is 0.55 x 0.25m x 0.15 metres, while the observable dimensions of the metal loop are approximately 0.4 x 0.2 x 0.15 metres. It is possible this functioned as an anchorage point for small boats.

A lagoon exchange pipe was recorded between groynes 19 and 20 centred on NGR ST 03724 65861 (Plate 9). It appears to be contemporary with the construction of the groynes. It consists of a number of wooden sleepers, which run along the sides of the concrete which encases the pipe. The total visible length of the feature is 18.3m.

Lastly the remains of a small boat were recorded between groynes 12 and 13 centred on NGR ST 03300 65786 (Plates 10 and 11). The stern was missing but the remaining length from bow to beyond the beam of the boat measured 9.7 metres. There were 22 ribs remaining on the north (shore) side of the boat and the largest of these measured approximately 0.2 x 0.15 x 1.3 metres. The widest point of the boat was 3 metres. At the point at which the boat was broken it measured 2.1 metres in width. The boat is better preserved on the north side but is heavily covered with seaweed and beach pebbles. Some boards appear to be fallen to the sides, particularly on the north side. No metal fixtures were identified but these may have rusted out. The boat is likely to be modern in date and is part of a series of wrecks along this part of the coast line.

## **4. Conclusion**

The results of the survey indicate that there is a need for reinterpretation of the previously known features located on the site. The feature interpreted as the remains of fish traps (PRN02483s) are not isolated but are part of a much larger feature, which has been truncated

by groyne 10 and likely originally connected to the line of stakes on the eastern side of the groyne (PRN03984s). These are also likely to have been connected to the newly identified line of stakes just to the north of PRN03984s. The alignment of the stakes and the overall size suggest these all form part of a single, large feature. It is likely that these stakes are part of a fish weir. These are structures comprised of two walls of stone or wood which would then have had nets or fish traps attached. They are located in coastal waters, on shelving coastlines or in river estuaries they form large enclosures with a V or L shaped plan. There are a number of surviving examples around the coastline including three on Porlock Beach, Monument Number MSO7933 (Exmoor National Park HER, Heritage Gateway).

A further four features were identified as part of the survey, all of which are thought to be post medieval or modern in date. A single post was located to the west of groyne 9. It is possible this is contemporary to the post arrangements around groyne 10 but as it is discrete feature, isolated from the others it is difficult to be certain of this.

A lagoon exchange pipe was recorded between groynes 19 and 20. This is thought to be contemporary with the construction of the groins as it appears to be formed from shutter poured concrete. The groynes are suggested here to be of 1930s or early 1940s date based on map regression analysis.

A small wooden feature with an iron ring was located at the end of groyne 17 and is thought to be a possible anchorage point for small boats and is likely to be modern in date.

The last feature located was the remains of a small boat, again likely of modern date. The boat was located between groynes 12 and 13 and is part of a number of shipwrecks that are known along this stretch of coastline.

At present these features all appear to be well preserved. The survey has shown little degradation of the stakes that make up PRN03984s has taken place since the survey in 2005. The groynes are in need of repair, which has prompted the works, with the erosion of sand from below them revealing more features, which are detailed within the report. The erosion of sand and beach pebbles has occurred across the site, with more features now being visible on the beach. This will likely have an adverse effect on the wooden features recorded, with them now being exposed to the elements, with erosion and decay likely to occur at a faster rate.

## **5. Bibliography**

CIfA. (2014) *Standards and Guidance for Historic Environment Desk-Based Assessments* (Unpublished Guidance accessible at [www.archaeologists.net](http://www.archaeologists.net))

Dunning, R. and Howell, J.K. (2005) *Waterfronts in South East Wales: Phase 2, Volume 2, gazetteer*. Glamorgan Gwent Archaeological Trust: Unpublished Report.

Graves-Brown, P.M. (1997) *Thaw Valley Survey Report*. Glamorgan Gwent Archaeological Trust: Unpublished Report.



