Ports and Harbours in North-east Wales
FINAL PROJECT REPORT

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Report for Cadw

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cover photograph: Foryd Harbour and the wreck of The Alice. Photo CPAT 2160.016

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PART 1

1   INTRODUCTION

1.1   Historic ports and harbours have played an important role in Welsh history, although their nature and extent is often not well understood. Many important sites have considerable potential for archaeological remains, whether upstanding, buried or submerged, and these are becoming increasingly threatened by development. The present study has therefore been designed to provide a detailed assessment of this important archaeological resource to improve our understanding of ports and harbours, their development, significance and potential, providing a baseline from which to develop future management strategies.

1.2   The study follows the general format adopted by GGAT for Urban Waterfronts in south-east Wales (Howell and Dunning 2004) and was funded by Cadw during 2005/06 and 2006/07 (Project No. 1264).

1.3   The north-east Wales coast, and the Dee Estuary in particular, has a rich concentration of small ports and harbours which are important to our understanding of communications, trade and industry in this area. The project includes a variety of ports and quays, including the medieval ports associated with Rhuddlan and Flint, those harbours listed in the *Welsh Port Books 1550-1603* (Lewis 1927), and those which developed during the 18th and 19th centuries following the industrialisation of the Dee Estuary hinterland, most of which are no longer active.

2   METHODOLOGY

2.1   The scoping study comprised an initial trawl of the Historic Environment Record (HER) and National Monument Record (NMR) for the study area which were critically examined and enhanced to produce a project database, identifying all recorded potential ports, harbours and their associated structures.

2.2   A rapid study undertaken for the Dee Estuary Historic Landscape (Jones 1998), with funding from Cadw, identified over 50 recorded maritime sites along the north-east Wales coast, ranging from ports such as Connah's Quay and Mostyn, to individual landing stages, jetties, slipways, wrecks and former shipyards. One of the recommendations from the study was that more detailed studies should be undertaken for all of the ports and harbours with a view to producing management strategies to ensure their future preservation (Jones 1998, 36).

2.3   A review of the existing HER and NMR identified 11 ports, harbours and quays which form the basis of the present study which, from west to east, are: Rhuddlan, Foryd, Talacre (Point of Ayr), Mostyn, Llannerch-y-môr, Greenfield, Bagillt, Flint, Connah's Quay, Queensferry and Sandycroft (Fig. 1). For the sake of convenience in the case of ports such as Queensferry, a number of small wharfs and landing stages have been included within the description of the main port, although they do not actually form part of it. Although a small quay also developed at Saltney this has not been included in the case studies as the quay and most of the adjacent wharfage lie across the border in Cheshire.

2.4   Detailed case studies were then undertaken for the main ports, initially with a study of the Dee Estuary New Cut in 2005-06, followed by those of the River Clwyd to the Dee Estuary in 2006-07. A desk-based study was undertaken to investigate readily available cartographic, photographic, pictorial and documentary sources, with particular emphasis on mapping the development of ports

and harbours, together with changes in coastline and river courses. Repositories consulted included the following: the Flintshire Record Office (FRO), Hawarden; the National Library of Wales (NLW), Aberystwyth; and the Cheshire Record Office (CRO), Chester. Rapid field visits then assessed the form, condition and significance of each site and its constituent parts. Recording consisted of a brief description, map annotation and digital photography as appropriate. The results have been used to enhance the HER, including the creation of new records.

2.5   The results from the detailed studies have been used to present a history of each port, its development, significance and potential, and produce management recommendations. Full use was made of digital mapping based on information from the HER and Ordnance Survey digital data using Mapinfo 7.8 Geographical Information System (GIS), together with digital plotting of historic maps using AutoCAD to rectify those sources which were not metrically accurate. This has enabled a map regression exercise to be undertaken for each port, identifying its extent, components, survival and potential. The illustrations within this report were compiled using geo-registered scanned images of the Ordnance Survey 1st and 2nd edition maps, digitized and rectified tracings of tithe surveys, and the modern Ordnance Survey digital data.

2.6   During the course of the fieldwork, and subsequently, a judgement was made on whether to recommend individual sites for scheduling, on the basis of the National Assembly's criteria for scheduling ancient monuments (*Planning and the Historic Environment: Archaeology*, Welsh Office Circular 60/96, 5 December 1996, Annex C).
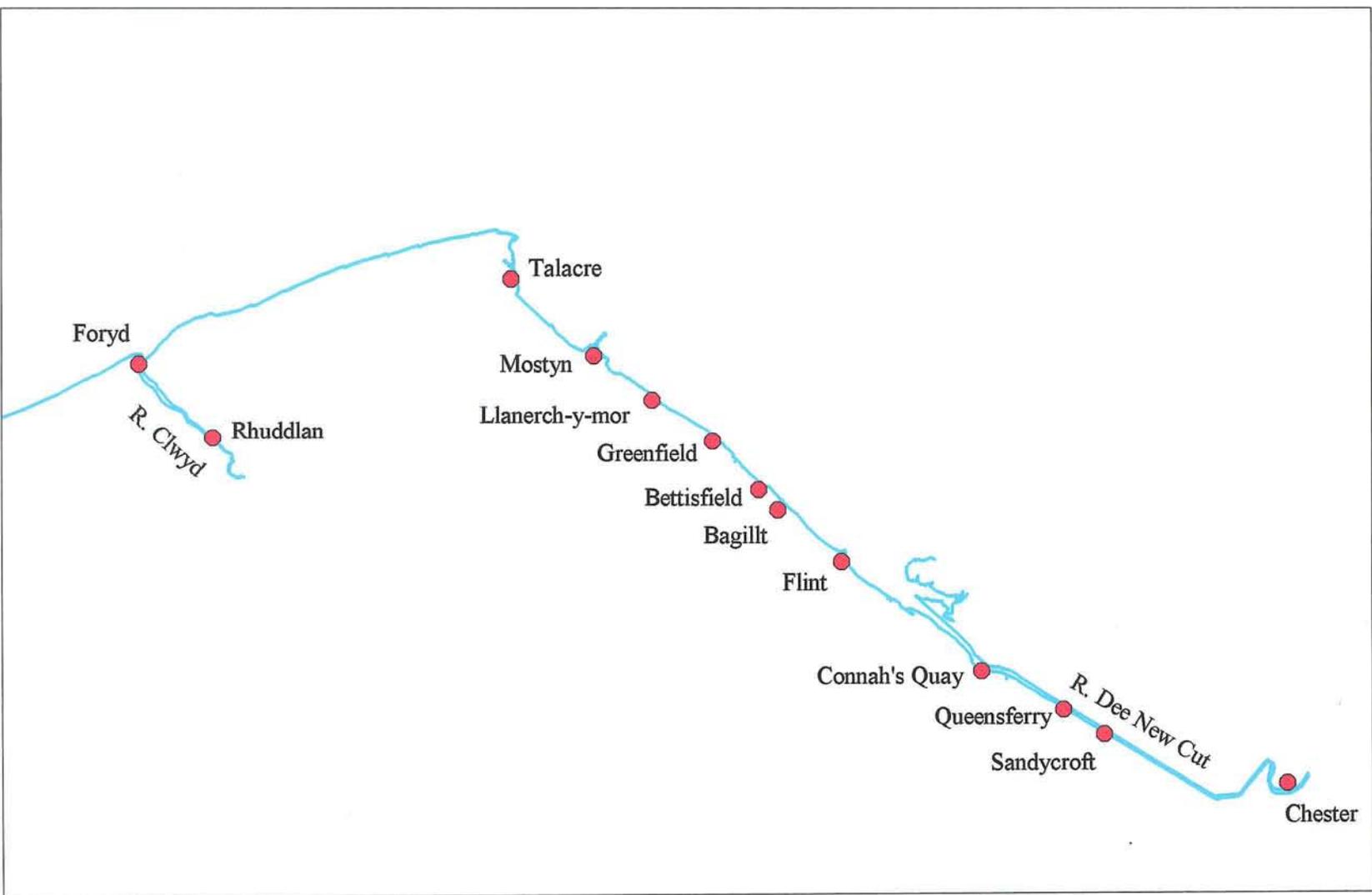
Fig. 1 Ports and Harbours of North-east Wales

3   OVERVIEW

3.1   There is ample evidence to suggest that the Welsh coast has been an important resource since prehistoric times. However, the present study focuses not on the use of the coast, but on the growth of ports harbours and quays which are assumed to have developed from the Roman period onwards.

3.2   Although there is no direct evidence for Roman ports within the study area it is clear that the River Dee in particular was a significant waterway during the period, providing maritime access to Chester. The excavations undertaken at Prestatyn and Flint have, however, given rise to the suggestion that both may have been associated with nearby ports. In the case of Prestatyn, excavations have produced evidence for occupation from the late pre-Roman Iron Age in the 1st or 2nd century BC until the late 3rd or 4th century AD, including bronze workshops and a bath-house. The site lies 1.8km inland along the Prestatyn Gutter, and it has been suggested that this may have formed a harbour around which the settlement developed (Blockley 1989, 223-4). At Pentre Ffwrndan, near Flint, an important Roman settlement and industrial area has been identified which it is assumed was associated with the lead trade, and possibly with an adjacent port on the Dee Estuary (O'Leary 1989).

3.3   During the medieval period, the construction of the Edwardian castle at Flint from 1277 and the founding of the adjacent borough depended heavily on the use of the river as a means of transport, and there is evidence that both the castle and town had their own quays (Jones 2002). Indeed, the castle could still be reached by sizeable vessels as late as the mid-19th century (Soulsby 1983, 135). At Rhuddlan too, where Edward founded a castle and borough in the same year as Flint, the importance of coastal access was clearly demonstrated by the cutting of a new channel for the River Clwyd through marshland to the east of its original course. Unlike Flint, however, Rhuddlan was already an established settlement, located at the lowest fording point of the river and the highest point reached by tidal waters. Excavations have revealed evidence of occupation here from the Mesolithic through to the Romano-British period, although it is the medieval settlement which primarily concerns us here. While it has been suggested that Rhuddlan is the site of the Anglo-Saxon *burh* of *Cledemutha*, recorded in the Anglo-Saxon Chronicle of 921, this has yet to be confirmed. In 1016, however, a stronghold was constructed here by Llywelyn ap Seisyllt which was rebuilt in 1073 accompanied by the foundation of a small borough (Soulsby 1983, 226-231).

3.4   A summary of the Elizabethan ports in 1561/2 is provided in *Anglia Wallia* (Anon 1911, 432) which records the following for Denbighshire and Flintshire respectively:

'Ffrom Conwey vi miles to Careckwymon a small creke ffrom thense vi miles to Rudlan a barred haven and a good Creke where is a noble Castell of ye Kings and well kept'.

'Ffrom Rudlan to Fflynte xvi myles a small towne with a fayer castell having a creke for small boats ffrom thens iiii myles to Moston a small creke standing in a baye to no purpose. From thense to Penylake vi miles a creke for smalle boats of no value. Here is to be noted that when the fishing of the heringe endeth in South Wales the it begynneth in North Wales and a grete trade resorteth therefore unto this Coaste for the ffishing endureth to Candlemas. Ffrom Penylake to Chester xvi myles up the Chanell and between Fflynte and Chester is but v miles ridyng over the sands at low water'.

3.5   The *Welsh Port Books of 1550-1603* (Lewis, 1927) also provides a valuable source of information on the nature of post-medieval ports in the area, which includes the following entry for Flintshire in 1566:

'as for ports, crekes, havens and landing places there be non within the said countie of Fflynt for

shippes or vessels to lande unto or to remayne or stay in except only our creke called the *Welsh Lake* which as we are perfectly informed is able to receive shippe with course and recourse of one hundreth tones and at full tyde somewhat more and there be other smale crekes able to receive barges and botes. The names whereof are theis. *Wepra poole, Picton poole*, and *y Vorryd* unto which crekes there be no havens nor habitacons adoinyng saving unto said *Vorryd* adioneth the towne of Rudlan'.

'we have appointed our deputies for the said foure creekes – that is to say for *Wepra poole*, Thomas ap Hoell ap Ieuan and Lewis ap Ieuan ap David ap Madock gent. For the *Welshe Lake* Thomas pennant and Nicholas pennant gent; for *Picton poole* William Gruffuth and Benet Thomas gent, and for *Vorryd* pers Conwey and Jenkyn Conwey gent'.

3.6 A similar record for Denbighshire in 1578 records no landing places:

'there is not within the said county eny Landing place or recourse for charging or discharging of marchaundise or other repair of shippes'.

3.7 The lack of recorded landing places in Denbighshire should not, however, be taken to imply that coastal trade and activity were entirely lacking. Instead, although the coastline of the county does not present any natural harbours, its beaches do offer ample places where small fishing or trading vessels can be drawn up onto the foreshore, and this is likely to have happened at Abergele, Llanddulas and Llandrillo-yn-Rhos amongst others. The same is also true for stretches of the Flintshire coast and this is known to have been a feature of Ffynnongroyw, for example.

3.8 By the 15th century the Dee was already affected by silting and the earliest account of difficulties is a 'Royal Brief' in 1449 which assessed the City of Chester and proposed the construction of a quay at Neston for the transfer of cargoes into smaller vessels. A survey by Captain Andrew Yarranton in 1674, published in 1677 and entitled *England's Improvement by Sea and Land*, concluded that the river was so choked with sand that a vessel of twenty tons could not reach Chester, proposing the construction of a new channel along the Flintshire shore to provide deep water navigation to Chester, which could save £1,000 a year alone in the carriage of coals from Aston collieries to Chester (Lloyd 1967-8, 35). At this time the deep water channel followed the Cheshire shore, with the Flintshire shore largely consisting of the mudflats of Saltney Marsh.

3.9 The River Dee New Cut was eventually constructed in 1737, following the existing southern bank from Chester to Saltney and then, after a slight bend, a straight line to Golftyn along the Flintshire shore. A stone pier was built at Golftyn for the protection of vessels proceeding to and from Chester and awaiting a fair wind, and this formed the nucleus of what became the port of Connah's Quay (Lloyd 1967-8, 37-8).

3.10 The New Cut was responsible for the birth of Saltney, Sandycroft, Queensferry and Connah's Quay, affording easy water communication for the importation of materials to the hinterland and the export of coal and minerals to Chester, Ireland and as far as northern France and Spain (Lloyd 1967-8, 39).

3.11 There was a flourishing trade in coal to Ireland during the 18th century and also a considerable export to the ports of north Wales, both from Mostyn and Bagillt and also the Hawarden area, which also shipped coal by river to Chester. The coal was sold to the ship owners on the riverside wharves, who were then responsible for shipping and resale (Rawson 1941, 127). The development of the Flintshire lead mines was also a significant factor in the growth of ports like Bagillt, Flint and Rhuddlan.

3.12 The development of the railway network from the mid-19th century brought further expansion for most of the ports, particularly for Connah's Quay and Mostyn. During the same period, however,

Rhuddlan began to decline owing to silting of the River Clwyd, which in turn led to the growth of Foryd. With the exception of Rhuddlan, the ports were at their peak during the late 19th and early 20th centuries as the industries on which they had been founded also prospered. It was the subsequent decline in the local industries of coal, lead, brick, engineering and shipbuilding that marked the end for all of the smaller ports, so that today only Mostyn has survived as a major port, and indeed has seen recent expansion. Connah's Quay also remains active, although a shadow of its former self, whilst the other small ports have all but disappeared.

PART 2: RIVER CLWYD AND THE DEE ESTUARY

4 RHUDDLAN

Location

4.1 Rhuddlan is situated on the east bank of the River Clwyd, approximately 4km inland from its mouth (SJ 022780). The settlement occupies fairly level ground raised well above the river and the formerly marshy areas to east and north. The 13th-century town plan is still represented by the High Street and two roads crossing it, namely Castle and Church Streets and Parliament and Gwindy Streets.

Historical background

4.2 There is a long history of settlement at Rhuddlan and it is first referred to in connection with the defeat of the Welsh by King Offa in the battle of Morva Rhuddlan at the end of the 8th century, and there is a documentary reference to *Bellum Rudglann* in AD 796.

4.3 Roman finds have been recovered from a number of locations around Rhuddlan but their significance is not fully understood, although it has been hypothesised that there may even have been military activity at Rhuddlan, perhaps guarding a harbour.

4.4 The remains of an early town at Rhuddlan lie to the south-east of the village and it has been suggested that this might be a Saxon *burh* dating from AD 921. Rhuddlan is also reputed to be the site of the palace of Llewelyn ab Systyllt, built in 1015, which passed to his son, Gruffydd ap Llywelyn, and was destroyed by Earl Harold in 1063. A motte and bailey castle was built *c.* 1073, probably on Twt Hill, by Robert of Rhuddlan, deputy of Hugh of Chester, and a borough was founded under their joint lordship. The Borough is mentioned in the Domesday record of 1087 when Earl Hugh had eight burgesses there as well as the mint. Excavations by Henrietta Quinnell (Quinnell & Blockley 1994) suggest that the Norman Borough was located immediately south-east of Rhuddlan Castle, and that its defences enclosed an area of 7 ha which contained Twt Hill motte and bailey. From 1140-1241 Rhuddlan was almost continuously under Welsh control, and again during the second half of the 13th century until 1277.

