

# **DELTA LAKES COASTAL LINK ROAD LLANELLI**

## **ARCHAEOLOGICAL APPRAISAL & GEOTECHNICAL TEST PIT MONITORING**



Prepared by  
Cambria Archaeology  
For  
Carmarthenshire County Council



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**DELTA LAKES, COASTAL LINK ROAD, LLANELLI  
ARCHAEOLOGICAL APPRAISAL & TEST PIT MONITORING**

By  
Nigel Page

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CAMBRIA ARCHAEOLOGY  
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: [cambria@acadat.com](mailto:cambria@acadat.com) Website: [www.acadat.com](http://www.acadat.com)

ARCHAEOLEG CAMBRIA  
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  
Eboost: [cambria@acadat.com](mailto:cambria@acadat.com) Gwefan:

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REPORT NUMBER 2005/97

**September 2005**

This report has been prepared by Nigel Page

Position Project Manager

Signature ..... Date .....

This report has been checked and approved by Ken Murphy on behalf of Cambria  
Archaeology, Dyfed Archaeological Trust Ltd.

Position Principal Archaeological Officer Field Services

Signature ..... Date.....

As part of our desire to provide a quality service we would welcome any comments you  
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## **DELTA LAKES, COASTAL LINK ROAD, LLANELLI ARCHAEOLOGICAL APPRAISAL**

### **SUMMARY**

*The proposed redevelopment of part of Llanelli's former industrial district, Delta Lakes (NGR SS50829861), required a programme of geotechnical investigation. The archaeologically sensitive location of the development site meant that an archaeological appraisal of the area was needed to assess the likely impact of the investigations on any surviving below ground archaeological interests. The results from the appraisal and the results of the geotechnical investigation will be used to inform the future design plans for the site in order to minimise and mitigate the impact on the archaeological resource.*

*Map searches revealed extensive industrial buildings on the site during the later 19<sup>th</sup> and early 20<sup>th</sup> century, consisting of a steel works, workers' housing, a dock, a wharf, a brickworks, a reservoir, railways and coal yards. By the early 20<sup>th</sup> century the site was virtually covered by the South Wales Steel and Tin Works. The site has been cleared of all standing structures, except part of a stone wharf, and the dock and reservoir have been filled in. The extent and condition of any below ground remains is at present unknown.*

*Geotechnical investigations have revealed that buried remains survive in the southwest section of the site. However it is not possible at this stage to be certain what these remains represent, beyond the fact that they were associated with the 19<sup>th</sup> and 20<sup>th</sup> century industrial activity on the site.*

*An archaeological watching brief on site clearance and groundworks has been recommended as archaeological mitigation.*



## **INTRODUCTION**

### **Project proposals and commission**

Carmarthenshire County Council are currently developing plans for redeveloping the Delta Lakes area in Llanelli. The scheme will include the construction of a number of industrial units and the associated infrastructure required to service them. Delta Lakes occupy the site of a former dock, New Dock, and the whole area has a long and rich industrial tradition. Therefore, it was felt that an important archaeological resource could exist within the proposed development site and an archaeological appraisal was required to assess the potential impact of the proposals on that resource. Carmarthenshire County Council commissioned Cambria Archaeology Field operations to carry out the appraisal in March and April 2005.

### **Scope of the project**

The project has two elements: a rapid appraisal of the potential archaeological resource within the proposed development area; monitoring the geotechnical test pits and boreholes in order to assess the potential of the buried deposits to contain archaeological information.

### **Report outline**

This report describes the physical environment of the study area (Section 2) before summarising the archaeological resource (Section 3) and the likely impact of the proposed scheme on that resource (Section 4). Recommendations based on the results of Sections 3 and 4 are given in Section 5.

### **Abbreviations used in this report**

All sites recorded on the county Historic Environment Record (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). New sites have been assigned a PRN and located by their NGR. References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

## **THE STUDY AREA**

The proposed Delta Lakes development site occupies c.10.7ha (26.5 acres) of former industrial land on the southern edge of Llanelli at NGR SS50829861. The site is bounded on its north side by Delta Lakes, on its eastern side by the B4304 road and on its south and east sides by the Llanelli Coastal Road.

