

# Bare, Lancashire

**Record ID** 236

**Authors**

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N.

**Year**

1998

**Location description**

**Deposit location**

SD 443 649

**Deposit description**

**Deposit stratigraphy**

Peat layer (often <1 m thick, hard, consolidated, dry, laminated deposit).

**Associated artefacts**

**Early work**

**Sample method**

Boreholes SD46 SW/52-54

**Depth of deposit**

-10 m OD

**<sup>14</sup>C ages available**

No

**Notes**

**Bibliographic reference**

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N. 1998 'Geology of the country around Lancaster', Memoir for 1:50,000 geological sheet 59 (England and Wales), .

# Bare, Lancashire

**Record ID** 237

**Authors**

Crofton, A.

**Year**

1876

**Location description**

**Deposit location**

SD 445 651

**Deposit description**

Peat horizon resting on blue organic clay.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

Sample method

**Depth of deposit**

**<sup>14</sup>C ages available**

No

**Notes**

Crofton (1876) referred to in Brandon et al (1998). Possibly same layer as mentioned by Reade (1904).

**Bibliographic reference**

Crofton, A. 1876 'Drift, peat etc. of Heysman [Heysham], Morecambe Bay', Transactions of the Manchester Geological Society, 14, 152-154.

# Carnforth coastal area, Lancashire

**Record ID** 245

## **Authors**

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N.

## **Year**

1998

## **Location description**

## **Deposit location**

SD 4879 6987

## **Deposit description**

Coastal peat up to 4.9 m thick.

## **Deposit stratigraphy**

## **Associated artefacts**

## **Early work**

## **Sample method**

Borehole SD 46 NE/1

## **Depth of deposit**

Varying from near-surface to at-surface.

## **<sup>14</sup>C ages available**

No

## **Notes**

Probably postdates the mid-Flandrian sea-level transgression (5200 to 7600 years BP) (Shimwell, 1985).

## **Bibliographic reference**

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N. 1998 'Geology of the country around Lancaster', Memoir for 1:50,000 geological sheet 59 (England and Wales), .

# Cleveleys, Lancashire

**Record ID** 244

**Authors**

Tooley, M.

**Year**

1980

**Location description**

**Deposit location**

**Deposit description**

Peat deposits.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

**14C ages available**

No

**Notes**

Early Holocene (12000-7000BP).

**Bibliographic reference**

Tooley, M. 1980 'Theories of coastal change in north-west England' in 'Archaeology and coastal change', (ed.s) Thompson, F., 74-86, London: Society of Antiquities.

# Downholland Moss, Lancashire

Record ID 532

**Authors**

Tooley, M.

**Year**

1985b

**Location description**

**Deposit location**

**Deposit description**

Intertidal organic sediments.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

**14C ages available**

Yes

**Notes**

**14C details**

Laboratory code

ID 472

**Sample location**

**Depth of sample**

-0.87 m OD

**Dated sample description**

**Age (uncal)**

6890 ± 55

**Age (cal)**

**Delta 13C**

**Notes**

DM-11. Transgression.

Laboratory code

**ID** 473

**Sample location**

**Depth of sample**

**Dated sample description**

-0.36 m OD

**Age (uncal)**

**Age (cal)**

**Delta 13C**

6790 ± 95

**Notes**

DM-11. Regression.

**Bibliographic reference**

Tooley, M. 1985b 'Sea level changes and coastal morphology in North-west England' in 'The Geomorphology of North-west England', (ed.s) Johnson, R., 94-121, Manchester: Manchester University Press.

# Fleetwood, Lancashire

**Record ID** 496

**Authors**

Boyd Dawkins, W.

**Year**

1884

**Location description**

Near Fleetwood

**Deposit location**

[c. SD 321 483]

**Deposit description**

On the shore - yew, Scotch fir and birch bark.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

Sample method

**Depth of deposit**

**14C ages available**

No

**Notes**

[Mentioned to separately to Rossall, even though sites are very close].

**Bibliographic reference**

Boyd Dawkins, W. 1884 'Lancashire and Cheshire in prehistoric times', Transactions of the Lancashire and Cheshire Antiquarian Society, 2, 1-7.