4.5 Following the defeat of the Welsh, Edward I established a new castle and town, the siting of which was carefully chosen to allow access to sea-going ships. In order to achieve this, however, it was necessary to alter the meandering course of the River Clwyd with the construction of a new deep-water channel further to the east. This forms the present course of the river. The castle has a concentric plan with the outer ward surrounding three sides of the inner and a broad, dry moat in between. The moat and outer ward extend to the new river channel so that the southernmost section of the moat was flooded to form the dock, protected by the Dock Tower (Brown 1989, 195).

4.6 In 1403, Rhuddlan was burnt by Owain Glyndŵr, although the castle remained in English hands, and the town was back under English control in 1406-7.

4.7 A bridge over the River Clwyd at Rhuddlan has been documented from 1278. In 1358 a timber bridge was replaced by one of stone. This was remodelled in 1595, but the present bridge, of two unequal spans, is only partly of this date.

4.8 A summary of the Elizabethan ports in 1561/2 is provided in *Anglia Wallia* (Anon 1911, 432) which records Rhuddlan as 'a barred haven and a good Creke where is a noble Castell of ye Kings and well kept'. During the Civil War the King had several vessels at Rhuddlan laden with corn, bacon and

other provisions waiting to relieve the siege of Chester in 1646. Following the King's defeat, the castle was slighted by the Parliamentarians. A map of 1756 shows a small village with the church and castle, and even in the 19th century the settlement was little more than a village, consisting of one main street intersected by several smaller thoroughfares.

4.9   From the 16th century the main harbour developed downstream from the bridge, initially extending for around 100m on either bank (Harris 1991, 9), but later focusing on the wharfage along the eastern bank. A map of the Bodrhyddan Estate in Rhuddlan and Dyserth in 1810 (NT/M/93) shows the quay at Rhuddlan as the property of the Dean of St Asaph and Mrs Barbara Younge, while a Gastineau print of 1830 (FRO PR/858) shows a timber quay with a warehouse.

4.10   The port was once the most important in north Wales, serving Denbigh and the Vale of Clwyd until the construction of the bridge at Foryd in the late 19th century prevented masted schooners from sailing to Rhuddlan. Rhuddlan became a depot supplying a number of towns in the Vale of Clwyd, but the principal trade was the export of grain and timber and, from the Talargoch mines, lead ore. In 1833 Samuel Lewis recorded Rhuddlan as 'a commodious harbour . . . which has access at all stages of the tide for vessels of 100 tons. Spacious quays and wharfs have been constructed and warehouses erected for facilitating the trade'.

Shipbuilding and industry

4.11   A small shipbuilding industry developed in the 18th century, including the construction of brigs, sloops, flats, cutters and schooners (Harris 1991, 13). Any industrial development at Rhuddlan was restricted to the western bank of the river where the Phoenix Iron Foundry (PRN 103603) and a tannery (PRN 103605) developed during the 19th century, each with an adjacent small wharf. The foundry imported moulding sand from St Helens.
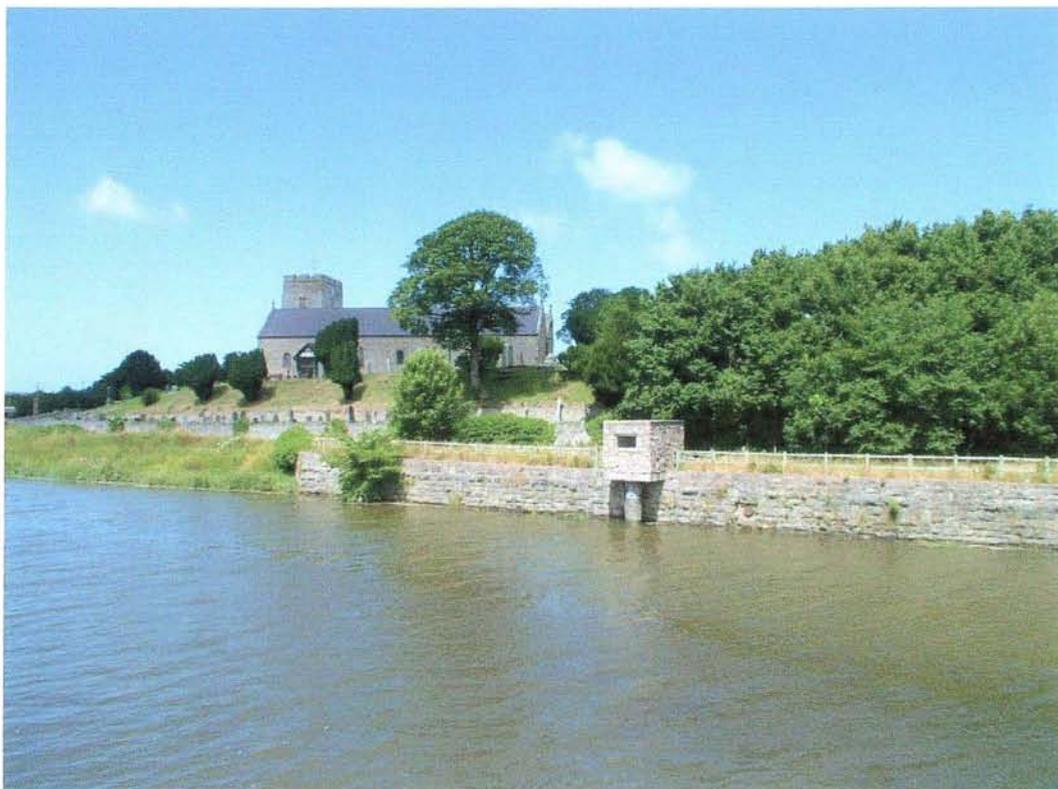
Fig. 2 The post-medieval quay at Rhuddlan. Photo CPAT 2160-002

The waterfront (Figs 4-5)

4.12   Although a Roman port has been postulated and the early medieval settlement is very likely to have been associated with the river, the earliest definite evidence of a port is in connection with the Edwardian castle. The course of the river would originally have flowed against the western side of the outer ward, although today the channel lies 70m further to the west. The Edwardian port was an integral part of the castle, occupying part of the moat (PRN 83514).

4.13   During the later post-medieval period a small quay (PRN 34301) developed on the seaward side of the bridge, below the church. Early 19th-century prints show that the quay was of timber construction and was equipped with a warehouse and a loading crane. Immediately adjacent to the bridge a stone-revetted wharf (PRN 83515) was added during the 19th century, close to which several, possibly associated, buildings are depicted on the early editions of the Ordnance Survey map.

Archaeological potential (Fig. 6)

4.14   The Edwardian dock (PRN 83514) is now silted and no longer reached by high tides. There is, however, considerable potential for buried deposits.

4.15   The only visible remains of the post-medieval port is the dressed-stone revetment wall for the quay (PRN 83515) on the north-east bank of the Clwyd, immediately below the bridge. The wall has been raised by around 0.5m and there is now what appears to be a small pumping station in the area where buildings (PRN 83524) are depicted during the late 19th century. There is no obvious trace of the warehouse (PRN 83517) and quay (PRN 34301) further downstream although the area is very overgrown and remains may well survive. On the opposite bank the buildings of the former Phoenix Foundry (PRN 103603) survive, as does a warehouse (PRN 83519) close to the bridge, which is now occupied by County Services laundry. There is no visible evidence for the wharves associated with the foundry and tannery.

Fig. 3 The medieval quay and castle at Rhuddlan. Photo CPAT 2160-008

Tithe Survey, 1839

Ordnance Survey 1st edition 1:2,500, 1870 & 1895

RHUDDLAN

Ordnance Survey 2nd edition 1:2,500, 1899

Present day

Fig. 4 Map regression for Rhuddlan

wharf PRN 83525

wharf PRN 83526

warehouse PRN 83517

quay PRN 34301

tannery PRN 103605

structure PRN 83527

quay PRN 83515

building PRN 83524

wharf PRN 83518

bridge PRN102034

warehouse PRN 83519

Phoenix Iron Foundry
PRN 103603

Rhuddlan Castle
PRN 102031

PRN 83514
medieval dock

Key

Early Ordnance Survey
1:2,500 mapping

high water mark 1872

Fig. 5 Rhuddlan port related features, scale 1:2,500

Fig. 6 Rhuddlan archaeological potential, scale 1:2,500

5   FORYD

Location

5.1   The settlement of Foryd is located at the mouth of the River Clwyd, on its western bank, opposite Rhyl and 3.8km north-west of Rhuddlan (SH 994807).

Historical background

5.2   Although the mouth of the Clwyd was traditionally crossed by a ford (the name Foryd is likely to be a corruption of *môr* – sea and *rhyd* – ford), this does not appear to have resulted in the development of a settlement until the later post-medieval period. '*Y Vorryd*' is mentioned in the *Welsh Port Books 1550-1603* (Lewis 1927) as being adjacent to Rhuddlan, but with no indication of its significance.

5.3   Before the growth of Rhyl in the early 19th century small fishing boats worked from Foryd and the port was mentioned by Samuel Lewis in 1833 who noted small vessels taking on corn and other produce from the interior, with more grain shipped here than at all the other north Wales ports collectively. The Ordnance Survey Surveyors' Drawing (No. 309), dated 1819-20, gives no indication of a formal harbour at Foryd, although it is interesting 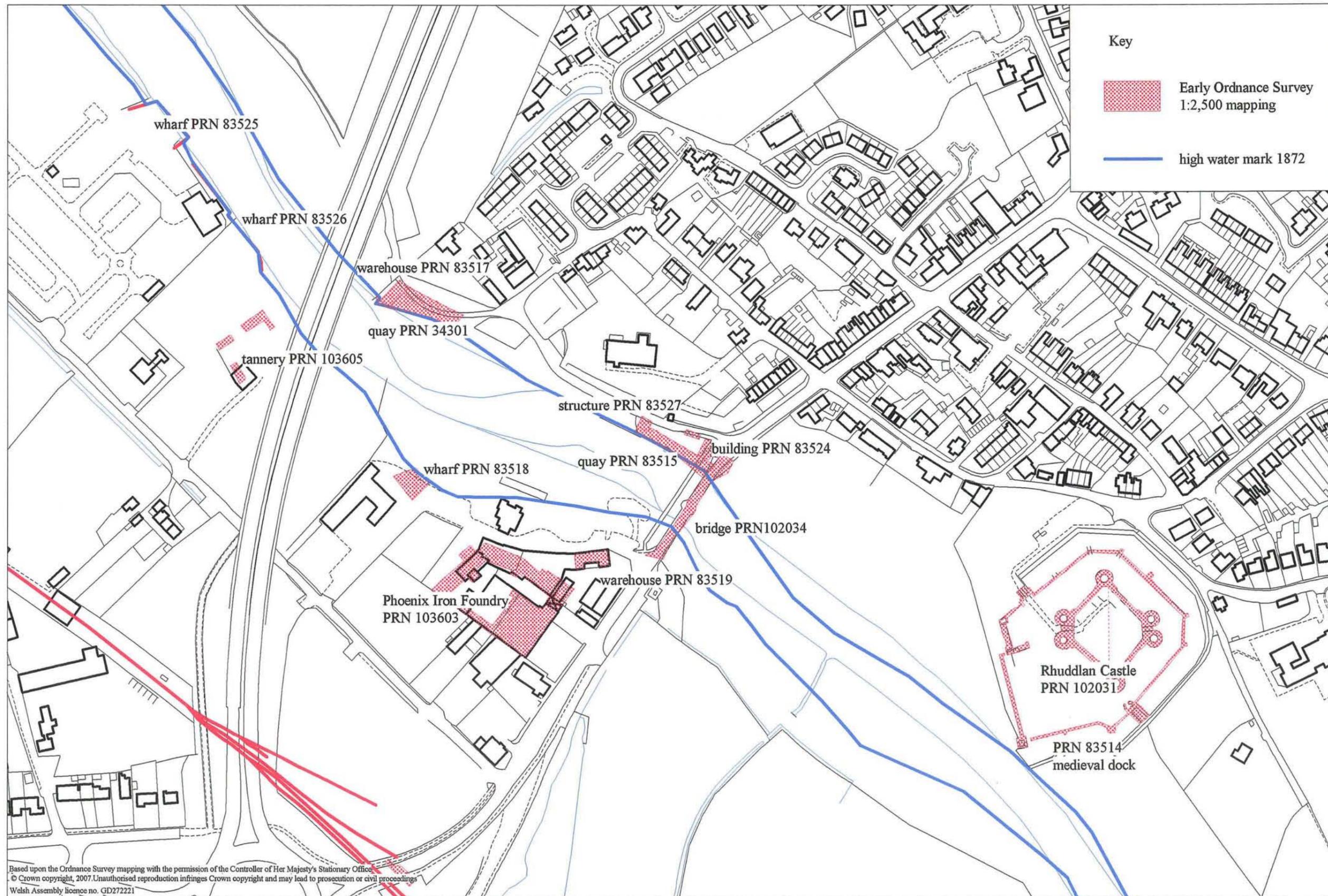to note that the eastern bank of the estuary is lined with sand hills, to the south of which the river follows a large meander in the area later occupied by Marine Lake.

5.4   The Abergele Tithe Survey of 1841 shows little detail of the quayside, although a structure is depicted in approximately the same position as a pier or landing stage which was recorded in the late 19th century by the Ordnance Survey. The Tithe Survey does identify Foryd Fawr and Foryd Bach (later Foryd Lodge), both owned by the Right Honourable William Lewis, Lord Dinorben, and occupied respectively by Thomas Blackbourne and Robert Hughes.

5.5   The growth of Foryd can be directly linked to the fortunes of its neighbours. The decline of Rhuddlan owing to the silting of the River Clwyd led to a corresponding expansion at Foryd, particularly after the construction of the road bridge at Foryd in the late 19th century which prevented masted schooners from sailing to Rhuddlan. By contrast, as Rhyl expanded as a holiday resort, Foryd became an even busier port with steam packets sailing regularly to Liverpool.

5.6   Despite the expansion of Foryd during the 19th century, silting was a constant problem and a report by the Superintendent of Works for the Rhuddlan Marsh Embankment Trustees in March 1853 proposed cutting a channel from the railway bridge to the sea, as well as a dam or breakwater to be used as a quay on the eastern shore (FRO DC/167). A further report for the Admiralty also proposed deepening the harbour at Foryd to make it accessible at all times (FRO DC/169). The problem was made worse by the construction of embankments on either side of the river for a new road bridge in 1863, reducing the scouring effect of the river.

5.7   Quite large vessels could enter the harbour, many bringing Scandanavian timber to Charles Jones' timber wharf. Silting eventually prevented the large vessels from using the harbour and the last timber vessel docked in the 1960s.

5.8   During the construction of the Vale of Clwyd Railway in 1856-58 a temporary railway was constructed from Foryd beach in order to obtain stone for use as ballast. The line crossed land owned by Hugh Robert Hughes of Kinmel Hall, a Vale of Clwyd shareholder who had wanted the main railway to terminate at his pier at Foryd, rather than at the junction with the Chester and Holyhead Railway. In 1859 he took possession of the ballast branch and although it remained fenced off from the main line the branch carried freight and passengers to Hughes' pier, from where James Napier operated his steamer 'Lion' to and from Liverpool. The following year the branch was reconnected to

the main line and in 1862 the Vale of Clwyd Act authorised a permanent replacement for the branch line with a new pier at the terminus, which opened in 1866 and eventually closed in 1959 (Baughan 1980, 67-72).

5.9   Before the construction of the first road bridge the Clwyd was crossed by a ferry which replaced the ford.

Shipbuilding and industry

5.10.   Foryd supported a boatyard on the eastern bank of the Clwyd which included its own slipway and was owned by Robert Jones who moved from Rhyl to Foryd around 1857. At least 33 sailing ships were built at Foryd, including flat-bottomed coasters, barques, brigs, brigantines and schooners. A second yard was opened by James Patterson in the early 1860s, although this was short lived, and by 1878 shipbuilding had come to an end as steam replaced sail (Harris 1991, 39-45).

5.11   The trade in timber appears to have been started with the opening of Evans' timber yard in the mid 19th century, which became Charles Jones & Sons from 1878 (Harris 1991, 147-149). The yard was located on the site of the old signal station (PRN 102875) which had been established in 1826 as one of ten stations at intervals along the North Wales coast, linking Liverpool and Holyhead. The timber yard remained in use until the 1960s but the site has now been mostly cleared.

5.12   Foryd was also notable for the local fishing industry, which once supported a considerable number of families and a sizeable fleet. As early as the 15th and 16th centuries salt was being imported to Foryd from Cheshire for use in the local herring industry.

5.13   From the mid-19th century the mouth of the estuary was dredged for gravel, an industry initiated by Robert Jones following the end of his shipbuilding business in 1858. By 1889 three steam dredgers were removing 2,000 tons of gravel a week, leading to problems with erosion (Harris 1991, 112-119).