The site is currently semi-cleared open ground, with the remains of a 19<sup>th</sup> century wharf along the north edge. The eastern half of the site is rough grass covered land and the western half has been levelled and is now gravel covered (Plate 1).



*Plate 1: general view east across the former site. In 1880 this area was occupied by coal yards and by 1916 it had been built over as part of the South Wales Steel and Tin Works.*

## **SUMMARY OF THE ARCHAEOLOGICAL RESOURCE**

### **Landscape development within the proposed redevelopment site**

The present landscape is the direct result of natural processes and human actions interacting and influencing each other since the end of the last ice age, c.12,000 years ago (Rackham 1996). Nowhere are these interactions more evident than in coastal areas where the constant battle between natural and human forces has resulted in the construction of sea defences, docks, drained marshes, shipwrecks and areas of drowned landscape (Page 1997, 2).

There is little doubt that the most important factor in the shaping of the Llanelli landscape was the extraction and transportation of coal. Without it, it is unlikely that the town of Llanelli, or many of the other settlements in the area, would have developed to any great extent. By the mid-19<sup>th</sup> century Llanelli was the third largest South Wales port for the export of coal, behind Swansea and Neath (Morris and Williams 1958, 95). Without coal it is extremely unlikely that the metal processing industries, which were central to the expansion of Llanelli, would have been established.

The proposed redevelopment site covers an area of former industrial works, which included a steel and tinplate works, a reservoir, a chemical works, a coal yard, many railway lines, a watch house, a wharf, part of a large dock and terraces of workers' houses (Fig. 1, Fig. 3 and Table 1). By 1916 almost the entire site was covered by the massive South Wales Steel and Tin Works (Fig. 2 and Fig. 4).

<b>PRN</b>	<b>NGR</b>	<b>SITE NAME</b>	<b>SITE TYPE</b>
7744	SS51009865	Great Western Railway Dock	Scouring basin
8425	SS51109875	Neville's Shipyard	Shipyard
8764	SS51109875	Great Western Dock	Dock
8768	SS50859867	Richard Thomas' Wharf	Wharf
30708	SS50699846	South Wales Iron & Tinplate Works South Wales Steel & Tin Works	Tinplate works
31425	SS50499857		Limekiln
34012	SS50759843	Machynys Buildings	Workers' housing
34019	SS50819845		Reservoir
34027	SS50759863		Coal yard
34028	SS5090298547	Dock Terrace	Workers' housing
34071	SS50869843	Brickfield Chemical Works	Chemical works

*Table 1: Known archaeological sites and features within the proposed development site.*

### **Current condition of the archaeological resource**

The only above ground traces on the site today are the remains of Richard Thomas' Wharf (PRN 8768 – Plate 2) and the sluice that was used to back up the New Dafen River to form a scouring basin (PRN 7744 – Plate 3). It is not certain how much below ground disturbance has taken place during the clearance of the site, but it is likely that the former reservoir and dock were infilled with rubble

from the buildings on the site. Foundations and below ground features, such as tanks and pits may also survive across the site.