# Heysham, Lancashire

**Record ID** 225

**Authors**

Crofton, A.

**Year**

1876

**Location description**

North of Heysham village

**Deposit location**

SD 414 620

**Deposit description**

Bed of peaty mud frequently exposed on foreshore, near site of former lime kiln. Birch trunks.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

**14C ages available**

No

**Notes**

Crofton (1876) referred to in Brandon et al (1998)

**Bibliographic reference**

Crofton, A. 1876 'Drift, peat etc. of Heysman [Heysham], Morecambe Bay', Transactions of the Manchester Geological Society, 14, 152-154.

# Heysham, Lancashire

Record ID 226

## Authors

Moseley, F. and Walker, D.

## Year

1952

## Location description

## Deposit location

## Deposit description

"Submerged forest" with "upright stumps of trees rooted in the underlying clay". A section was 1.7 m of organic muds with wood and plant fragments resting on 0.16 m of stoneless, clayey mud and silt, overlying till.

## Deposit stratigraphy

## Associated artefacts

## Early work

## Sample method

## Depth of deposit

## 14C ages available

No

## Notes

Moseley and Walker (1952) referred to in Brandon et al (1998). From pollen analysis: organic muds - Atlantic period/Zone VIIa of West (1968) (c. 6000-7000 years BP).

## Bibliographic reference

Moseley, F. and Walker, D. 1952 'Some aspects of the Quaternary period in north Lancashire', Naturalist, 841, 41-54.

# Heysham, Lancashire

**Record ID** 227

**Authors**

Reade, C.

**Year**

1904/1902

**Location description**

Shore north of Heysham Harbour

**Deposit location**

**Deposit description**

Peat and underlying, possibly late-glacial deposits, exposed at a number of locations. Peat contained oak trunks.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

At height of high spring tides prior to sea wall construction.

**14C ages available**

No

**Notes**

Reade (1904) referred to in Brandon et al (1998)

**Bibliographic reference**

Reade, C. 1904/1902 'Glacial and post-glacial features of the lower valley of the River Lune and its estuary', Proceedings of the Liverpool Geological Society, 9, 163-196.

# Heysham, Lancashire

Record ID 228

## Authors

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N.

## Year

1998

## Location description

Heysham power stations

## Deposit location

SD 393 599

## Deposit description

## Deposit stratigraphy

## Associated artefacts

## Early work

## Sample method

## Depth of deposit

## 14C ages available

Yes

## Notes

14C samples from three boreholes

## 14C details

ID 168

## Laboratory code

## Sample location

## Depth of sample

SD 393 599

## Dated sample description

-16 to -17.5 m OD

## Age (uncal)

## Age (cal)

## Delta 13C

## Notes

Between c. 8925 and 9270 years BP

## Bibliographic reference

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N. 1998 'Geology of the country around Lancaster', Memoir for 1:50,000 geological sheet 59 (England and Wales), .

# Heysham, Lancashire

Record ID 229

## Authors

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N.

## Year

1998

## Location description

'Heysham Lake'

## Deposit location

c. SD 400 620

## Deposit description

Fisherman trawl up tree trunks and branches from the 'lake' offshore from the village.

## Deposit stratigraphy

## Associated artefacts

## Early work

## Sample method

## Depth of deposit

## <sup>14</sup>C ages available

No

## Notes

## Bibliographic reference

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N. 1998 'Geology of the country around Lancaster', Memoir for 1:50,000 geological sheet 59 (England and Wales), .

# Heysham, Lancashire

**Record ID** 230

**Authors**

Reid, C.

**Year**

1913

**Location description**

**Deposit location**

**Deposit description**

Submerged forest

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

Sample method

**Depth of deposit**

**<sup>14</sup>C ages available**

No

**Notes**

**Bibliographic reference**

Reid, C. 1913 'Submerged forests', Cambridge: Cambridge University Press.

# Heysham, Lancashire

Record ID 231

## Authors

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N.

## Year

1998

## Location description

Heysham Sands

## Deposit location

SD 4095 6230

## Deposit description

Thin peat (often <1 m thick, commonly described as a hard, consolidated, dry, laminated deposit).