Fig. 7 Aerial view of Foryd Harbour. Photo CPAT 06-c-338

The waterfront (Figs 9-10)

5.14   The earliest documented quay appears to have been the stone pier (PRN 83520) built by Hugh Robert Hughes of Kinmel Hall sometime before the mid-1850s, although the harbour was clearly in use before this. A pier was occupied by a building, which is depicted in a number of late 19th-century photographs, as well as by the Ordnance Survey in 1877. A quay (PRN 83555) was later added on the seaward side of the pier in 1866 at the terminus of the Vale of Clwyd Railway, which also serviced the timber yard. Several landing stages developed on the opposite side of the estuary, although the western shore remained the main quayside.

Fig. 8 Foryd Harbour and the wreck of the Alice. Photo CPAT 2160.16

Archaeological potential (Fig. 11)

5.15   The early 19th-century pier (PRN 83520) survives, although later extensions have been added to the northern side to form a quay which, with the adjacent slipway, are used by the local sailing club. At the time of writing the site of the former timber yard (PRN 83522) and its quay (PRN 83555) are in the process of being redeveloped. Little remains of the timber yard (PRN 83522), most of which has been levelled, with the exception of one building which will be retained as part of the redevelopment. The associated wharf comprised a dressed stone-revetted quayside along which were a series of timber and cast-iron mooring bollards, together with the cast-iron base for a crane, set on a dressed sandstone base.

5.16   The silts within the harbour contain the remains of at least two timber vessels. On the western side, close to the old pier, is the wreck of the Alice (PRN 34274), a hopper barge, which was probably built in the late 19th century and was bought by Rhyl Town Council in 1913 for use in dredging sand. It was probably abandoned c.1920 and postcards of the 1930s show the vessel in its present location. Local memory relates that it was bombed by the military just after World War II.

5.17   On the opposite side is the City of Ottawa (PRN 34275), which was built at the Gingra Yard on the St Lawrence River in Quebec, Canada in 1860 and sold in Liverpool 1861. The ship had three masts

with square rigging, and was constructed from American larch with the main keel, keelson, stem and stern post of oak and external planking a mixture of elm, larch and pine. Detailed records survive of 36 voyages between 1863 and 1889, about a third of the total. During this time it travelled widely, visiting Bombay, Genoa, Aden, Canada, Pensacola and Rio de Janeiro, sailing from a variety of ports including Cardiff, Swansea, Barrow, Plymouth, London, Portsmouth and Newcastle. The cargo was often timber and the last recorded voyage was in 1889 from Liverpool to the St Lawrence River and back to Barrow. In 1896 it was towed by the tug Arcadia past the Lizard and on to Kent and the following year it was made into a hulk for storage and probably berthed in Portsmouth. It was finally towed to Foryd in 1906 for salvage after use as a Government store ship.

5.18   The central sandbank is reported to contain the wreck (PRN 34276) of a small sailing vessel known as a 'nobby', which were used as fishing vessels and coastal traders during the 19th century. The wreck is not visible and it is not known how much remains of this particular vessel. There is also considerable potential for the remains of further vessels buried by the estuarine silts.

5.19   On the eastern side of the estuary parts of the 19th-century shipyard (PRN 34292) remain relatively undeveloped and there is also potential for buried deposits, including peat and shell middens, which may date back to the Mesolithic.
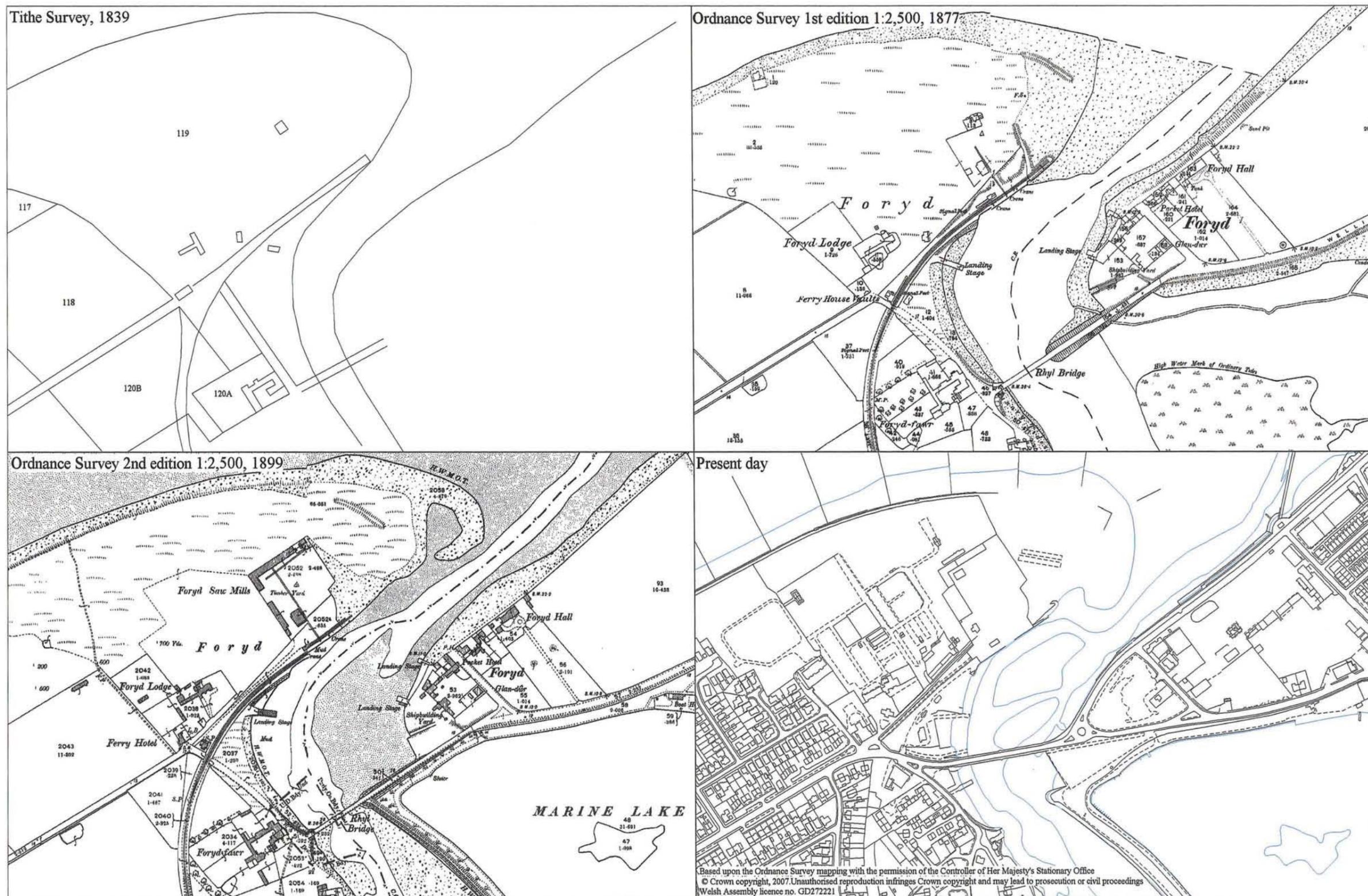
Fig. 9 Map regression for Foryd

Key

Features depicted on
early Ordnance Survey
1:2,500 mapping

high water mark 1877

timber yard
PRN 83522

breakwater PRN 83559

wharf PRN 83555

landing stage PRN 83523

wreck PRN 34276

quay PRN 83521

landing stage PRN 83516

wreck (City of Ottawa)
PRN 34275

shipyard
PRN 34292

landing stage
PRN 83520

wreck (The Alice)
PRN 34274

bridge PRN 83528
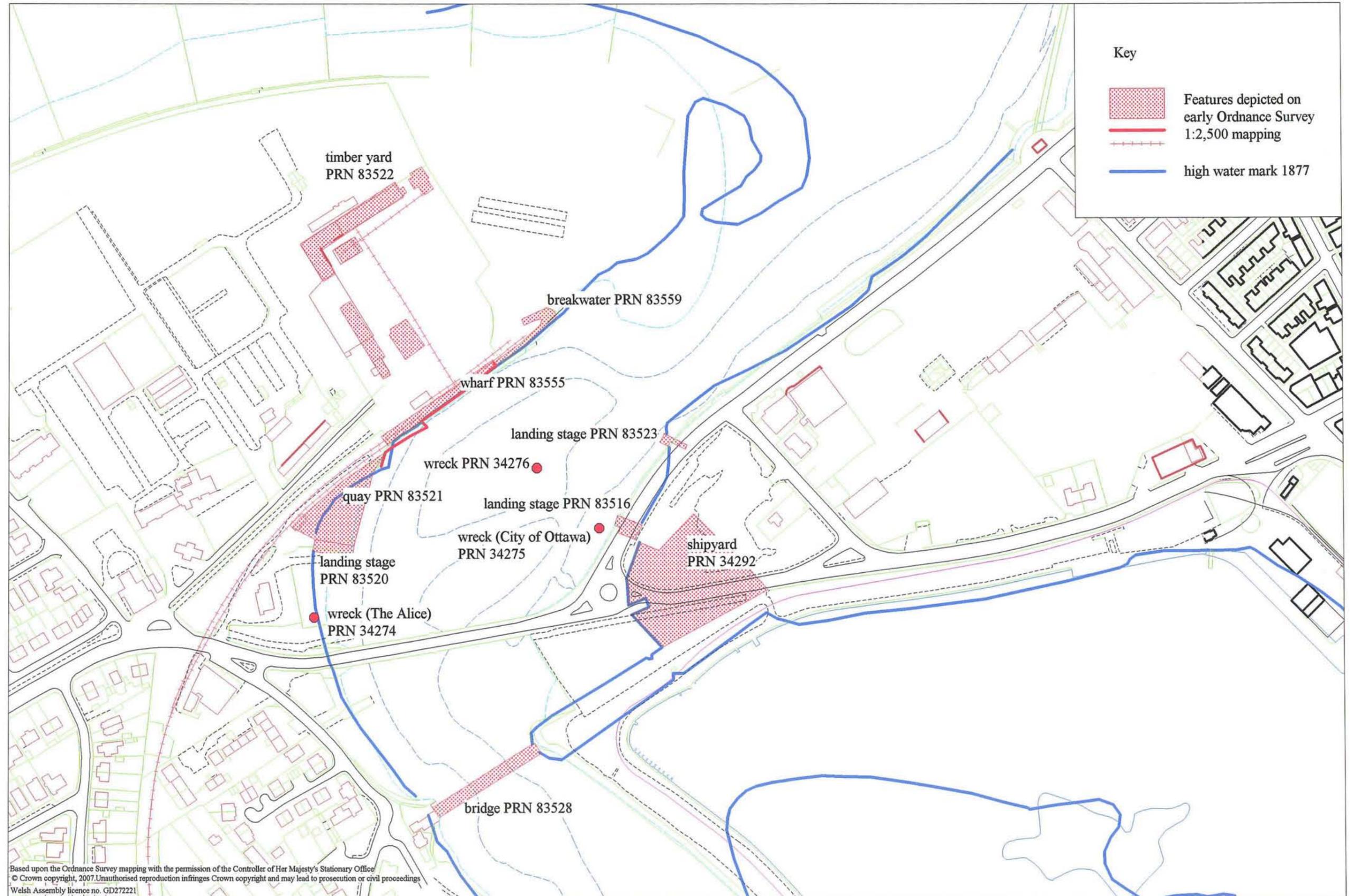
Fig. 10 Foryd port related features, scale 1:2,500

Key

high potential

medium potential

low potential

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Fig. 11 Foryd archaeological potential, scale 1:2,500

6   TALACRE

Location
6.1   Talacre is located at the seaward end of the Dee Estuary, 16km north-west of Flint (SJ 12598358).

Historical background
6.2   The harbour at Talacre, or Point of Ayr, is first documented in the *Welsh Port Books 1550-1603* (Lewis 1927) under the name of *Picton poole*, which occupied a tidal inlet. The hamlet of Picton is mentioned in the Domesday survey of 1086.

6.3   The tidal inlet lies on the edge of Picton Marsh, which was reclaimed following the Llanasa Enclosure Act of 1811. Substantial embankments were subsequently constructed around the western side of the harbour, extending north to Point of Ayr and south-east to Ffynnongroyw. A granary is recorded on the quayside in 1812 (FRO D/LA/97) and the quay is depicted on an Admiralty plan of the River Dee in 1834/38. The Llanasa Tithe Survey of 1839 shows the harbour with three buildings on the quayside and a sluice, presumably controlling the flow of water through the reclamation embankment. During the 1840s Crockford's Tramway (PRN 26557) was constructed to bring coal to the harbour, running from SJ12358275 directly onto an embankment along the eastern side of the harbour. A sluice house is shown here on Robertson's plan of the Dee Estuary in 1849, although there are no details of any harbour. A shipyard developed at Talacre after construction of the New Cut in 1737, although its location is not known (Williams 1986, 76).

6.4   Its present form, however, is associated with Point of Ayr Colliery (PRN 26558), which opened around 1865 and remained in production until it closed in 1996 owing to geological faults. Nos 1 and 2 shafts were sunk in the 1880s and No 3 shaft in 1957. There were five workable seams 2-7m thick, normally worked up to 3km under the sea and up to 450m below sea level. Crockford's Tramway was replaced by a new line, which followed the reclamation embankment around the western side of the harbour, and from there led directly to the colliery. The colliery had a fleet of four vessels, including the tug 'Edward Batters', which remained in service into the 1960s, carrying coal to Ireland and power stations in Lancashire (Bates 1980, 43; Griffiths 2000, 98-99).

The waterfront (Figs 13-14)
6.5   Although Picton Pool is recorded as a harbour as early as the 15th century there is no evidence for any man-made structures until after the reclamation of Picton Marsh in the early 19th century. Quayside structures included a granary, possibly the building depicted by the Ordnance Survey in 1872, and their mapping also shows a sluice house (PRN 83530) and a footbridge (PRN 83538) across the harbour entrance. The harbour was maintained by the use of a tidal flushing pond (PRN 83556), located between the railway and reclamation embankment.

6.6   The colliery constructed its own landing stage (PRN 83535) as part of the main complex, located at the seaward end of the channel and served by a series of railway sidings.

Archaeological potential (Fig. 15)
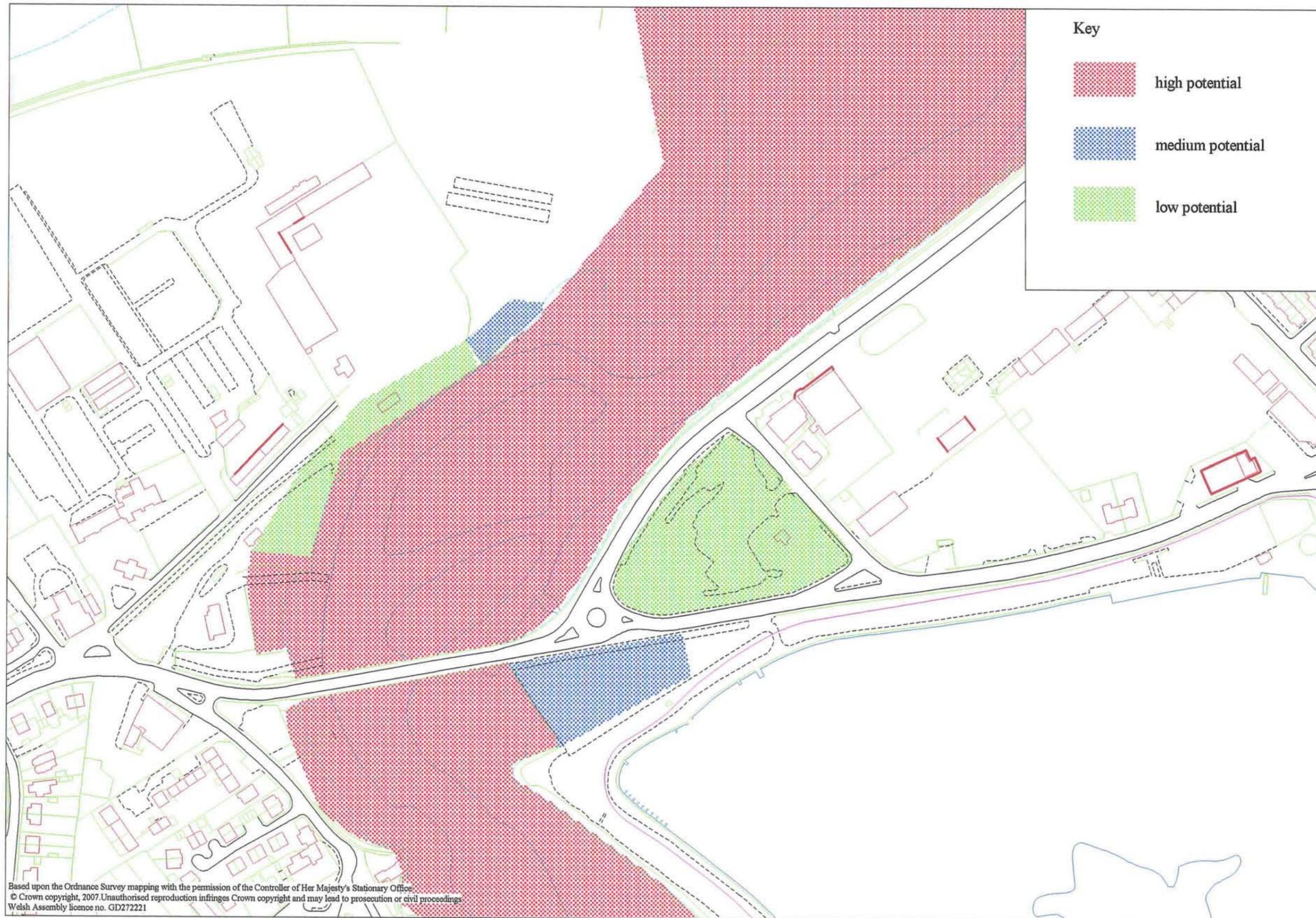6.7   The early use of Picton Pool as a natural harbour for small vessels suggests that there may be considerable potential for buried archaeological deposits in the area surrounding the present harbour. The position and extent of the pool are not known, although it is likely to have been in approximately the same position as the early 19th-century harbour.