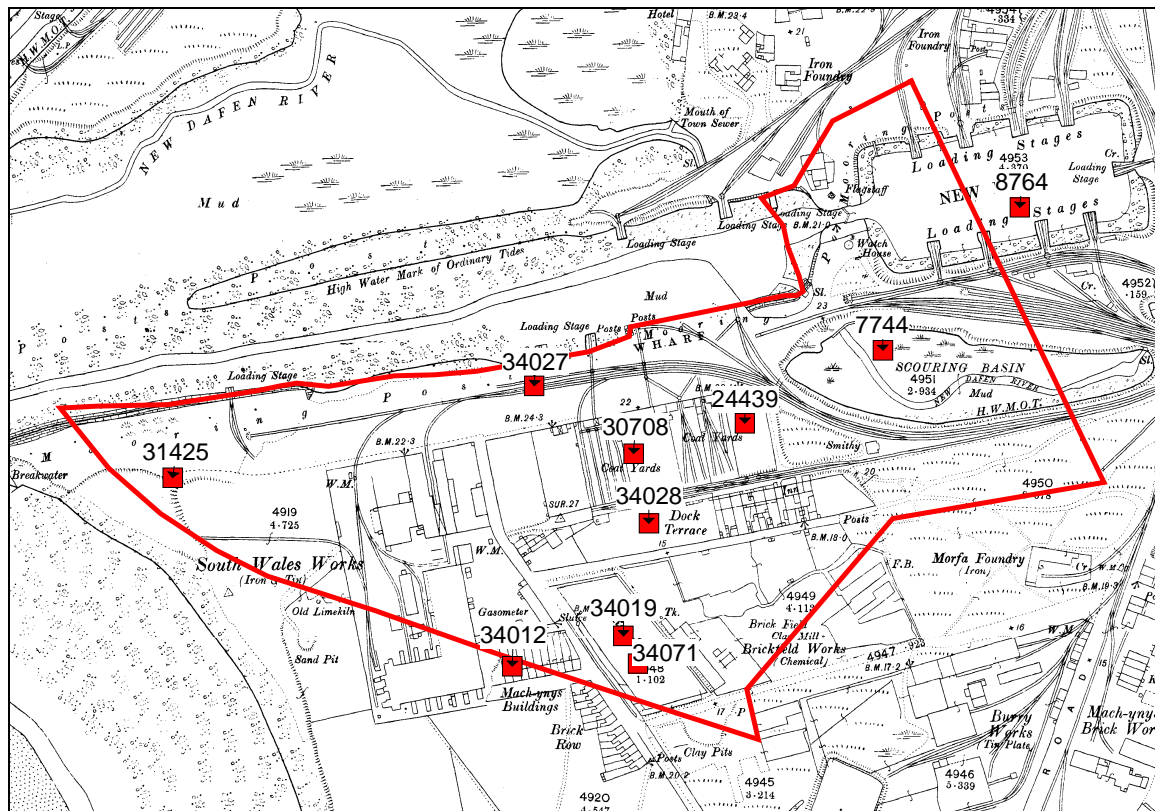


Figure 1: Extract from the 1<sup>st</sup> edition Ordnance Survey 1880 edition map showing the known archaeological sites within the proposed development site.