### Web Resources

Heritage Gateway (2012). Accessed at [www.heritagegateway.org.uk](http://www.heritagegateway.org.uk)

NERC. (2017) British Geological Survey Maps. Accessed at [www.bgs.ac.uk](http://www.bgs.ac.uk)

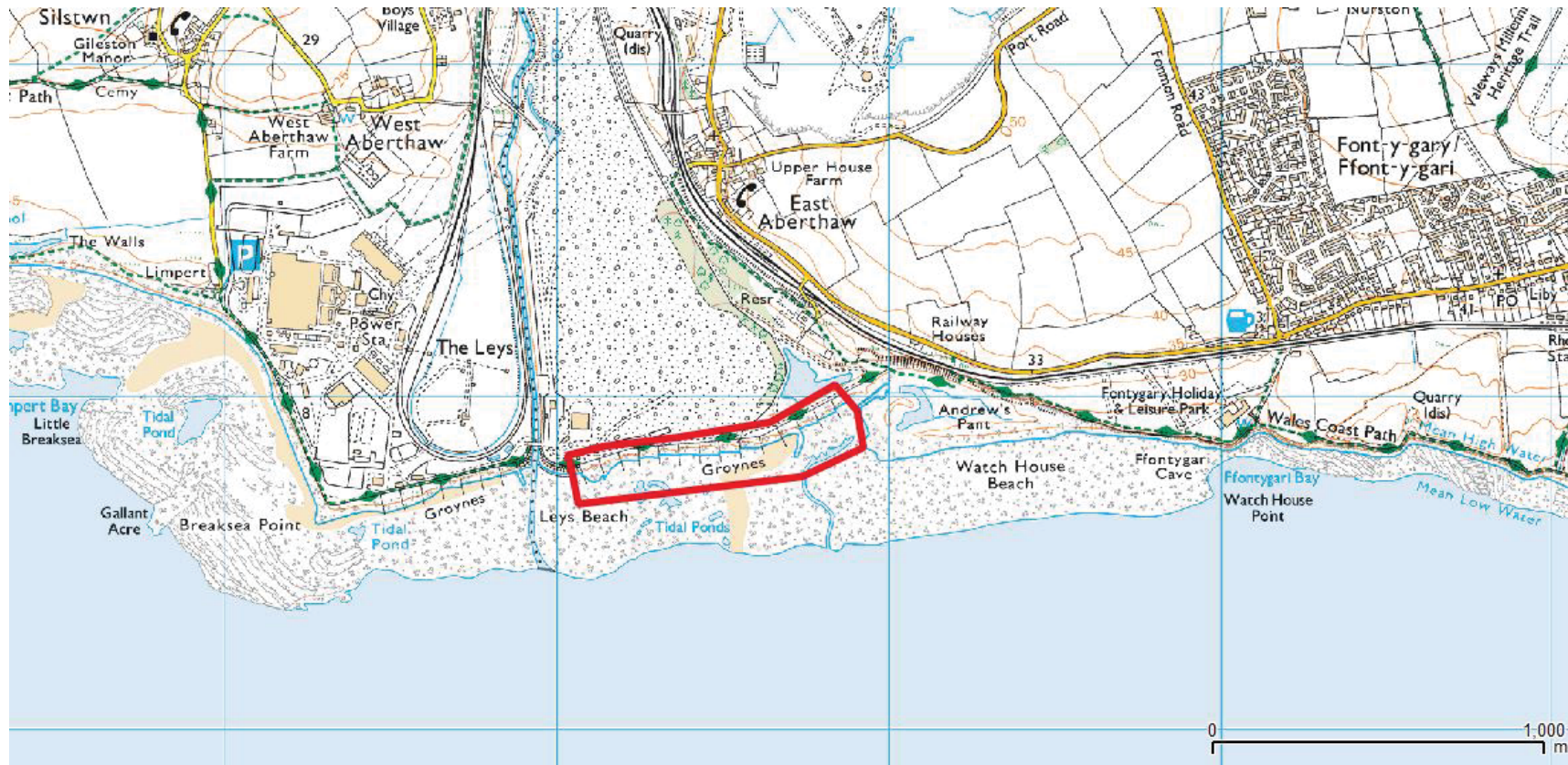


Figure 1. Site location outlined in red.