6.8   The colliery site has now been largely demolished and cleared, and it was not possible to gain access

to examine the harbour. Recent aerial photography shows the harbour to be badly silted, but otherwise largely intact.

Fig. 12 Talacre Harbour and the site of Point of Ayr Colliery. Photo CPAT 06-c-333

Tithe Survey, 1839

618

637

937

sluice

935

938

946

940

Ordnance Survey 1st edition 1:2,500, 1872

Ordnance Survey 2nd edition 1:2,500, 1899

Present day
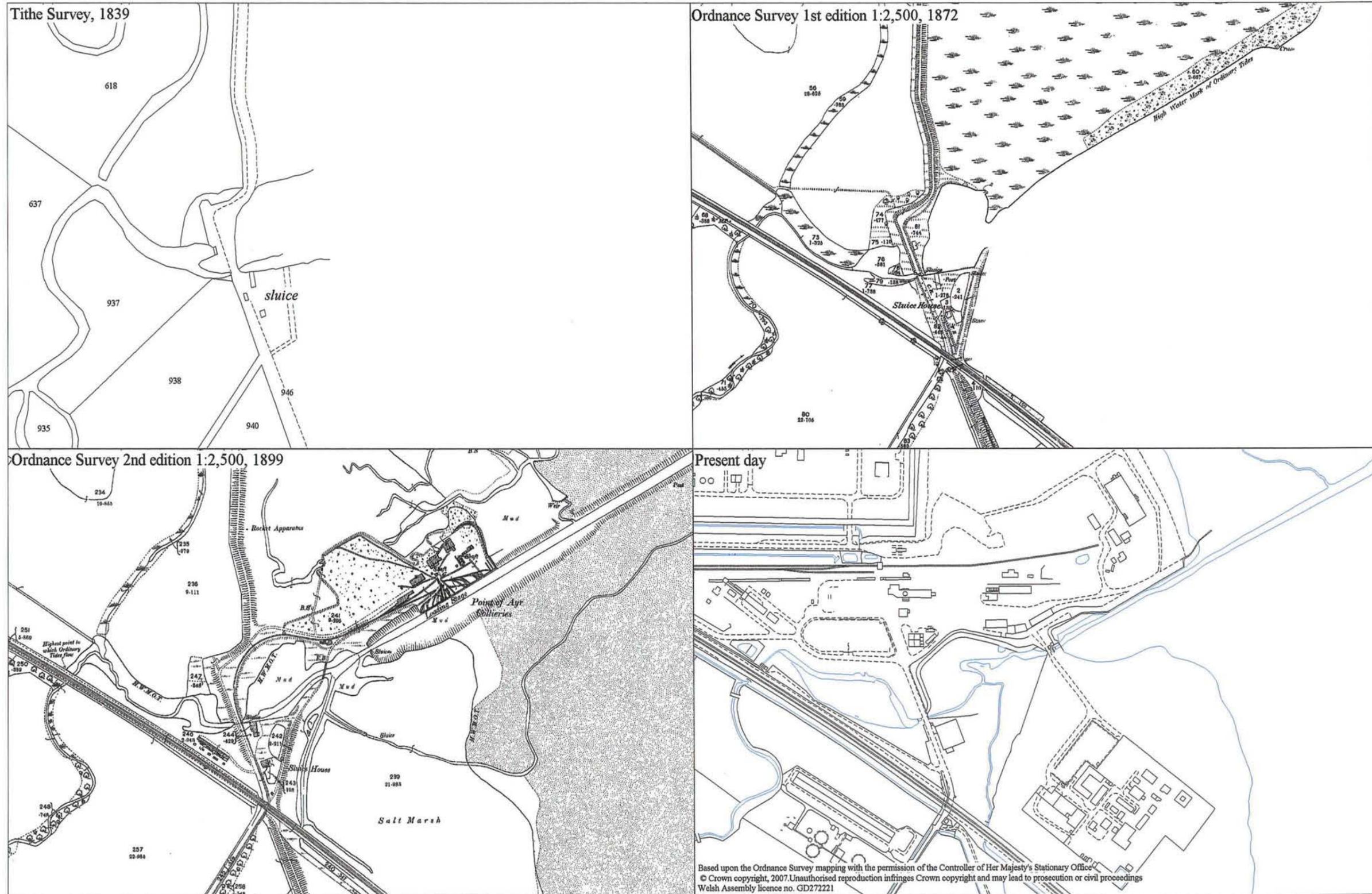
Fig. 13 Map regression for Talacre

Key

Features depicted on
early Ordnance Survey
1:2,500 mapping

high water mark 1872

breakwater
PRN 83537

embankment
PRN 83532

colliery PRN 26558

colliery wharf PRN 83535

colliery tramway PRN 83536

reclamation bank PRN 26553

footbridge PRN 83538

flushing pond PRN 83556

building
PRN 83533

miners' cottages PRN 83534

sluice house
PRN 83530

colliery railway PRN 83531

Crockford's tramway PRN 26557

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Fig. 14 Talacre port related features, scale 1:2,500

Key

high potential

medium potential

low potential

Fig. 15 Talacre archaeological potential, scale 1:2,500

7   MOSTYN

Location

7.1   The port of Mostyn is located alongside the Mostyn Gutter, 12km north-west of Flint (SJ 15508113).

Historical background

7.2   A summary of the Elizabethan ports in 1561/2 is provided in *Anglia Wallia* (Anon 1911, 432), which lists Mostyn as 'a small creke standing in a baye to no purpose'.

7.3   The origin of the port at Mostyn is unknown, but it was certainly in operation during the Civil War when guns and ammunition were smuggled in, and it has been claimed that Jasper Tudor, uncle of Henry VII, escaped from here in 1471 having been imprisoned in Mostyn Hall. During the reign of William III smuggling was rife, mainly in tobacco, wines and French linen. Thomas Pennant records that in 1702 a raid in Mostyn recovered 60 pipes of French wine, which were taken to a local inn known as 'The Honest Man' for safekeeping overnight. However, the inn was raided, the customs men tied up and the wine stolen. Legend has it that there are tunnels to the dock from both the lounge of the inn and from Mostyn Hall (Griffiths 2000, 92). The Honest Man lies over 1km south-east of Mostyn docks (SJ 16208025) and before the enclosure of the saltmarsh through the construction of reclamation embankments in the late 18th century, ships used to tie up on the shore opposite the inn.

7.4   The earliest available cartographic source which shows Mostyn Quay is entitled 'a New Survey of the River Dee' (D/M/5139iii), and although undated, was drawn before the construction of the River Dee New Cut in 1737. A survey of the Manor of Mostyn by Thomas Badeslade in 1742 (D/M/5248) shows the quay with a pier, together with a salthouse further to the south-east. A map of the local coal pits in a report by John Farey in 1814 (D/M/5139xi) shows Mostyn Quay as 'Pen y Key', depicting the old quay or pier.

7.5   Denham's Mersey and Dee Navigation, dated 1840, records that Mostyn Quay might be called the 'principal shipping place below Chester Cut. Vessels of 100 and 120 tons ship quantities of coal and metal and can accommodate in dock 20-25 vessels at one time in 12ft of water'.

7.6   During the mid-19th century Mostyn Quay was a place of great importance, with a steam packet to Liverpool and around 250,000 tons of coal produced from various pits in the area annually which, with the exception of 70,000 tons, were exported to Ireland (Lewis 1852, 12).

7.7   In 1851 there were proposals for an embankment to enclose and reclaim the marshes known as Trewaelod Sands and the White Sands, between Talacre Dock and Mostyn. A pile pier was also planned at Mostyn, extending from the existi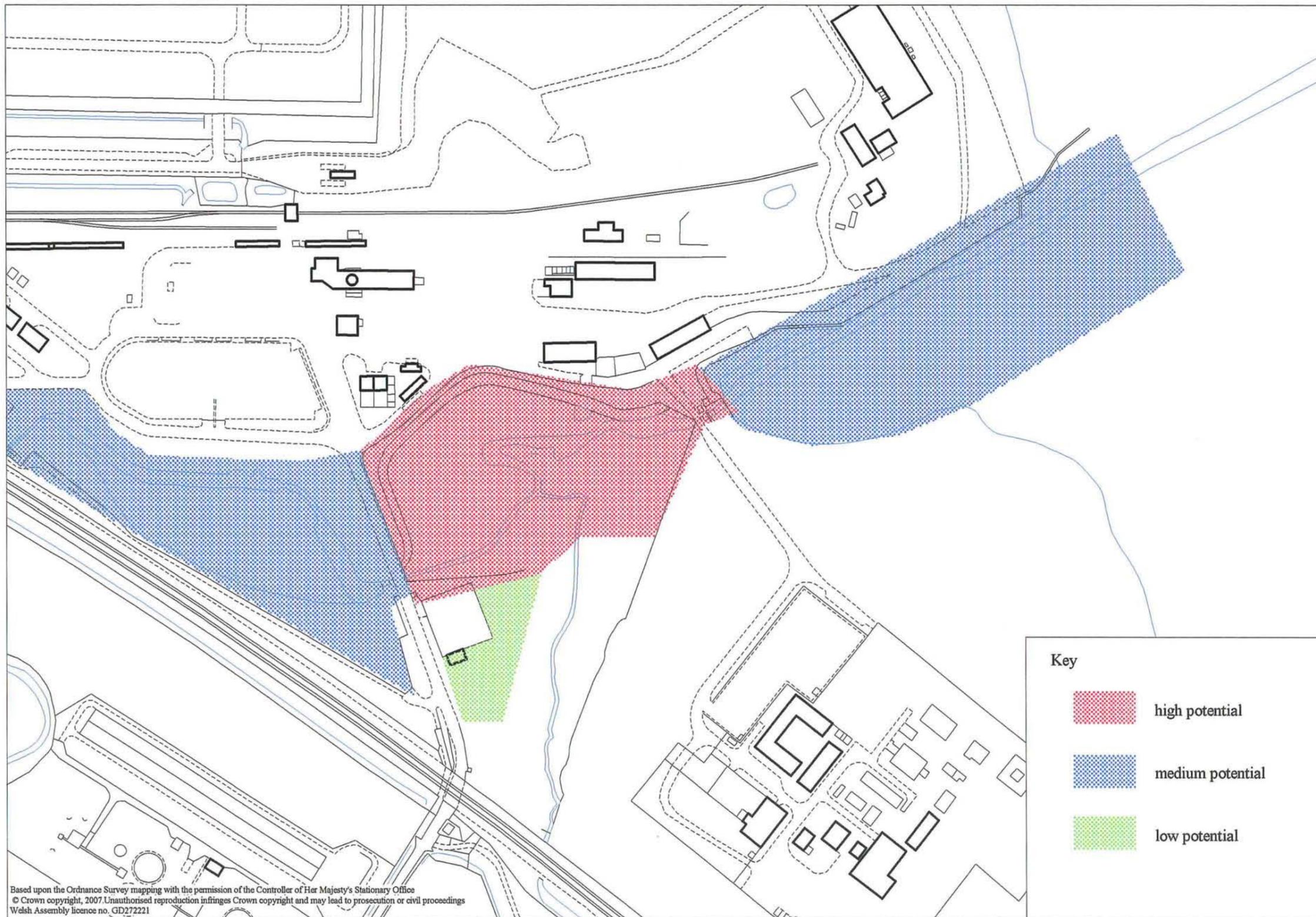ng dock to the main channel of the Dee, with a railway along the south-eastern side leading to a new wharf (FRO QS/DP/5). Further plans were put forward in 1888, including the building of a wet dock of 8 acres with a gated entrance from the Dee to be sited partly in the channel known as the Mostyn Gutter, which was also to be dredged, deepened and improved (FRO QS/DP/9 and 10), although these works were never undertaken.

7.8   The continued prosperity of Mostyn Docks has been aided by the construction of a promontory, or breakwater, from furnace and colliery waste. This, together with flushing ponds, has helped to keep the dock and channel clear (Lewis-Jones, 1984).

7.9   The 1960s saw a two-phase redevelopment of Mostyn, rebuilding the old timber quay and installing dockside railway tracks and cargo-handling equipment. The first phase was completed in 1967 and the second in 1969 with a new 363ft-long quay and transit shed complete with nine large cranes and space for five vessels (Liverpool Daily Post 20 October 1966, and 7 January 1969).

7.10   Mostyn is now the only active port of any size on the Dee and has been recently extended to take roll-on roll-off ferries for Ireland and to accommodate larger cargo ships, including the shipment of aircraft wings for the European Airbus, constructed at nearby Broughton. To enable larger vessels to reach the port the river has been dredged to create a deeper channel. The current trade is in scrap metal to Spain, wood pulp and cut timber from Sweden and the export of rolled steel from Shotton (Griffiths 2000, 91).

Shipbuilding and industry

7.11   Iron and coal have played a major part in the development of Mostyn, principally in the form of the Darwen and Mostyn Iron Company. The firm started on the site around 1800 as the Mostyn Coal and Iron Company and by 1840 there was a foundry and shipyard at Mostyn. In 1850 a new owner, JT Cookney took over the colliery and built sidings to link it to the Chester and Holyhead Railway, and expanded the shipping depot by building a dock and wharf from which to export coal.

7.12   By the 1880s most of the iron ore came from Spain. It was brought in by large steamers, which discharged their cargoes into lighters in the Mostyn Deep. There were special facilities for steamers at Mostyn, as they were favoured with a quick dispatch and waiving of port charges, so much so that steam boat owners were willing to accept one shilling less per ton for shipping ore to Mostyn than to other ports of the district. The company had its own fleet of nine vessels, some of which were built locally (Bates 1980, 43).

7.13   A flooding disaster in 1884 closed the colliery, although soon after Point of Ayr Colliery opened and provided coal for the ironworks (Richards, 1967-70).

7.14   The coastal location also gave rise to a saltworks (PRN 37741) which was depicted on the survey of the Manor of Mostyn in 1742 (D/M/5248), which had closed by the end of the 18th century. The same map also depicts a new smelting works (PRN 83545) south-east of Mostyn, at a location identified by later sources as Shop Goch. A small shipyard developed at Mostyn during the early 19th century (Williams 1986, 76), although its location is not known.

The waterfront (Figs 17-18)

7.15   It is likely that the earliest use of Mostyn as a port consisted of no more than drawing boats up to the high water mark and there are certainly records of this close to the Honest Man inn into the 18th century. By 1742 a more formal quay had developed including a pier, which it may be assumed is the same structure which survived largely intact until fairly recently, forming the north-western side of the docks. A fairly substantial port had developed by the 1840s and the Tithe survey of 1839 depicts the pier with a quay along the eastern side (2115) and an adjoining reservoir, or flushing pond (2114), all owned by the River Dee Company and occupied by the Honourable Edward Mostyn. A reclamation embankment (2113) ran along the river's edge, forming one side of the flushing pond.

7.16   By the time of the 1st edition Ordnance Survey 1:2,500 map of 1872 the port had expanded considerably. The colliery (PRN 102483) and adjacent ironworks (PRN 26567) had developed on reclaimed land and a new dock (PRN 26564) had been built, protected by a breakwater on the north-east side and with a new flushing pond to the south-east. The original flushing pond had been partly infilled with the construction of the Chester to Holyhead railway and replaced by two smaller reservoirs (PRNs 26563 and 83539). Railway sidings ran along either side of the original dock and along the new dock, as well as serving the colliery and ironworks. By the end of the 19th century, waste from the dockside industries had been dumped along the edge of the estuary reclaiming new

ground and had also been used to construct a 680m-long breakwater (PRN 26572) alongside the Mostyn Gutter. A photograph of the docks in 1905 shows that timber staging had been used to extend the quayside along the north-west side of the original dock, while the later dock appears to been revetted in stone.

7.17   During the Second World War the port was protected by the construction of two pillboxes (PRNs 34286-7), one on the tip of the original pier, and the other on the western side of the later breakwater.

Archaeological potential (Fig. 19)

7.18   The recent redevelopment of Mostyn Docks has unfortunately led to the loss of most of the 18th and 19th-century dockside without allowing any opportunity for detailed recording. The main dock (PRN 26,564) and flushing pond (PRN 26,565) have both been infilled, although it is possible that features have to some extent been buried rather than destroyed. The northern tip of the original pier (PRN 26562) survives, as does the later breakwater, which now forms the western side of the new dock facility, although it is uncertain whether the pillboxes have been affected. The site of the isolation hospital (PRN 26566) survived until very recently, although works underway in October 2006 may have destroyed any buried remains.