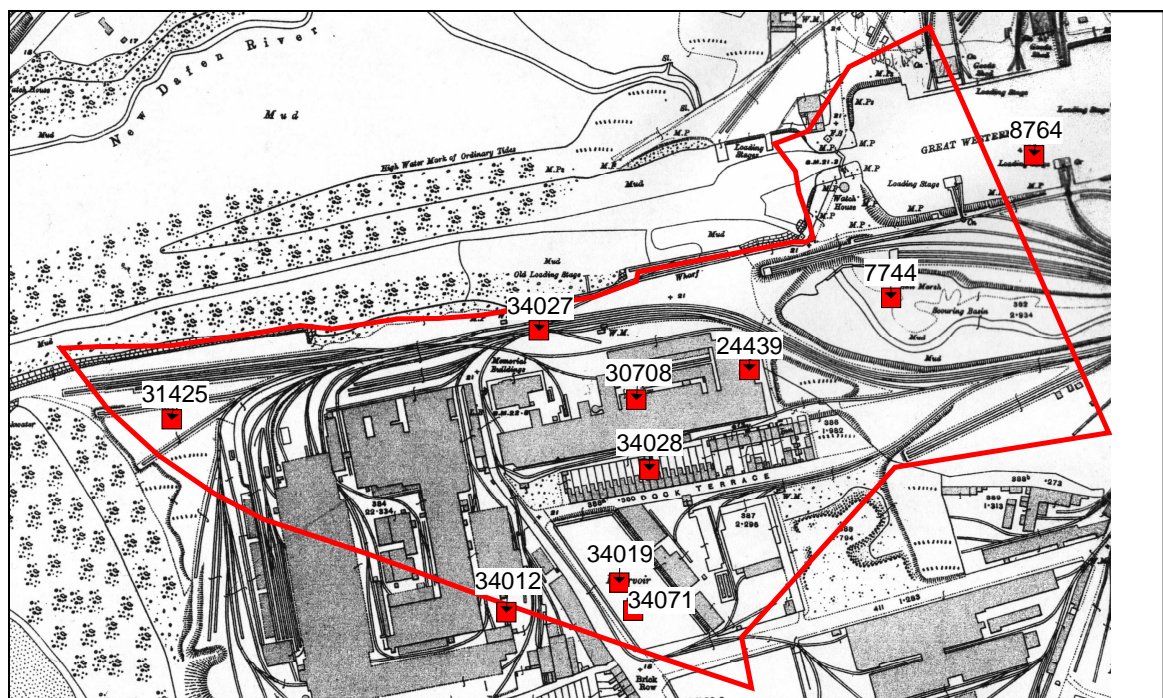


Figure 2: Extract from the Ordnance Survey 1916 edition map.





*Plate 2: Richard Thomas's Wharf (PRN 8768).*



*Plate 3: The remains of the sluice at the west end of the scouring basin (PRN 7744).*



Delta Lakes, Coastal Link Road, Llanelli  
archaeological appraisal

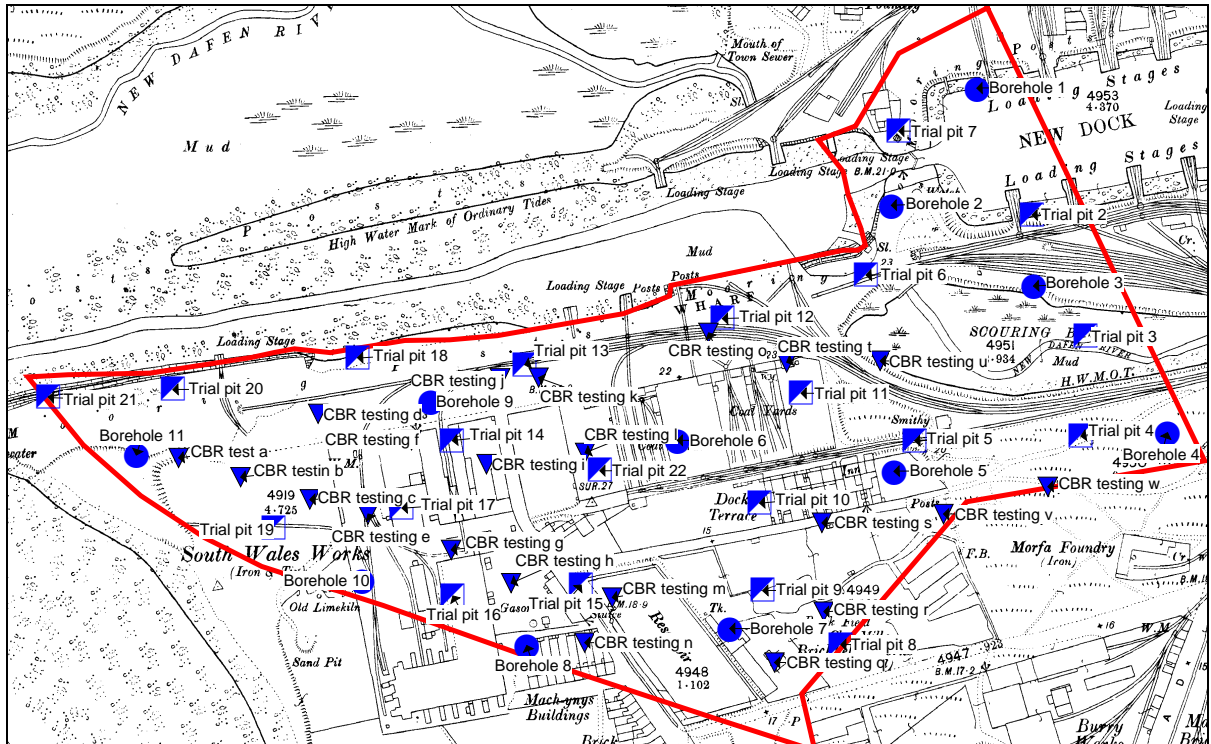


Figure 3: Extract from the Ordnance Survey 1880 edition map showing the proposed development site and positions of geotechnical ground investigations. Blue and white squares = trial pits; blue circles = boreholes; blue triangles = CBR testing.