## Deposit stratigraphy

## Associated artefacts

## Early work

## Sample method

Borehole SD 46 SW/344

## Depth of deposit

-10 m OD

## <sup>14</sup>C ages available

No

## Notes

Other borehole records of peats further inland (e.g. pg 126)

## Bibliographic reference

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N. 1998 'Geology of the country around Lancaster', Memoir for 1:50,000 geological sheet 59 (England and Wales), .

# Heysham, Lancashire

**Record ID** 232

## **Authors**

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N.

## **Year**

1998

## **Location description**

Heysham Moss

## **Deposit location**

SD 427 610

## **Deposit description**

Thin peat (often <1 m thick, commonly described as a hard, consolidated, dry, laminated deposit).

## **Deposit stratigraphy**

## **Associated artefacts**

## **Early work**

## **Sample method**

Boreholes SD 46 SW/123 and 124

## **Depth of deposit**

-4 m OD

## **14C ages available**

No

## **Notes**

Other borehole records of peats further inland (e.g. pg 126).

## **Bibliographic reference**

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N. 1998 'Geology of the country around Lancaster', Memoir for 1:50,000 geological sheet 59 (England and Wales), .

# Heysham Harbour, Lancashire

**Record ID** 223

**Authors**

Ashton, W.

**Year**

1920

**Location description**

**Deposit location**

**Deposit description**

Thin peat-bed

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

-52 ft OD [-15.85 m OD]

**<sup>14</sup>C ages available**

No

**Notes**

**Bibliographic reference**

Ashton, W. 1920 'Evolution of a coastline', London.

# Heysham Harbour, Lancashire

Record ID 224

## Authors

Reade, C.

## Year

1904/1902

## Location description

## Deposit location

Aurochs skull at SD 401 602

## Deposit description

Peat, overlying thin bed of silt or sand above till, falling seawards. Mammal remains found between the early Flandrian peat and till e.g. skull and attached horns of an aurochs. Also antlers and skull of male giant deer.

## Deposit stratigraphy

Also, marine clays and silts contain intertidal molluscs e.g. *Mytilus edulis*.

## Associated artefacts

Aurochs skull at -9 m OD. Male giant deer restricted to between c.13000-11000 years ago - mild interstadial conditions of late-glacial pollen zone II, or Windermere Interstadial (Stuart, 1982).

## Early work

## Sample method

Dock excavation.

## Depth of deposit

## <sup>14</sup>C ages available

No

## Notes

Reade (1904) referred to in Brandon et al (1998). Held in Lancaster City Museum.

## Bibliographic reference

Reade, C. 1904/1902 'Glacial and post-glacial features of the lower valley of the River Lune and its estuary', Proceedings of the Liverpool Geological Society, 9, 163-196.

# Heysham Harbour, Lancashire

Record ID 405

## Authors

Tooley, M.

## Year

1974

## Location description

The site of the nuclear power station

## Deposit location

## Deposit description

Buried peats. Hard, consolidated, dry, laminated deposit overlain by marine clays, silts and sands.

## Deposit stratigraphy

## Associated artefacts

## Early work

Sample method

## Depth of deposit

## <sup>14</sup>C ages available

Yes

## Notes

Study by Soil Mechanics Ltd in 1967. Referred to in Tooley (1974). <sup>14</sup>C ages by Prof. F.W. Shotton (Birmingham University).

## <sup>14</sup>C details

ID 274

Laboratory code Birm-139

## Sample location

SD 3936 5989

## Depth of sample

c. -16.7-16.8 m OD

## Dated sample description

Lower mid of peat layer.

## Age (uncal)

9195 ± 155

## Age (cal)

## Delta <sup>13</sup>C

## Notes

Borehole M1. Peat layer c.-16-17 m OD. [Approx. depths from core strat, ZH].

**ID** 275

**Laboratory code** Birm-140

**Sample location**

SD 3933 5988

**Depth of sample**

c. -15.9-16.1 m OD

**Dated sample description**

Middle of peat layer.

**Age (uncal)**

8925 ± 200

**Age (cal)**

**Delta 13C**

### Notes

Borehole M2. Peat layer c. -15.5-17.0 m OD. [Approx. depths from core strat, ZH]. Date corroborated by pollen analysis. Only this core shows evidence of approaching marine conditions.