Fig. 16 Aerial view of Mostyn Dock. Photo CPAT 06-c-325

Tithe Survey, 1848

Ordnance Survey 1st edition 1:2,500, 1872

Ordnance Survey 2nd edition 1:2,500, 1899

Present day
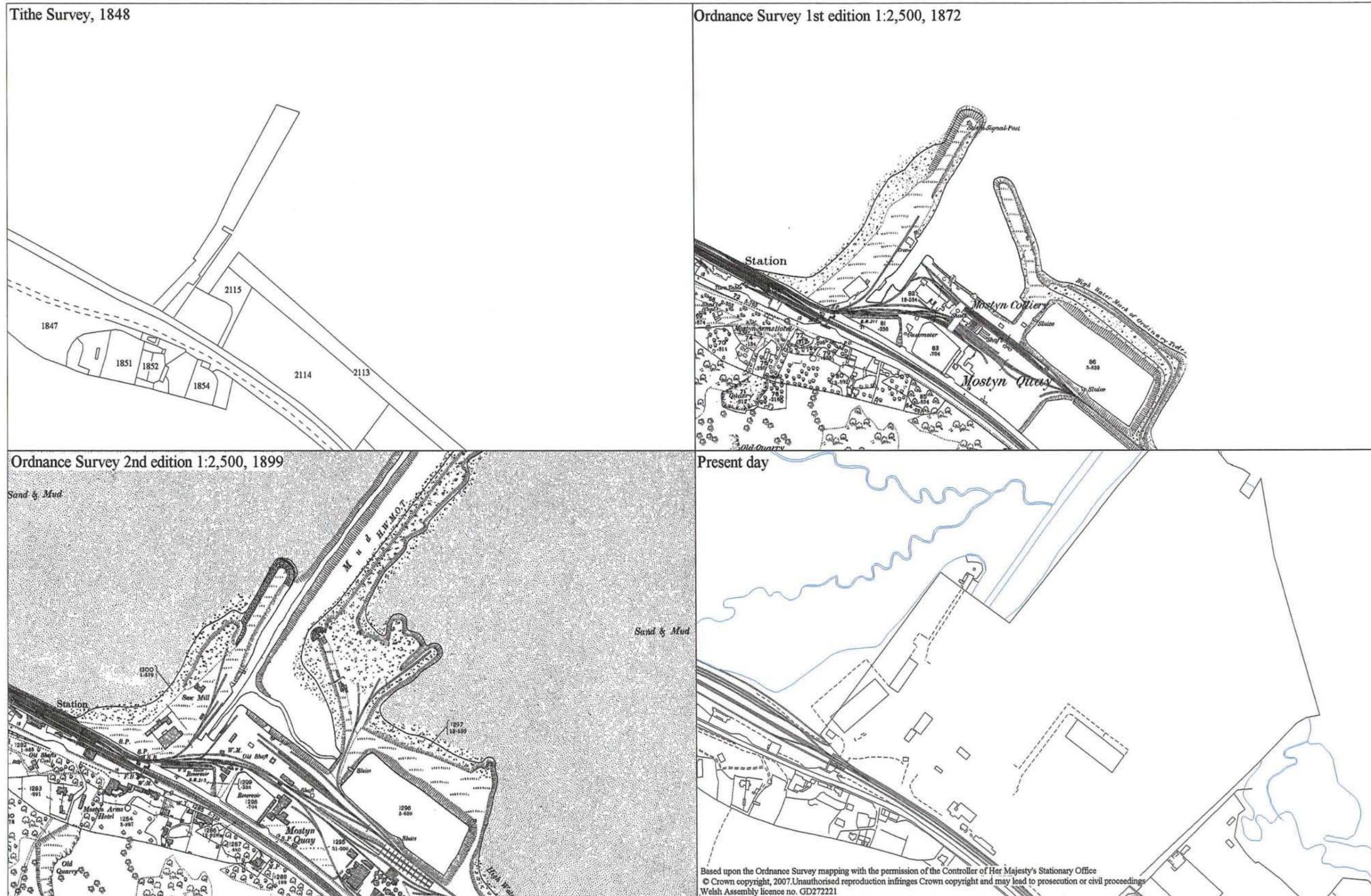
Fig. 17 Map regression for Mostyn

pill box PRN 34287

breakwater
PRN 26572

Key

Features depicted on
early Ordnance Survey
1:2,500 mapping

high water mark 1872

pill box PRN 34286

original pier PRN 26562

isolation hospital PRN 26566

Mostyn docks PRN 26564

sawmill PRN 83541

wharves PRNs 83542 & 83543

coal mine PRN 102483

flushing pond
PRN 26563

reservoir
PRN 83539

flushing pond PRN 26565

Darwen and Mostyn ironworks
PRN 26567

Fig.18 Mostyn port related features, scale 1:2,500

Key

high potential

medium potential

low potential

Fig. 19 Mostyn archaeological potential, scale 1:2,500

8   LLANNERCH-Y-MÔR

Location

8.1   Llannerch-y-môr is located 2.75km south-east of Mostyn, and 9km north-west of Flint (SJ 17727942).

Historical background

8.2   Llannerch-y-môr was a small private dock, associated with the nearby leadworks, which in 1905 handled 847 tons of cargo (Griffiths 2000, 91).

8.3   The origins of the smelting works are uncertain, but were certainly in existence by 1742 when they were depicted on a survey of the Manor of Mostyn by Thomas Badeslade (D/M/5248), and by 1773 they were being operated by John Richardson (Lewis 1967, 141). In the 19th century the leadworks was being operated by the North Wales Lead Works Company. A draft sale of particulars of Kinsale House and the smelting works in 1818 lists two smelting furnaces, two refineries and two water wheels (FRO D/KK/504). At the time of the Whitford Tithe Survey in 1848 the smelting works occupied an area to the south-east of the coast road and there was no indication of a quay. The works expanded during the mid-19th century to include part of the area between the road and railway, on land reclaimed from the saltmarsh during the 18th century. The smelting chimney, the last surviving example on Deeside, was built around 1860 with flues running under the road. The chimney was originally 160ft high, but was later reduced by the Darwen and Mostyn Iron Company Ltd, who purchased the site in the 1920s. The works were at one time let to WR Edwards, a building contractor from Mostyn, and during the Second World War the Ministry of Supply used the works for the production of low carbon ferro-manganese used in high grade steels (FRO D/DM/584/17). The site was purchased by its present owners, the Abakhan family, in the 1960s.

Fig. 20 Llannerch-y-môr Quay. Photo CPAT 2160.28

The waterfront (Figs 21-22)

8.4   The quay (PRN 34212) developed at the mouth of a small inlet, which appears to have been canalized as far inland as the main coast road. It is uncertain, however, whether the whole of this length was used by vessels, and indeed, the railway which crosses the inlet would have prevented any masted vessels from progressing further.

8.5   The wharf lay on the western side of the inlet, on land reclaimed from the saltmarsh following the construction of a large embankment in the second half of the 18th century. By 1899 there was a railway siding linking the wharf with the nearby Chester to Holyhead Railway.

8.6   More recent developments have included the construction of a new quay with concrete revetment, and the dock is now home to an ex-British Rail Isle of Man ferry 'Duke of Lancaster' which, with a small barge alongside, lies abandoned at the mouth of the inlet. The quayside is disused and fenced-off.

Archaeological potential (Fig. 23)

8.7   Although no direct access to the quay was possible, it is likely that the late 20th-century redevelopment has had a considerable impact on the 19th-century quayside. Few original features are now evident, although some stone revetment is visible along the western side of the inlet, and at the northern end of the eastern side there is some evidence that smelting slag was used to armour the bank and construct a metalled surface.

8.8   The site of the smelting works has considerable potential, particularly in the area to the south of the main road with the last surviving smelting chimney on Deeside. The main buildings belonging to the 19th-century leadworks still survive and now form part of a textile outlet.

Fig. 21 Map regression for Llannerch-y-môr

Key

Features depicted on
early Ordnance Survey
1:2,500 mapping

high water mark 1872

quay PRN 34212

tramway PRN 83079

lead works railway PRN37733

lead works PRN 102395

limekiln
PRN 103674

mill pond PRN 83076

mill leat PRN 83078

smelting chimney
PRN 83681

mill pond PRN 83077

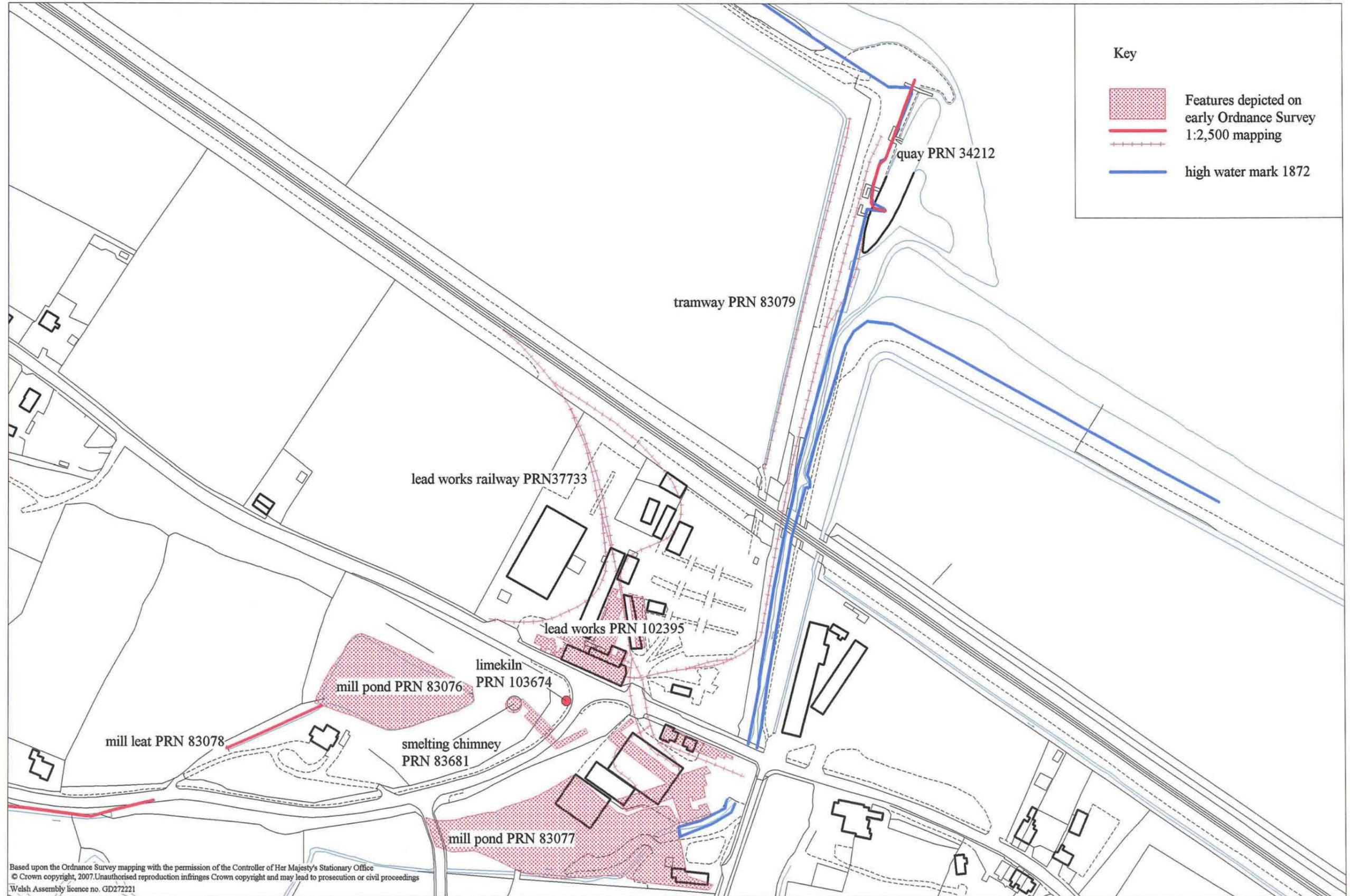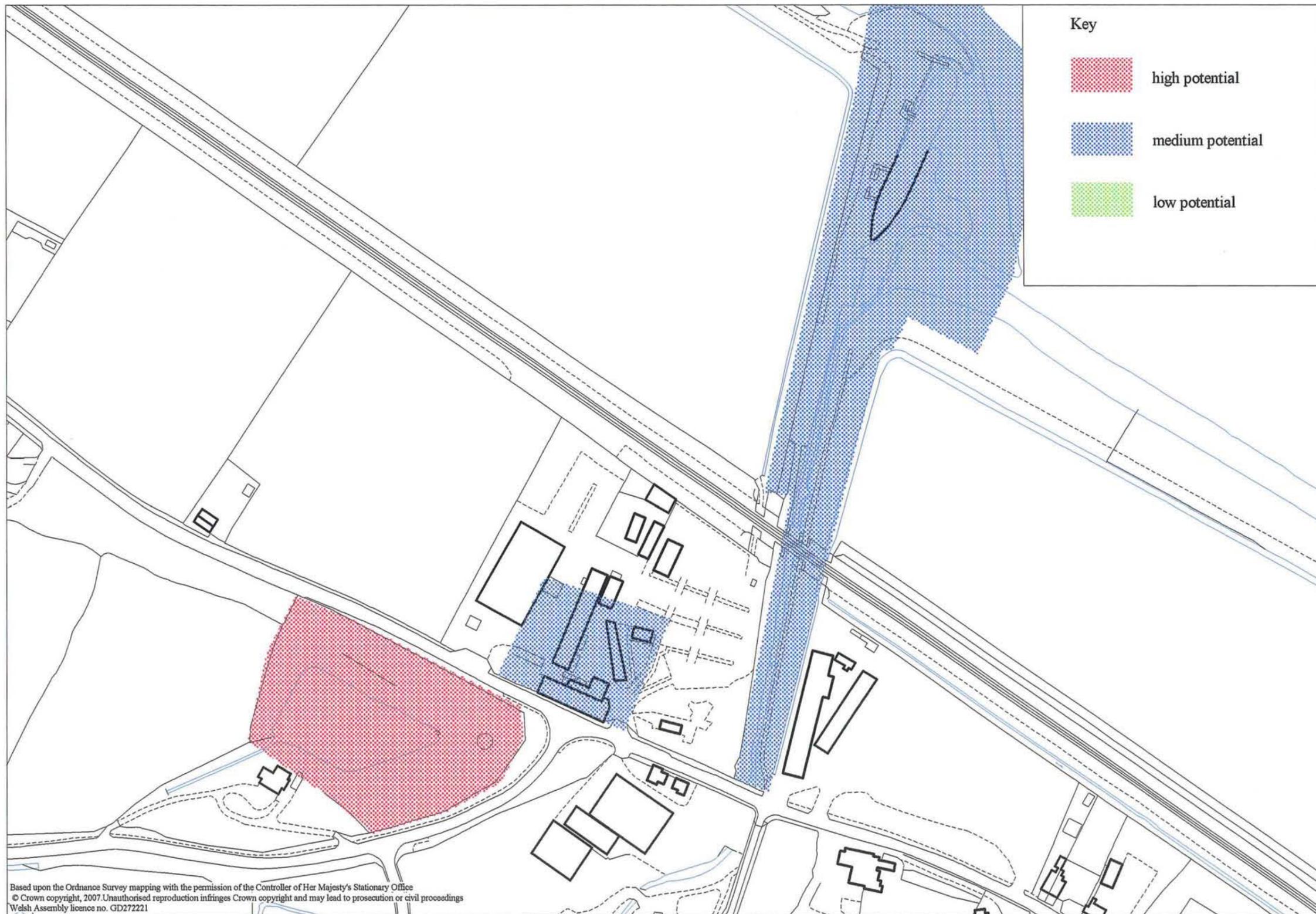Fig. 22 Llannerch-y-môr port related features, scale 1:2,500

Fig.23   Llannerch-y-môr archaeological potential, scale 1:2,500

9   GREENFIELD

Location

9.1   The harbour at Greenfield is located at the mouth of the Holywell Stream, 2.5km downstream from Holywell and 6.5km north-west of Flint (SJ 19947794).

Historical background

9.2   Although a small port may have been associated with nearby Basingwerk Abbey in the Middle Ages, it was the industrial development of the 18th and 19th centuries which led to the growth of Greenfield. Copper goods were manufactured in the Greenfield valley from the 1730s, but production was at its height from 1780 onwards when Thomas Williams set up works at the lower end of the valley to process copper from Parys Mountain on Anglesey. The raw copper was smelted at Ravenhead in Lancashire, and later at Amlwch on Anglesey, before being shipped to Greenfield (Williams 1986, 40).