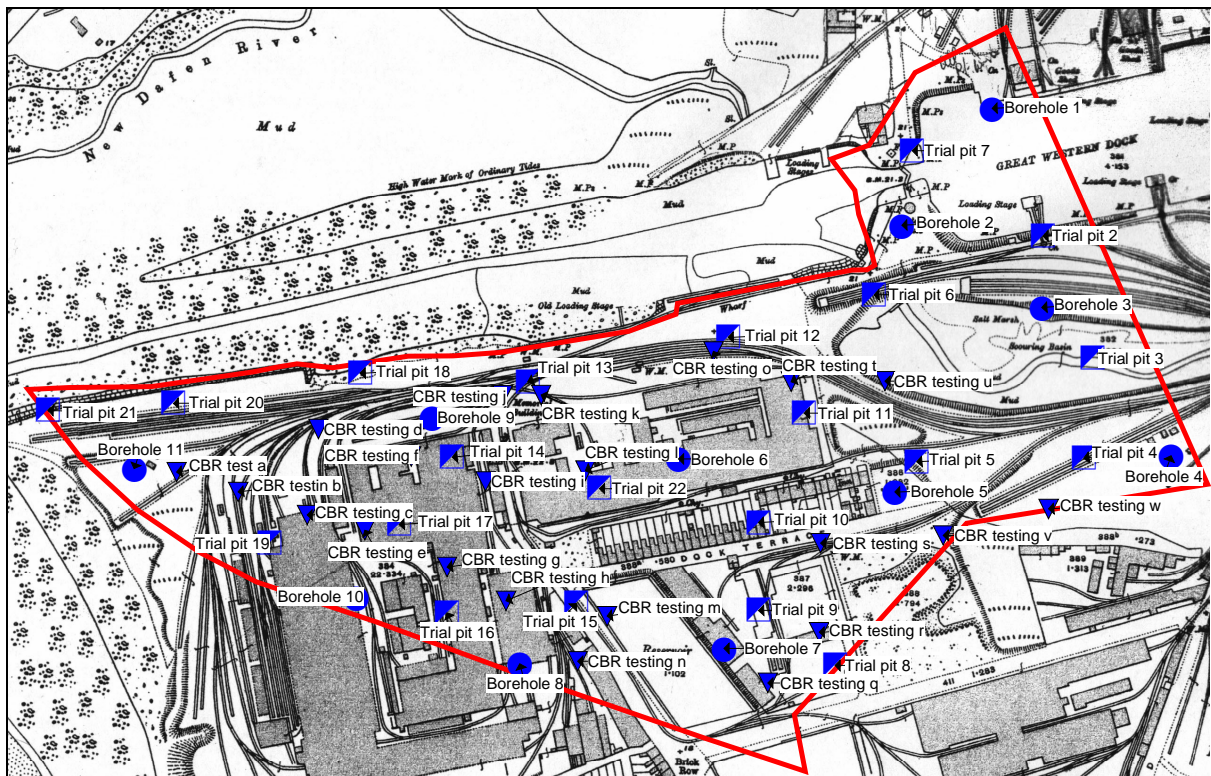


Figure 4: Extract from the Ordnance Survey 1916 edition map.

## **GEOTECHNICAL INVESTIGATIONS**

An integral part of this stage of the project was the sinking of a large number of geotechnical test pits and boreholes across the site. This provided an opportunity to inspect the underlying stratigraphy across the site and to establish the presence or otherwise of any buried archaeological deposits.

### **Test pits**

Twenty one test pits were excavated by mechanical excavator across the site and visual inspections were made of eleven. Of these only three had potentially significant features, TP104, TP108 and TP109. The test pits were excavated using a toothed bucket, which given the generally unstable and mixed nature of the deposits made identifying archaeological features difficult. However, it is not felt that this had any bearing on the results on the monitoring and that all significant archaeological structures, features or deposits were noted.

#### **TP104**

A possible brick and concrete structure was encountered at a depth of c.1.5m. The structure appeared to consist of a brick surface or floor with a raised concrete platform or wall at the southern end. The trench was only 0.5m wide so it was impossible to say anything about the extent or nature of the structure beyond the fact that was clearly associated with the past industrial activity of the site.