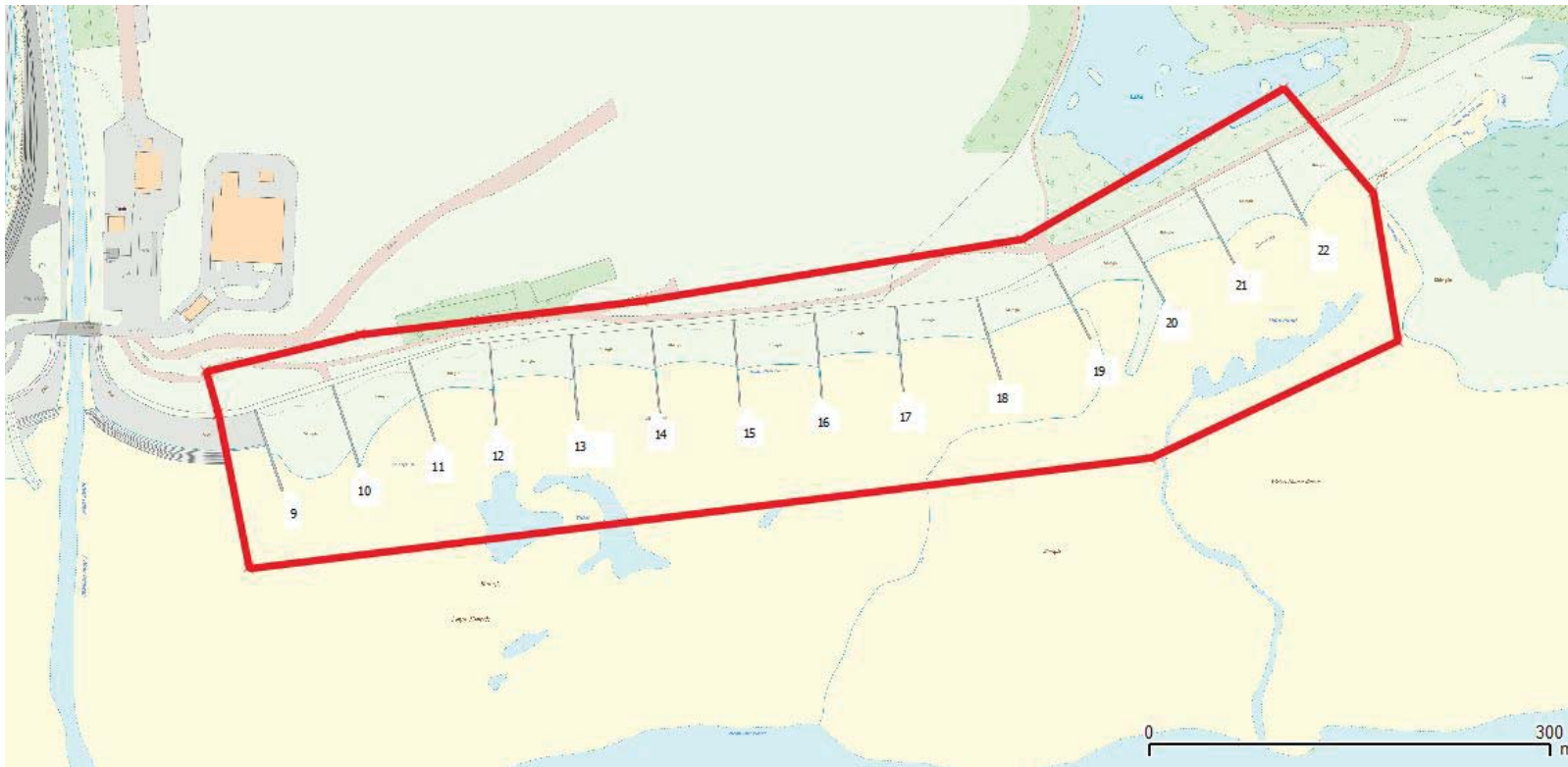
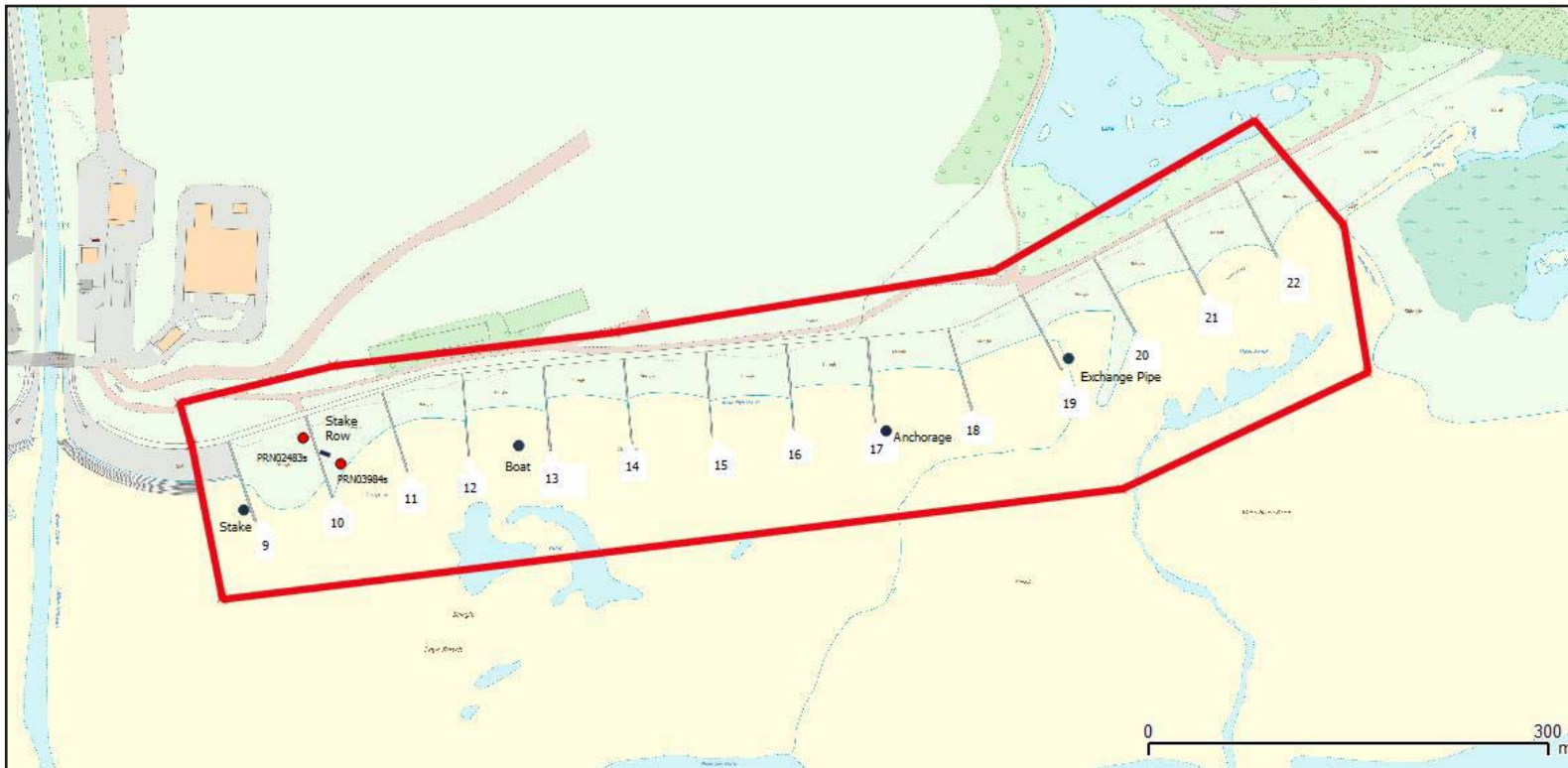