9.3   During the 18th century Greenfield traded extensively with Liverpool. A flushing pond was added in 1780, and sheds and warehouses were built alongside and rented to individual firms. The adjoining saltmarsh was enclosed between 1790 and 1839, and the position of the present harbour suggests that it was constructed on reclaimed land. In 1802 a ferry ran between Greenfield and Parkgate, later moving to Bagillt, and in 1857 the iron steamer 'Fanny' ran between Greenfield and Liverpool, bringing pilgrims from Lancashire to visit Holywell. This was replaced by a coach service in the 1860s and later by the railways. In the 1870s two paddle steamer services were established, the first using the 'St Winifred' and later the 'Shamrock', although both ventures failed within a year (Griffiths 2000, 85-90).

9.4   A series of plans and sections of Greenfield Harbour and Light Railway, dated November 1913 (QS/DR/249), indicated that the harbour was owned by the Dee Conservancy Board, with a wharf and buildings on the west side owned by J Kerfoot Evans and occupied by the Mold Collieries Ltd, Grosvenor Chater & Co, Albert Jones Stuart, Thomas Jones and Greenfield Colliery Co. On the east side was a further wharf owned and occupied by JP Jones, Greenfield Colliery Co and JK Evans.

9.5   The Mid-Flintshire Light Railway (Greenfield Harbour Extension) Order of 1914 authorised the construction of the light railway to serve the harbour, together with the provision of a flushing pond, the deepening of the harbour and the dredging of the channel to the Dee.

The waterfront (Figs 26-27)

9.6   During the later 19th century the harbour (PRN 34216) had wharfages on either side with a railway leading directly onto and along the south-east side of the quay. The north-west side was formed by an artificial breakwater (PRN 83549) which extended out into the Dee, along which there were several cranes and mooring posts. A large flushing pond (PRN 34273) lay immediately to the south-west of the harbour, connected to it by a sluice, and fed by the stream which ran through the Greenfield valley.

Archaeological potential (Fig. 28)

9.7   The harbour (PRN 83545) itself survives and is still used by small vessels although 2m of silt has now accumulated, preventing its use by larger vessels. The south-east side of the harbour has a substantial stone revetment wall which appears to be in good condition, while the north-west side has been replaced by recent coastal defence works. There are, however, a number of mooring posts

visible above the substantial dumps of stone. There is considerable potential for other features and wrecks to be preserved within the deep silts inside the harbour. The flushing pond (PRN 34273) survives, although silted, along with the stone revetment wall at its northern end. The embankment for the railway survives alongside the flushing pond, although there is no trace of the railway alongside the harbour apart from two brick buildings, one on either side of the road which now separates the harbour from the flushing pond.

Fig. 24 Aerial view of Greenfield Quay. Photo CPAT 06-c-311

Fig. 25 Greenfield Quay showing extent of silting. Photo CPAT 2160.033
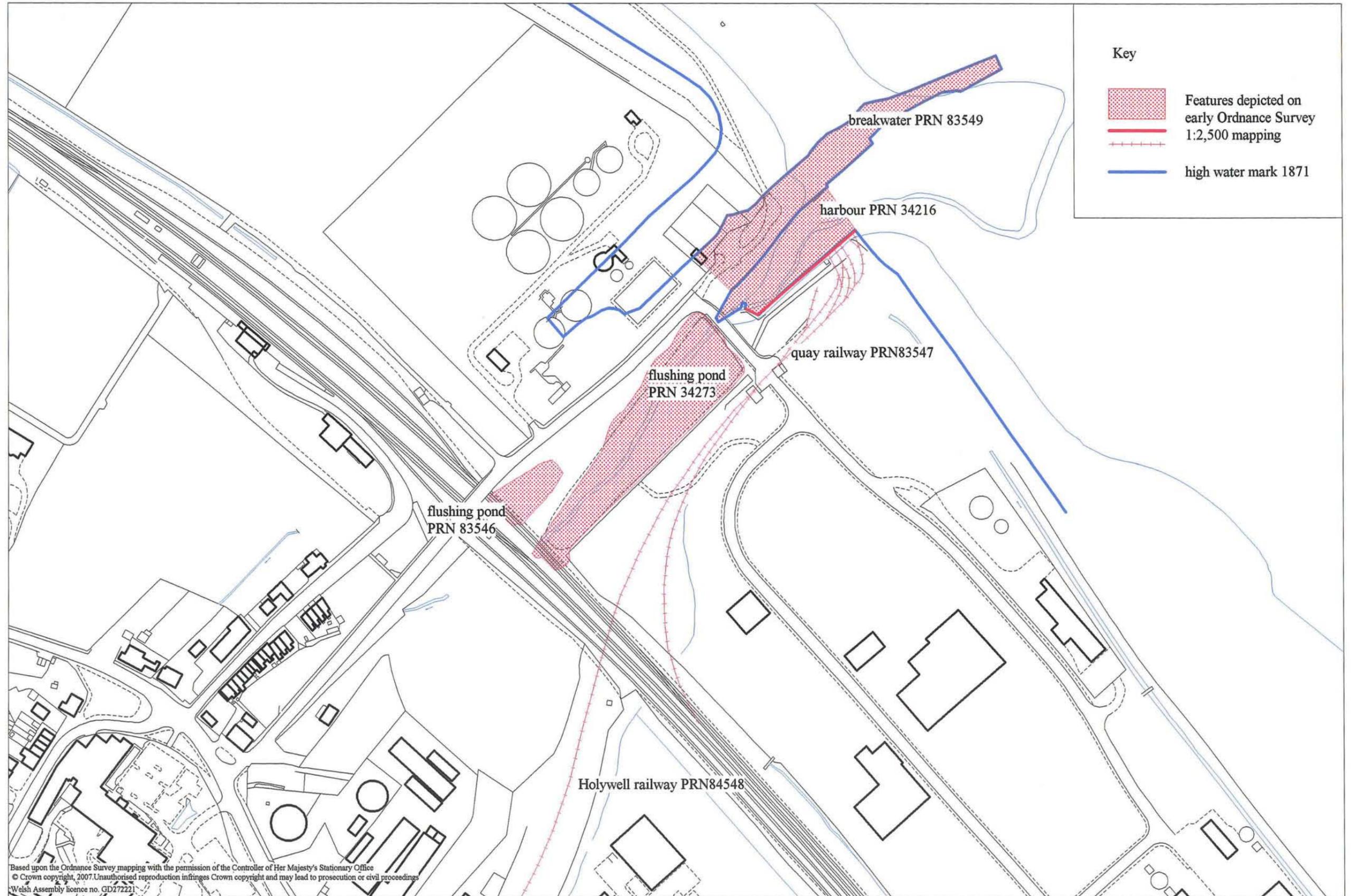
Fig. 26 Map regression for Greenfield

Fig. 27 Greenfield port related features, scale 1:2,500
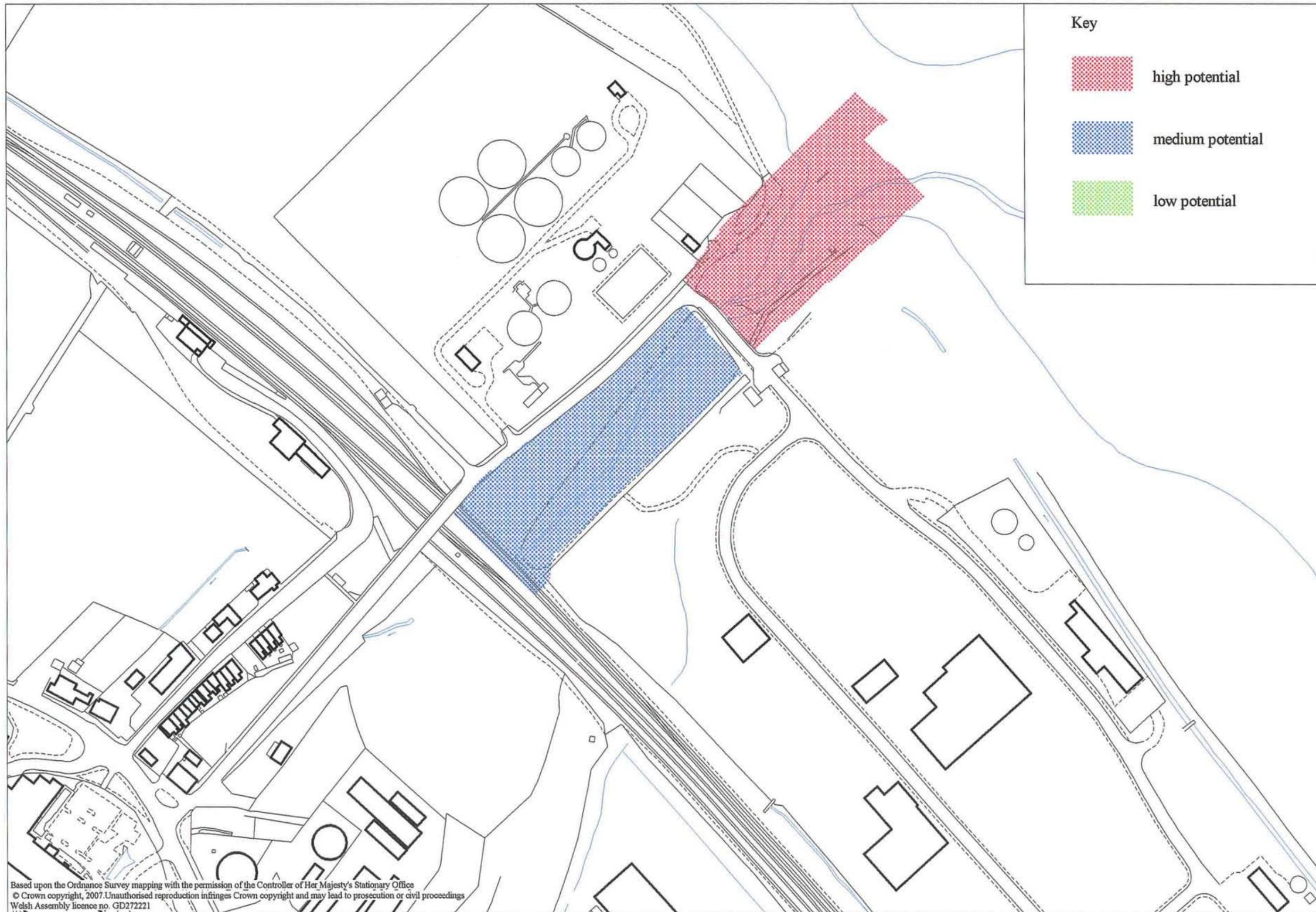
Fig.28 Greenfield archaeological potential, scale 1:2,500

10   BAGILLT

Location

10.1   The settlement of Bagillt is located 3km to the north-west of Flint. The western, Dee Bank harbour is situated at SJ21377606, and the eastern harbour at SJ22157542.

Historical background

10.2   The name appears as *Bacheli'* in 1086 and *Bakkeleigh* in 1361. The element *leah*, perhaps meaning clearing, is linked to a personal name *Bacga* or *Bagga*. Though named in the Domesday Book, its appearance cannot be taken as evidence of a settlement here in the Conquest period as it was probably a rural manor. It was not until the 18th century that the settlement developed as an industrial centre connected with the lead trade.

10.3   Coal was first used to smelt lead in a reverbatory furnace in the 1690s and the first such furnace to operate successfully was built at Gadlys, Bagillt, by the London Lead Company in 1703-4. The Dee Estuary soon became an important lead smelting centre, with works at Flint, Bagillt and Llannerch-y-môr. As well as smelting locally mined ore, the works also processed ore from areas remote from a coalfield, including mid-Wales, Shropshire and the Isle of Man (Williams 1986, 20).

10.4   In the late 17th and 18th centuries Bagillt was a very busy port, although its position meant that there was often some difficulty in reaching the deep water channel, and boats could be held in port for days waiting for tide and wind. Bagillt had two quays, one known as 'Dee Banks Gutter', which handled most of the passenger trade, including at one time a passenger ferry to Parkgate on the Wirral, while Bagillt Dock to the south-east handled cargo (Griffiths 2000, 84-5). In 1840 Denham's Mersey and Dee Navigation (p.113) recorded that 'along a gutter is Bagillt Quay where small craft can lie and take in coal, pig lead ore etc'.

Shipbuilding and industry

10.5   Lead mining in north and mid-Wales during the 18th century benefited considerably from the establishment of the smelting industry on Deeside. By the early 18th century there were already two smelting works in Bagillt, the London Lead Company works at Gadlys, and the Lower Works (Lewis 1967, 140-1). The Bagillt Upper Works overlooked the Lower Works and was started in 1727, being taken over by the London Lead Company in 1786, while the Dee Bank Leadworks was established in 1785 under a lease granted by Pennant to the Macclesfield Company (Williams 1980, pl44).

The waterfront (Figs 31-34)

10.6   The Dee Banks Gutter appears to have been the main quay at Bagillt (PRN 34270) which, during the 19th century, had a wharf along the north-west side on land reclaimed from the saltmarsh, with a railway siding connecting it to the Dee Banks Leadworks. By the early 20th century the leadworks had expanded with lead and blende dressing sheds (PRN 103980) being constructed immediately to the north-west of the quay. The dock was kept clear of silt as a result of the flushing effect of the nearby Milwr Tunnel (PRN 12000) which was built in 1896 by the Holywell-Halkyn Mining and Tunnel Company to drain the mines in the Holywell District and to search for new mineral veins, which it did successfully.

10.7   Although Bettisfield Colliery was located just to the south-east of the quay, the proximity of the Chester to Holyhead Railway meant that this was the preferred means of transport for coal.

Fig. 29 Aerial view of Dee Banks Gutter with the site of the leadworks on the right and Bettisfield
Colliery on the left. Photo CPAT 06-c-306

10.8   Bagillt's other quay (PRN 104002), 1km to the south-east, developed as a cargo wharf during the
       18th and 19th centuries, initially with tramways connecting it to Wern Colliery and another in the
       centre of the village (Sheen 2004, 10-11). The quay had a timber-revetted wharf (PRN 83552) along
       the north-west side of a gutter and was maintained by two flushing ponds (PRNs 37959 and 87999),
       one on either side of the railway. A photograph of 1881 shows two wooden vessels tied up at the
       wharf, which has a timber revetment and a steam crane, which survived until it was dismantled for
       scrap during the 1940s. A smaller hand-winched crane was sited on a small wharf on the south-east
       side (PRN 83562). A third wharf (PRN 37848) was located further down the inlet at the end of a
       former railway embankment (PRN 34271). At its height the dock handled 1000 tons of coal per
       week, as well as lead, copper and zinc. The area to the south-east of the quay was at one time
       occupied by a copperworks (PRN 104035).

10.9   Both gutters are now used by small fishing vessels, although silting has prevented access to the
       original quays, and moorings are now some distance out across the saltmarsh.

Archaeological potential (Fig. 35)
10.10 There are now few visible remains of the Dee Bank quay which is mostly silted, although with some
       stone and timber revetment surviving along the north-west side along with the remains of a timber
       sluice (PRN 43147) associated with the Milwr Tunnel.

10.11 The visible remains extend for *c*. 70m with a timber revetment in the form of a series of thick
       horizontal planks, held in place by vertical posts, the whole structure being tied back by the use of
       0.3m-square uprights at 3m intervals. The working surface of the wharf itself is almost totally
       obscured by vegetation. Towards the north-eastern end of the wharf are several large sandstone
       blocks in approximately the position where a crane is shown on the 1871 Ordnance Survey map, and

probably represents the surviving crane base (PRN 43155). The basal remains of the dressing sheds (PRN 103980) are still visible to the north-west and further structures are likely to have been buried beneath the surrounding spoil tips.

10.12 The south-eastern quay (PRN 104002) is also badly silted and little remains of the wharf, although part of the timber revetment is visible along the north-west side, as are timbers for the wharf (PRN 37848) at the end of the former railway embankment. Both flushing ponds (PRNs 37959 and 87999) survive and that to the south-west of the railway still fills with each high tide.

10.13 Despite the paucity of visible remains there is still considerable potential for quayside features to survive at both quays where they have been buried beneath the silt and saltmarsh.