#### **TP108**

A possible concrete structure was noted at c.1.2m depth. It was not possible to establish the form, extent or nature of the possible structure, indeed it is by no means certain that it was a formal structure. Squared horizontal timbers were noted at c.1.4m that may have been structural, but it was impossible to be certain. The nature of the test pit meant that it was not possible to be definite about the nature of the possible structure, or even about its possible form.

#### **TP109**

This test pit contained a thick dump of burnt waste, coal and brick fragments and a possible red and yellow brick structure at a depth of c.1.4m. It was impossible to be certain about the nature of the possible structure; the machine driver reported that the bricks gave strong resistance suggesting that they may have been *in situ* rather than part of the re-deposited material encountered across the site.

### **Other test pits**

No other structures were identified in any of the other test pits. For the most part they recorded a similar story across the site with anything up to 4m of made up ground covering the underlying silt and sand of the former coastal wetlands, which were reclaimed during the 18<sup>th</sup> and 19<sup>th</sup> centuries.

### **The boreholes**

The boreholes confirmed the sequences identified in the test pits, although they penetrated deeper into the underlying wetland deposits.

## **IMPACT OF PROPOSED SCHEME ON THE ARCHAEOLOGICAL RESOURCE**

### **The extent of the archaeological resource**

Figures 1 and 2 clearly show that the entire site has been developed in the past for industrial use. It is not unusual on brownfield sites to find that the entire area has been developed in the past and that any subsequent redevelopment will have significant archaeological implications.

### **The results of monitoring the geotechnical investigations**

Monitoring the geotechnical investigations revealed that even though previous demolition and clearance on the site has been incredibly thorough, industrial remains do survive below ground and that where present they may be substantial. However, the remains are covered by a significant depth of made ground comprising chiefly of the rubble and waste from the demolition of the former industrial buildings in the 1960s and 1970s.

### **Likely impacts of the proposed scheme**

The likely impacts on the archaeological resource are few and, it is anticipated, will be confined to the loss or damage to some of the surviving underground remains associated with the former industrial structures. The full extent of the below ground remains is unknown, but it is likely that some structures will be encountered during groundworks, particularly in the southwest section of the site.

It is unlikely that there will be a significant impact on the pre-industrial wetland deposits.



## **RECOMMENDATIONS**

This appraisal has shown that there are the remains of former industrial structures surviving below ground, although, it has not been able to identify with any certainty what those structures were, nor what industrial enterprise they were associated with. However, it is possible that further structures will be uncovered during the construction works and this may provide the opportunity to further investigate their nature and extent. Therefore an archaeological watching brief has been recommended.

### **Archaeological watching brief**

An archaeological watching brief should be maintained on large-scale earth moving operations that will have an impact below 1m-1.2m (which was the depth at which most of the structures were noted during the geotechnical investigations – see above), in order to record any structures or archaeological deposits exposed.

The watching brief should also be aimed at retrieving evidence for the pre-industrial landscape and suitable deposits should be sampled for palaeoenvironmental analysis.

## **APPENDIX ONE: CATALOGUE OF RESEARCH ARCHIVE**

The project archive has been indexed and catalogued according to National Monument Record (NMR) categories and contains the following:

- A.** Copy of the report.
- B.** Notes from site visits.
- D.** Site photographs - catalogue, colour slides, B/W contact sheets.
- G.** Documentary data, including primary and published sources.
- I.** Draft copies of report.
- M.** Miscellaneous correspondence

There is no material for classes **C, E, F, H, J, K, L** and **N**.

The project archive is currently held by Cambria Archaeology Field Operations, Llandeilo, Carmarthenshire, as project number 55174.

## **SOURCES**

### **Published sources**

- Morris J & Williams L      1958    *The South Wales coal industry*. Cardiff. The university of Wales Press.
- Rackham O      1994    *The illustrated book of the countryside*. London. George Weidenfeld and Nicholson Ltd.

### **Unpublished sources**

- Page N      1997    *Llanelli and Loughor Wetlands: archaeological assessment*. Llandeilo. Cambria Archaeology report for Cadw.