Figure 2. Site location in red showing current groyne locations.



- New sites
- Previously known sites

Figure 3. Showing locations of new and previously know sites



Plate 1: View south-west across the site showing a number of the groynes (PRN03983s).

Plate 2: View of the stakes that form (PRN02483s). The newly discovered stakes form the line running up through the centre of the photograph. Looking north-east.



Plate 3: Detail of the newly discovered stakes, part of fish trap (PRN02483s). Looking north-east.

Plate 4: View of stake line (PRN03984s. Looking north-east.



Plate 5: Newly identified line of stakes on the western side of groyne 10. View south-west.

Plate 6: Stakes below groyne 10.



Plate 7: Singular stake identified west of groyne 9.

Plate 8: View of the anchorage point located at the end of groyne 17. View north.





Plate 9: The lagoon exchange pipe alongside groyne 19. View north-west.

Plate 10: View of the remains of a small boat located between groynes 12 and 13. View east.



Plate 11: Remains of a small boat located between groynes 12 and 13. View south-east.

# *Archaeology Wales*

**Archaeology Wales Limited**

The Reading Room, Town Hall, Llanidloes, SY18 6BN

**Tel: +44 (0) 1686 440371**

Email: [admin@arch-wales.co.uk](mailto:admin@arch-wales.co.uk)

Company Directors: Mark Houston MCIFA & Jill Houston

Company Registered No. 7440770 (England & Wales)

Registered Office: Morgan Griffiths LLP, Cross Chambers

9 High Street, Newtown, Powys, SY16 2NY