Fig. 30 Aerial view of Bagillt Quay with the earthworks of one flushing pond and the railway embankment clearly visible. Photo CPAT 01-c-302

Tithe Survey, 1841

Ordnance Survey 1st edition 1:2,500, 1871

Ordnance Survey 2nd edition 1:2,500, 1899

Present day

Fig. 31 Map regression for Bagillt Dee Banks Quay

Tithe Survey, 1841

Ordnance Survey 1st edition 1:2,500, 1871

Ordnance Survey 2nd edition 1:2,500, 1899

Present day

Fig. 32 Map regression for Bagillt Quay

Key

Features depicted on early Ordnance Survey 1:2,500 mapping

high water mark 1871

rope walk
PRN 34296

lead and blende dressing sheds
PRN 103980

iron works PRN 83083

crane base PRN 43155

Dee Banks quay PRN 34270

colliery slag heap PRN 89572

lead works
PRN 37874

sluice PRN 43147

Bettisfield colliery PRN 103981

Milwr tunnel PRN 12000

Bettisfield Upper Works (zinc)
PRN 83082

winding engine house
PRN 41074

colliery tramway PRN 34271

Fig.33 Bagillt Dee Banks port related features, scale 1:2,500

railway PRN 34271

wharf PRN 37848 ●

flushing pond PRN 37959

boundary stone
PRN 34248 ●

wharf PRN 83552

Bagillt Quay PRN 104002

flushing pond
PRN 87999

wharf PRN 83562

copper works
PRN 104035

smelting works
PRN 104017

Key

Features depicted on
early Ordnance Survey
1:2,500 mapping

high water mark 1871
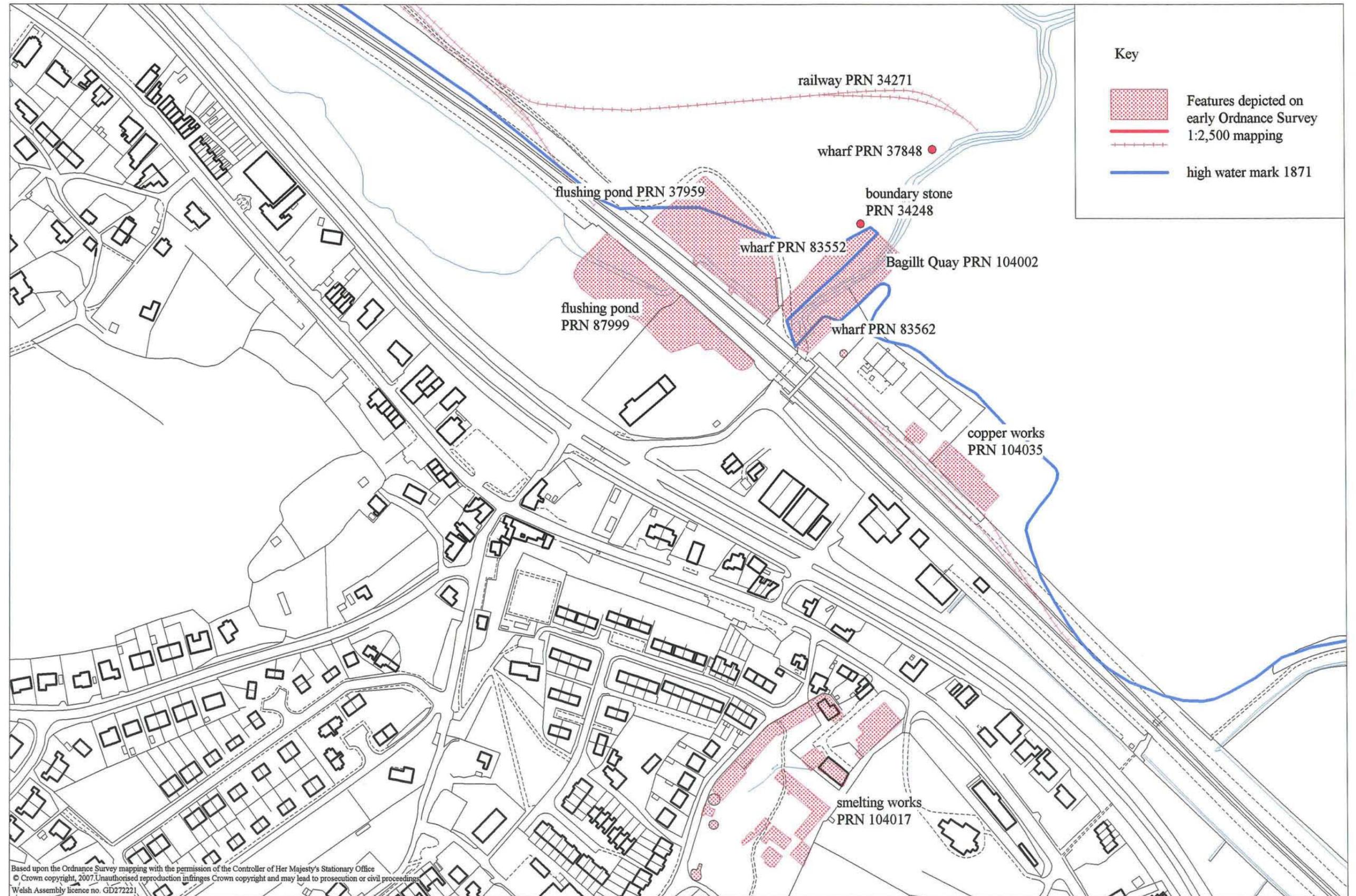
Fig.34 Bagillt port related features, scale 1:2,500

Key

high potential

medium potential

low potential

Fig. 35 Bagillt and Dee Banks archaeological potential, scale 1:5000

11   FLINT

Location

11.1   The settlement of Flint is located towards the south-eastern end of the Dee Estuary, 17km from Chester (SJ 24507320). There are two historic ports at Flint, the medieval port, with separate quays for the castle and town, and the other associated with 18th and 19th-century industrial activity further to the north-west.

Historical background

11.2   Flint Castle (PRN 100325) was the first of Edward I's *bastides* in Wales. The castle and town were commenced during his Welsh campaign in 1277 and completed by 1286, in a location designed to be supplied by land or sea and at a point where the fortification could control a crossing of the Dee Estuary. The castle had a large outer ward and a rectangular inner ward with corner towers, the south-eastern of which was significantly larger and acted as a tower keep. This was free-standing in the water of its moat and the Dee estuary, guarding the castle's harbour and entrance to the inner ward (Brown 1989, 117-8). The town was laid out on a grid pattern and provided with defences, as well as its own wharf (PRN 83558).

11.3   The medieval town reached its peak during the 14th century but the growth of the present town really began in the late 18th century with the export of coal and the development of industries such as lead smelting in an industrial district that emerged on the northern edge of the medieval town. A small inlet became the site for a new quay (PRN 34269) associated with the growing leadworks, which was replaced in the mid-19th century by a chemical works.

11.4   The following is the account of Exports and Imports for the year ending 5th January 1833 (Maddock 1940, 74):

	Number of vessels	Tonnage	Men
With coal, coastwise, outwards	570	31,982	1,657
Other vessels, with sundries	113	7,393	345
	683	39,375	2,002
Coastwise, inwards, with sundries	131	7,285	381
Coals	1	46	3
Slates	9	226	19
	141	7,557	403
Inwards from America & Ireland	13	720	48
Outwards to Ireland with Coals	74	4,719	260
with Sundries	4	225	12
	78	4,944	272

11.5   There was a daily ferry on a small boat to Parkgate and Chester when the tide permitted it and a ferry to the Isle of Man every fortnight in 1844. By the early 20th century Flint was a busy port handling 8429 tons of cargo in 1905, the main trade being in coal, lead and also chemicals.

Shipbuilding and industry

11.6   A small shipyard developed at Flint during the early 19th century (Williams 1986, 76), although the main period of shipbuilding was from about 1828 when Edward Evans, David McCartney and Andrew Green were operating, until around 1865 when David Jones stopped shipbuilding in Flint. Probably the last Flint-built vessel sailing was the 'Mary Jones' built by David Jones in 1863. This was a three-masted schooner and was still in use when it was wrecked in 1932 off Ramsgate. In 1840, the Scottish firm of Ferguson, McCullum and Baird started a shipbuilding yard in Flint, producing wooden sailing vessels. The yard was take over by the expansion of the chemical works and the business transferred to Connah's Quay in 1858.

11.7   The coastal location gave rise to a saltworks which had closed by the end of the 18th century. The main industry, however, was lead smelting and later alkali and chemicals manufacture. Flint had a long history of lead smelting probably pre-dating the works operated by Daniel Peek from 1699. In 1702 he also had an adjoining colliery to provide fuel for smelting. In 1708 Benjamin Perrin was running the Old Smelting Works and later it was owned by a succession of entrepreneurs including Mr Seaman, Messrs Ingleby and Co, Messrs Jones and Co, Messrs Roskell, Tipton & Co, and later Messrs Roskell, Williams and Co. The leadworks was bought by Messrs Muspratt and Huntley in 1852, after which it became an alkali works which was eventually bought by Courtaulds in 1921, who built a rayon factory on the site (Maddock 1940, 72-4). The leadworks is shown on plan of 1737 which depicts a dry dock in which vessels of 100 tons might have come up on spring tides, although by that time there was 'scarcely water for a long boat' (FRO D/DM/12/1). A later plan shows the leadworks in 1799 with harbour alongside (FRO D/DM/50/1).

The waterfront (Figs 38-39)

11.8   During the medieval period there were two quays at Flint, one serving the castle and the other the town. The castle quay (PRN 83557) was sited at the seaward end of the moat to the south-east of the tower keep, with the town quay (PRN 83558) on the opposite, external side of the moat.

11.9   The post-medieval quay at Flint, the Castle Works Dock (PRN 34269), was located at the mouth of the River Swinchard, 440m north-west of the castle and was associated with the nearby leadworks and later chemical works. By 1852 the dock had developed into a busy centre for shipping and associated shipyards which, along with numerous small factories, were cleared with the development of the alkali works. During the late 19th century, when the site was owned by the United Alkali Co., as many as 22 vessels were loading and unloading at any one time.

Archaeological potential (Fig. 40)

11.10 There is now no visible evidence for the medieval quays although the site of the castle quay (PRN 83557) can be readily identified, lying on the north-east corner of the outer ward. The site of the town quay (PRN 83558) has been landscaped and is now occupied by a car park and Lifeboat Station. It is likely, however, that significant buried remains survive relating to both sites.

11.11 The later quay is now silted and abandoned with only a few timbers visible along the south-east side. The quayside and harbour remains undeveloped, however, despite the construction of new industrial and business units in the surrounding area and significant buried remains may therefore survive. A small area adjacent to the railway remains undeveloped and is in part the site of a reservoir associated with the leadworks.

Fig. 36 Aerial view of Flint Castle. The medieval quays were sited on either side of the moat to the left of the castle. Photo CPAT 06-c-297

Fig. 37 Aerial view of the industrial port at Flint. Photo CPAT 06-c-291

Tithe Survey, 1839

smelting works

pond

126

125

124

castle

gaol

Ordnance Survey 1st edition 1:2,500, 1871 &1874

Chemical Works

County Gaol

Ordnance Survey 2nd edition 1:2,500, 1899

Chemical Works

Castle Terrace

Present day

Fig. 38 Map regression for Flint
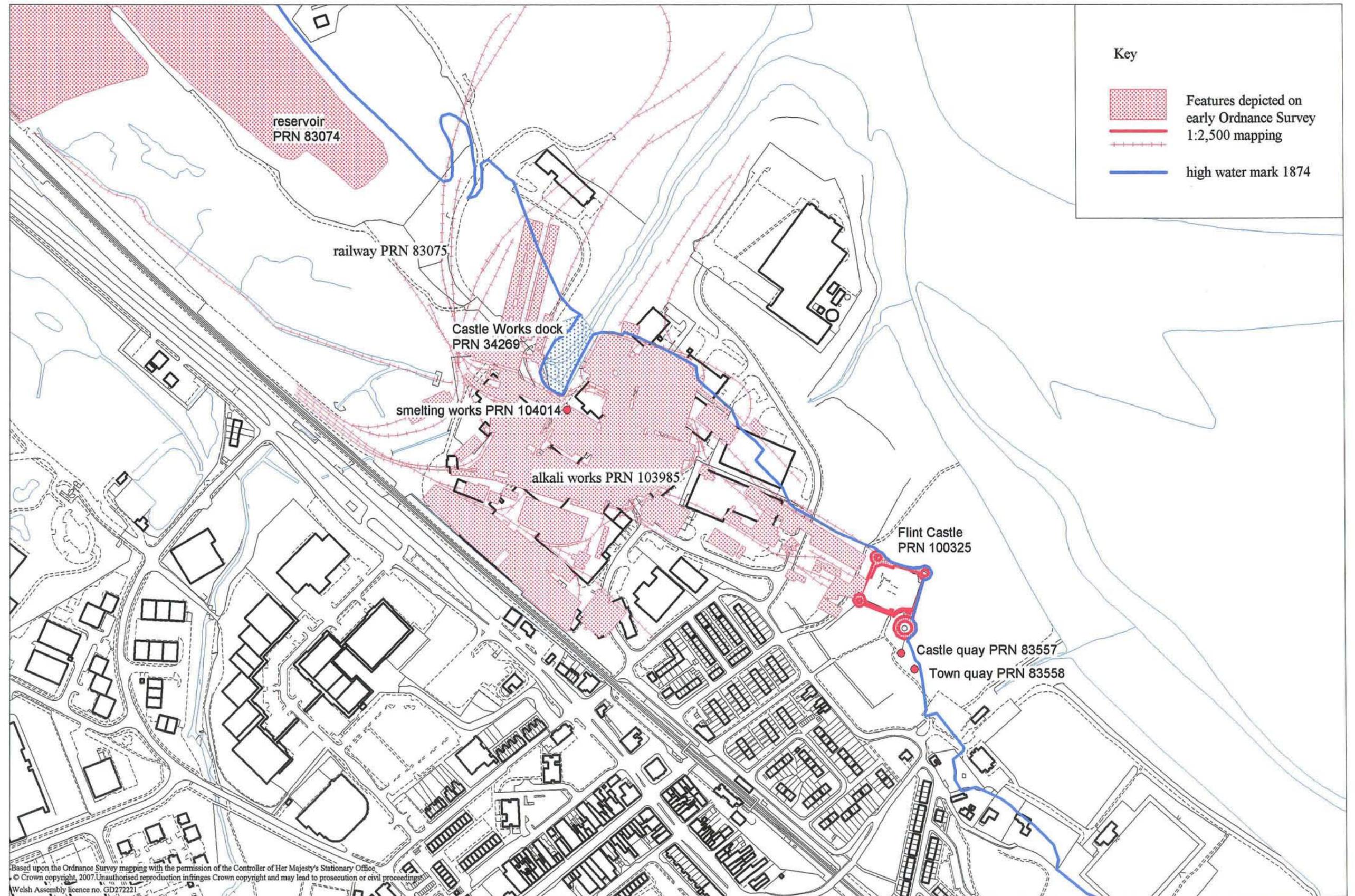
Fig.39 Flint port related features, scale 1:4,000

Fig. 40 Flint archaeological potential, scale 1:4000

PART 3: THE RIVER DEE NEW CUT

12   CONNAH'S QUAY AND WEPRE

Location

12.1   Connah's Quay is located on the south-western bank of the River Dee at the north-western end of the New Cut, 12km from Chester (SJ 293699). Wepre lies *c*.0.8km to the east of Connah's Quay, having developed at the point at which the Wepre Brook joins the Dee as the Wepre Gutter.

Historical background

12.2   Both Wepre and Golftyn were recorded at Domesday (Morris 1978, 268d) and may have formed the only nucleated settlements in the area until the development of Connah's Quay in the 18th century (Jones 1998, 10).

12.3   The Wepre Gutter evidently formed a haven for small vessels and 'Wepra Poole' is listed in the Welsh Port Book for 1566 as being able to receive barges and boats. The deputies then appointed for the haven are recorded as Thomas ap Hoell ap Ieuan and Lewis ap Ieuan ap David ap Madock (Lewis 1927, 306-7).

12.4   Following the completion of the New Cut in 1737 a small port developed at the seaward end of the channel at Golftyn, where a breakwater had been constructed to shelter boats waiting for favourable winds and tide to navigate to and from Chester. This was recorded by Thomas Pennant around 1760 in the following terms: 'of late years a very handsome pier has been built by the River Dee Company in the township of Wepre, jutting into the channel for the protection of ships bound to and from Chester'. The port is first depicted on a map of the River Dee by Burdett and Boydell in 1770-1, and named as New Quay, and although the name Connah's Quay does not appear until the Ordnance Survey Surveyors' Drawing in 1834, it has been claimed that it was in use from at least 1784 (Hawkes 1989).

12.5   It has been suggested that the eponymous Connah was an Irishman, the landlord of the Quay House inn, and a smuggler. He has also been variously described as a ship's chandler, harbour master, captain, merchant, coal company merchant, distillers' agent and a Buckley earthenware agent. There are records of Connahs living in Hawarden parish from the 16th century, but William and Margaret Connah were the first to be recorded in Wepre and Golftyn in 1704. Their grandson James married Grace, the daughter of Jonathan Catherall, the Buckley earthenware manufacturer, in 1757 and one of their sons, George, married Ann, daughter of William Piercey, of Wepra Hall (Hawkes 1989). It is uncertain, however, which family member gave his name to the port.

12.6   Around 1740 a wooden tramway was constructed from Latchcaft Colliery to the Dee at Wepre. The tramway lay to the south-east of the Wepre Gutter and presumably ended at a wharf on the New Cut, replacing the gutter which was deemed to be too unreliable for shipping (Boyd 1991, 15). The course across the salt marsh is depicted on a map of around 1750 (Chester Record Office D5120/1).

12.7   At the time of the Tithe survey for Northop parish in 1839 (Fig. 44a), a number of buildings were depicted close to the waterfront. A rectangular structure was depicted extending in front of the public house (e23) as far as the main channel, and this may be the quay as it lies in the same position as the dockside later depicted by the Ordnance Survey. The public house was at that time owned by Bate Edwards and leased to John Jones. Two houses adjacent to the public house (e24 and e25) were each recorded as a 'house and garden near the quay' and to the south-east a row of four houses (e29) was also recorded as being near the quay.