**ID** 276

**Laboratory code** Birm-141

**Sample location**

SD 3932 5990

**Depth of sample**

c. -17.1-17.2 m OD

**Dated sample description**

Top of peat layer.

**Age (uncal)**

9270 ± 200

**Age (cal)**

**Delta 13C**

### Notes

Borehole M3. Peat layer c. -17.7-18 m OD. [Approx. depths from core strat, ZH]. Date corroborated by pollen analysis.

### Bibliographic reference

Tooley, M. 1974 'Sea level changes during the last 9000 years in northwest England', Geographical Journal, 140, 18-42.

# Lancaster Sand, Lancashire

**Record ID** 346

## **Authors**

Brandon, A., Aitkenhead, N., Crofts, R.,  
Ellison, R.,  
Evans, D. and Riley, N.

## **Year**

1998

## **Location description**

## **Deposit location**

## **Deposit description**

Borehole C6 (Morecambe Bay Feasibility  
Survey).

## **Deposit stratigraphy**

## **Associated artefacts**

## **Early work**

## **Sample method**

## **Depth of deposit**

-16 m OD

## **14C ages available**

No

## **Notes**

c. 8330 BP (14C date from Tooley (1974)).

## **Bibliographic reference**

Brandon, A., Aitkenhead, N., Crofts, R., Ellison, R., Evans, D. and Riley, N. 1998  
'Geology of the country around Lancaster', Memoir for 1:50,000 geological sheet 59  
(England and Wales), .

# Morecambe, Lancashire

**Record ID** 251

**Authors**

Campbell, J. and Baxter, M.

**Year**

1979b

**Location description**

**Deposit location**

54deg 04'N, 2 deg 54'W [SD  
41012 56393 converted]

**Deposit description**

Wood sec Morecambe-1 (Betula) from  
submerged forest exposure.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

Wood collected by A Heyworth.

**Depth of deposit**

**<sup>14</sup>C ages available**

Yes

**Notes**

Heyworth, in Campbell and Baxter (1979b).

## 14C details

ID 170

Laboratory code GU-664

### Sample location

### Depth of sample

### Dated sample description

54deg 04'N, 2 deg  
54'W [SD 41106  
63809 converted]

Betula wood from  
submerged forest.

### Age (uncal)

7544 ± 306

### Age (cal)

### Delta 13C

## Notes

## Bibliographic reference

Campbell, J. and Baxter, M. 1979b 'Glasgow University Radiocarbon Measurements IX', Radiocarbon, 21(2), 171.

# Morecambe, Lancashire

**Record ID** 252

**Authors**

Crofton, A.

**Year**

1876

**Location description**

Coast at Morecambe

**Deposit location**

c. SD 430 645

**Deposit description**

Peat horizon on blue organic clay, exposed occasionally beneath the drifting beach shingle.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

**14C ages available**

No

**Notes**

Crofton (1876) referred to in Brandon et al (1998). Peat layer possibly same as described by Reade (1904).

**Bibliographic reference**

Crofton, A. 1876 'Drift, peat etc. of Heysman [Heysham], Morecambe Bay', Transactions of the Manchester Geological Society, 14, 152-154.

# Morecambe Bay, Cumbria/Lancashire

**Record ID** 253

**Authors**

Bell, M.

**Year**

1997

**Location description**

North of Morecambe Bay

**Deposit location**

**Deposit description**

Submerged forests.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

Exposed in intertidal area.

**<sup>14</sup>C ages available**

No

**Notes**

7400-5700 BC

**Bibliographic reference**

Bell, M. 1997 'Environmental archaeology in the coastal zone' in 'England's coastal heritage. A survey for English Heritage and the RCHME', (ed.s) Fulford, M., Champion, T. and Long, A., 56-73, English Heritage. Archaeological report 15.

# Morecambe Bay, Cumbria/Lancashire

**Record ID** 347

**Authors**

Crofton, A.

**Year**

1876

**Location description**

Shore between Heysham and Morecambe.

**Deposit location**

**Deposit description**

Lumps of hard peat, wood and antlers of red deer washed up.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

**14C ages available**

No

**Notes**

Referred to in Brandon et al (1998).

**Bibliographic reference**

Crofton, A. 1876 'Drift, peat etc. of Heysman [Heysham], Morecambe Bay', Transactions of the Manchester Geological Society, 14, 152-154.

# Morecambe Bay, Cumbria/Lancashire

**Record ID** 404

**Authors**

Tooley, M.

**Year**

1974

**Location description**

**Deposit location**

**Deposit description**

**Deposit stratigraphy**

Peat beds ranging in height from -11.13 to -16.40 m OD. Hard, consolidated, dry, laminated peat deposit overlain by marine clays, silts and sands. Biogenic sediment overlain by pebble beds or sand containing either *Cerastoderma edule* or *mytilus edulis*.

**Associated artefacts**

Biogenic sediment - pollen analysed.

**Early work**

**Sample method**

Transect of boreholes across the bay, for the Morecambe Bay Barrage feasibility survey.

**Depth of deposit**

**<sup>14</sup>C ages available**

Yes

**Notes**

Survey carried out by Sir Alexander Gibb and Partners for the Water Resources Board. Referred to in Tooley (1974) - see for borehole strats and locations (Fig 4).

**Subsite details**

**ID** 87

**Location**

Western edge of Bay.

**Depth**

c. -14 m OD

**Description**

Borehole C1.

**ID** 88

**Location**

Western edge of Bay.

**Depth**

c. -15 m OD

**Description**

Borehole A1.

**ID** 89

**Location**

MIDdle of Bay.

**Depth**

Layers at c.-15, -17, -28, -41, -43  
m OD

**Description**

Borehole C3.

**ID** 90

**Location**

Eastern edge of Bay.

**Depth**

c. -15 m OD

**Description**

Borehole C5.

**ID** 91

**Location**

Eastern edge of Bay.

**Depth**

c. -16 m OD

**Description**

Borehole C6.

## 14C details

ID 277

Laboratory code Hv3462

**Sample location**

**Depth of sample**

**Dated sample description**

Eastern edge of Bay.

c. -16 m OD

**Age (uncal)**

**Age (cal)**

**Delta 13C**

8330 ± 125

## Notes

Borehole C6. Contains evidence of rising freshwater table (pollen -aquatic taxa replaced by saltmarsh).

## Bibliographic reference

Tooley, M. 1974 'Sea level changes during the last 9000 years in northwest England', Geographical Journal, 140, 18-42.

# Rossall, Lancashire

**Record ID** 246

**Authors**

Tooley, M.

**Year**

1980

**Location description**

**Deposit location**

**Deposit description**

Peat deposits.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

Sample method

**Depth of deposit**

**14C ages available**

No

**Notes**

Early Holocene (12-7,000BP).

**Bibliographic reference**

Tooley, M. 1980 'Theories of coastal change in north-west England' in 'Archaeology and coastal change', (ed.s) Thompson, F., 74-86, London: Society of Antiquities.

# Rossall, Lancashire

**Record ID** 247

**Authors**

Boyd Dawkins, W.

**Year**

1884

**Location description**

Near Rossall

**Deposit location**

**Deposit description**

In situ tree stumps (Scotch fir) surrounded by vegetable matter and pine cones.

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

Below low water.

**14C ages available**

No

**Notes**

[Also mentioned in Ashton (1920)].

**Bibliographic reference**

Boyd Dawkins, W. 1884 'Lancashire and Cheshire in prehistoric times', Transactions of the Lancashire and Cheshire Antiquarian Society, 2, 1-7.

# Rossall, Lancashire

**Record ID** 538

**Authors**

Tooley, M.

**Year**

1985b

**Location description**

**Deposit location**

SD 3111 4384

**Deposit description**

**Deposit stratigraphy**

**Associated artefacts**

**Early work**

**Sample method**

**Depth of deposit**

-0.4 m OD

**<sup>14</sup>C ages available**

No

**Notes**

Kettle hole deposit.

**Bibliographic reference**

Tooley, M. 1985b 'Sea level changes and coastal morphology in North-west England' in 'The Geomorphology of North-west England', (ed.s) Johnson, R., 94-121, Manchester: Manchester University Press.

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