12.8   One of the reasons why Connah's Quay developed as such a significant port, rather than those higher up the Dee, was that it was far less reliant on favourable tides and winds. A Committee of Enquiry into the building of the Buckley Railway in 1860 spent much of its time considering the relative merits of Connah's Quay over King's Ferry as the terminal for the railway. It was noted that when winds and tides were contrary it could take anything from 24 hours to 9 or 10 days to sail the two miles upstream to King's Ferry, in addition to which the water there was two to three feet shallower (Boyd 1991, 25-7).

12.9   Much of the development of facilities at Connah's Quay was directly linked to the various companies who operated the tramway, and later the railway, which terminated at the quay. The earliest of these was the Irish Coal Company which began building the Wepre Iron Road in 1799 from collieries at Northop. This was later owned by the Northop Hall and Dublin Coal Company Ltd, and was effectively replaced by the Buckley Railway in 1862. The Act of Parliament permitting the construction of the railway also allowed for improvements to the docks, although these were not undertaken until after the line was taken over by the Wrexham, Mold and Connah's Quay Railway (WMCQR) in 1866, with works on a new pier and embankment eventually starting in 1870 and taking two years to complete (Boyd 1991, 35-40; 66-7; 151-2; 158). In fact, the plans had originally been far more ambitious for in 1865 there were proposals to build two large docks on former marshland to the east of the existing port, as well as diverting the course of the River Dee, and again in 1881-2 there were similar proposals for a single large dock, neither of which ever materialised (FRO QS/DR/111; QS/DR/186). The construction of Hawarden Bridge across the River Dee in 1889 stimulated further improvements to the docks (Baughan 1991, 58-9) as by this time the local brick and coal trade had taken up all of the available port space. The wharfage was extended along the river to the east of the existing facilities by the WMCQR, to increase capacity and make Connah's Quay the port for Wrexham and allow the export of salt in direct competition with Weston Point on the Mersey (FRO D/HA/1723).
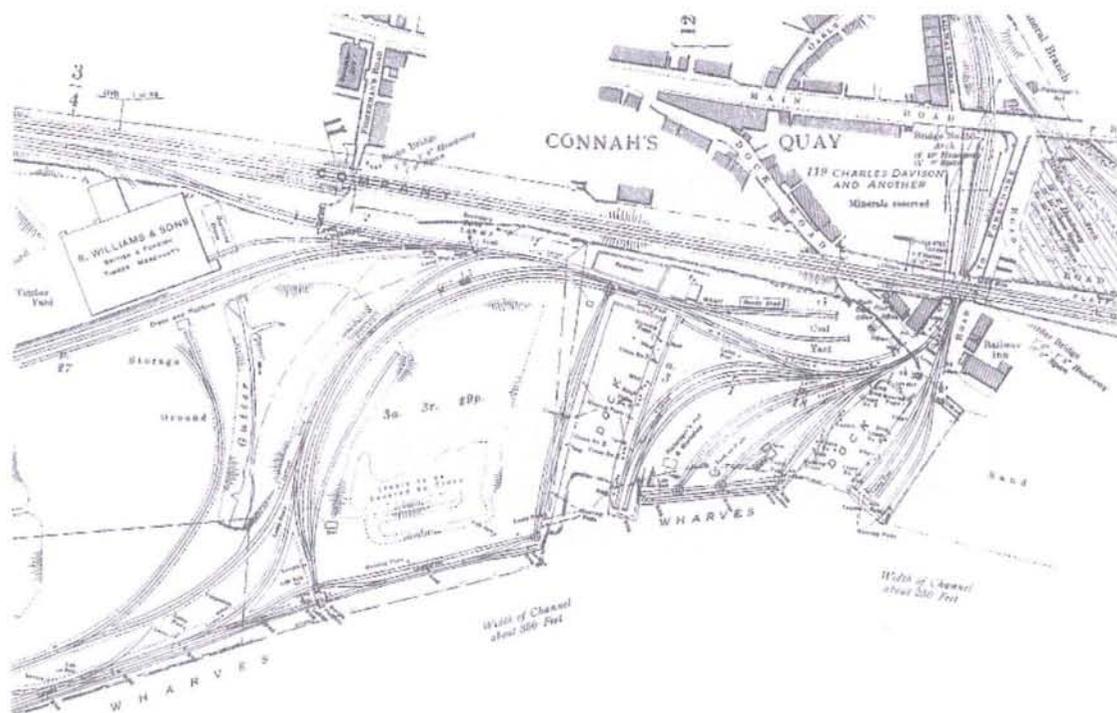

Fig. 41 Plan of Connah's Quay docks by Great Central Railways *c.* 1900

12.10 Although Connah's Quay was primarily an industrial port, from the mid-1860s it also saw a degree of passenger traffic with the advent of rail excursions incorporating a trip by steamer to resorts such as Llandudno (Boyd 1991, 138). There was also a passenger service along the river to and from Chester.

12.11 The most influential shipping agent on Deeside was Coppacks, who were based at Connah's Quay and remained in business under various names from 1860 until 1972. By the 1880s the main exports from the docks were still coal and bricks, but also included chemicals and fertilizers, with the main import being timber, including pit props, from Norway and the Baltic. In 1884 ships were recorded leaving the port for Barrow, Cardigan, Ireland, France, Germany, Nova Scotia and Norway (FRO: D/DM/434/197).

12.12 A report by the Port Facilities Committee in 1929 (FRO DC/381) recorded that the wharfages were then owned by the London and North Eastern Railway (LNER) and owing to neglect were rapidly becoming derelict, while the channel was becoming shallower due to silting. Prior to 1914 the port had been very busy exporting bricks, coal, pitch, machinery and superphosphates, with imports of timber from Canada, Norway, Ireland and Scotland, as well as iron ore, pig iron, silica and scrap iron, amongst other commodities. The neglect appeared to have set in after the Wrexham, Mold and Connah's Quay Railway had been taken over by the Great Central Railway around 1897, and the LNER were proposing that they be relieved of their obligation to maintain the docks and wharfages.

12.13 A survey of the condition of the docks in 1938, undertaken by the LNER (FRO D/DM/274/11), indicated that the original dock was silted, while the second dock, of timber construction, was also silted and dilapidated. The adjacent 400ft of timber wharfage had been strengthened in 1931 and remained in constant use, while the south-easterly section of wharfage (600ft in length), had not been used for many years and required repair and strengthening.

Shipbuilding and industry

12.14 The firm of Ferguson, MacCallum and Baird started building ships at Flint in 1840, but the yard was take over by the expansion of the chemical works and the business transferred to Connah's Quay in 1858, where it remained as Ferguson and Baird until its closure in 1916. The company built only wooden ships, which eventually led to its demise. The yard was reopened in 1920 by J Crichton and Co. Ltd, who rebuilt the slipway in 1923 and installed a heavy winch. Crichtons built metal ships, the steel, chains and anchors for which came from the Netherton Steelworks in Dudley, while importing their timber from Canada and Scandinavia. From around 1913 Crichtons also had a shipyard at Saltney. There was also a smaller shipyard at Connah's Quay next to the Old Quay House on Dock Road, operated by William Butler, specialising in lifeboats, including those for the Mauritania (Bates 1980, 58).

12.15 The presence of the port led to a number of industries being attracted to the area, it providing both the means to import raw materials and to export the finished products. Around 1850 a chemical works opened on reclaimed land to the east of the docks, manufacturing soda ash and sulphuric and muriatic acids. This closed in 1887 and was reopened by R A Munro and Co, a Glasgow firm, as the Organic Ammonia Co., manufacturing fertilizer from scrap leather and other waste materials. A second chemical works opened along the west side of the Wepre Gutter, manufacturing bleaching powders, soda crystals and bicarbonate of soda. In 1900 this became the Welsh Silica Co., producing fine silica powder (Bates 1980).

12.16 The trade in imported timber has already been mentioned, and the timber yard of R Williams and Sons developed on the eastern side of the docks, close to the railway.

Fig. 42 Aerial view of Connah's Quay. Photo CPAT 06-c-283

The waterfront (Figs 44-45)

12.17 Prior to the construction of the New Cut, vessels used the Wepre Gutter as a small natural harbour, although no documentary or cartographic evidence has come to light to suggest that this was augmented with any structures. Around 1740 this was replaced by the short-lived Latchcraft Tramway (PRN 37739), a colliery line terminating on the New Cut, presumably at a wharf or landing stage.

12.18 The port of Connah's Quay developed around a pier sometime after 1737, possibly the structure depicted on the Tithe survey in 1839 and later identified as a wharf by the Ordnance Survey (PRN 37826). During the 19th century the quay expanded in stages on land reclaimed from the salt marsh, mostly in connection with developments to the railway network, and it reached its peak around the time that the Ordnance Survey 2nd edition survey was published in 1899. By this time a stone-built dock (PRN 34230) had been built along the eastern side of the original wharf, with a second, timber-built dock (PRN 34231) added further to the east, each with four cranes. A small reservoir (PRN 83021) lay between the second dock and the Chester to Holyhead Railway, presumably used for flushing the dock. A wharf (PRN 83019) occupied the river frontage between the docks with a landing stage (PRN 83020) at its east end, both built of timber and projecting into the River Dee. The dock-side area was largely occupied by a network of railway sidings which used numerous small turntables to manoeuvre the wagons. At one time the area between the docks was used as the iron ore stage, while the area between the reservoir and Dock Road was the coal yard, which had a rail link to a coal stage with a loading chute (PRN 83022). During the mid-19th century there was a small landing stage (PRN 37825) to the east of the docks which may have been associated with the nearby chemical works (PRN 37381). Following further land reclamation this was replaced by a new wharfage (PRN 83023) which extended for 300m along the riverside. Both of the main wharfages had steam cranes on rails for loading and unloading cargoes. Part of the chemical works was subsequently taken over by the timber yard of Williams and Son, later depicted by the

Ordnance Survey in 1912 as a wagon works and saw mill (PRN 83024).

12.19 The area to the west of the docks was occupied by shipyards, principally that of Ferguson and Baird, later J Crichton and Co (PRN 39812, PRN 83014). There were two slipways (PRNs 83015 and 83017), each with its own winch, as well as a small wharf (PRN 37826) at the western end of the site.

Archaeological potential (Fig. 46)

12.20 Sadly, Connah's Quay today bears little resemblance to the once thriving port. Fortunately, the original stone-revetted pier and wharfage (PRN 83018), together with the adjacent stone-lined dock (PRN 34231) and the Old Quay House (PRN 87972) still survive, although these are now the only substantially intact features associated with the port. The dock is partly silted, but is still in use by small boats, while the pier and wharf is now the site of the Sea Cadets' hut. The cast-iron bases of four cranes survive, two on either side of the dock, together with a number of iron mooring rings.

Fig. 43 Connah's Quay Dock I. Photo CPAT 2079-031

12.21 The second dock (PRN 34231) has been infilled, although its location can still be identified by a modern slipway, while the wharf between the two docks only survives as a row of posts projecting from the mud and visible at low water. All trace of the eastern wharfage (PRN 83023), extending beyond the second dock, has now been lost following extensive reconsolidation of the waterfront which includes a concrete revetment. This new waterfront is used as a mooring by a number of small fishing and pleasure craft. The areas between the two docks, and adjacent to the eastern wharfage, which were formerly occupied by railway sidings and storage yards, have largely been redeveloped and are now occupied by numerous small industrial units. The site of the shipyards is

now occupied by an active timber yard and there are no obvious traces of the slipways and other associated structures.

12.22 Despite the extensive redevelopment of the quayside there is still significant archaeological potential in the area of the surviving dock and wharf. These features, together with the Old Quay House, have considerable historic significance as the last surviving remains of the port and every effort should be made to ensure that they do not suffer the same fate as the other quayside features. At present, they appear to be in relatively good condition, although their setting has been compromised by the encroachment of new development.

12.23 The survival of part of one timber wharf (PRN 83019) indicates the potential for other timber structures, or indeed the remains of vessels, to be preserved in the estuarine mud anywhere within the main river channel.

12.24 Although there is now no indication that the Wepre Gutter (PRN 83072) was once an important haven, until the opening of the New Cut in 1737 this was the only reliable anchorage along this part of the Flintshire shore. Consequently, the area around the gutter is considered to have high archaeological potential for associated features which may be buried and preserved by the river silts.

Tithe Survey, 1839

Ordnance Survey 1st edition 1:2,500, 1870

Ordnance Survey 2nd edition 1:2,500, 1899

Present day

Fig. 44 Map regression for Connah's Quay
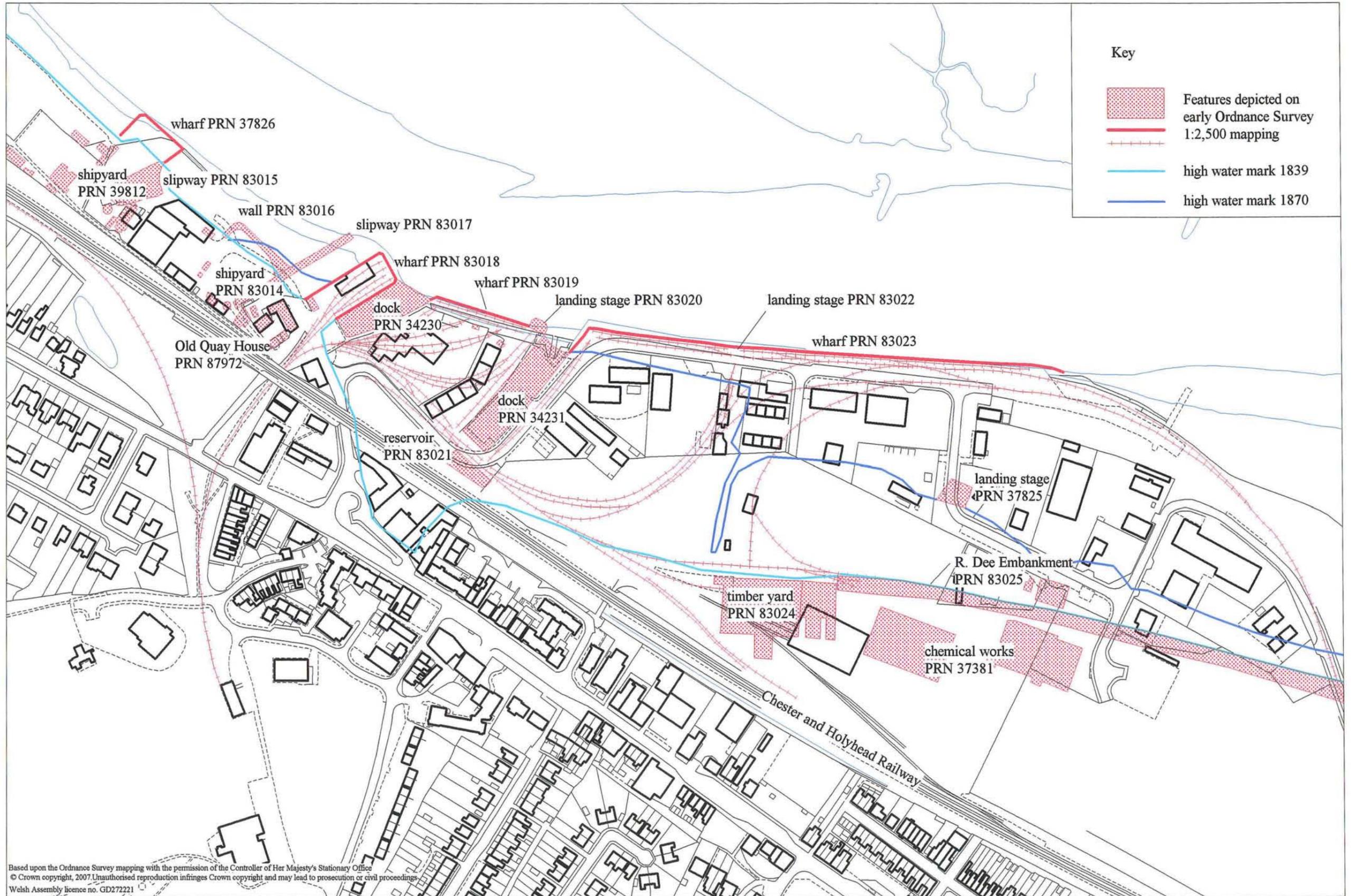
Fig. 45 Connah's Quay port related features, scale 1:2,500

Key

Features depicted on early Ordnance Survey 1:2,500 mapping

high water mark 1839

high water mark 1870

wharf PRN 37826

shipyard PRN 39812

slipway PRN 83015

wall PRN 83016

slipway PRN 83017

wharf PRN 83018

shipyard PRN 83014

wharf PRN 83019

landing stage PRN 83020

landing stage PRN 83022

wharf PRN 83023

dock PRN 34230

Old Quay House PRN 87972

dock PRN 34231

reservoir PRN 83021

landing stage PRN 37825

R. Dee Embankment PRN 83025

timber yard PRN 83024

chemical works PRN 37381

Chester and Holyhead Railway

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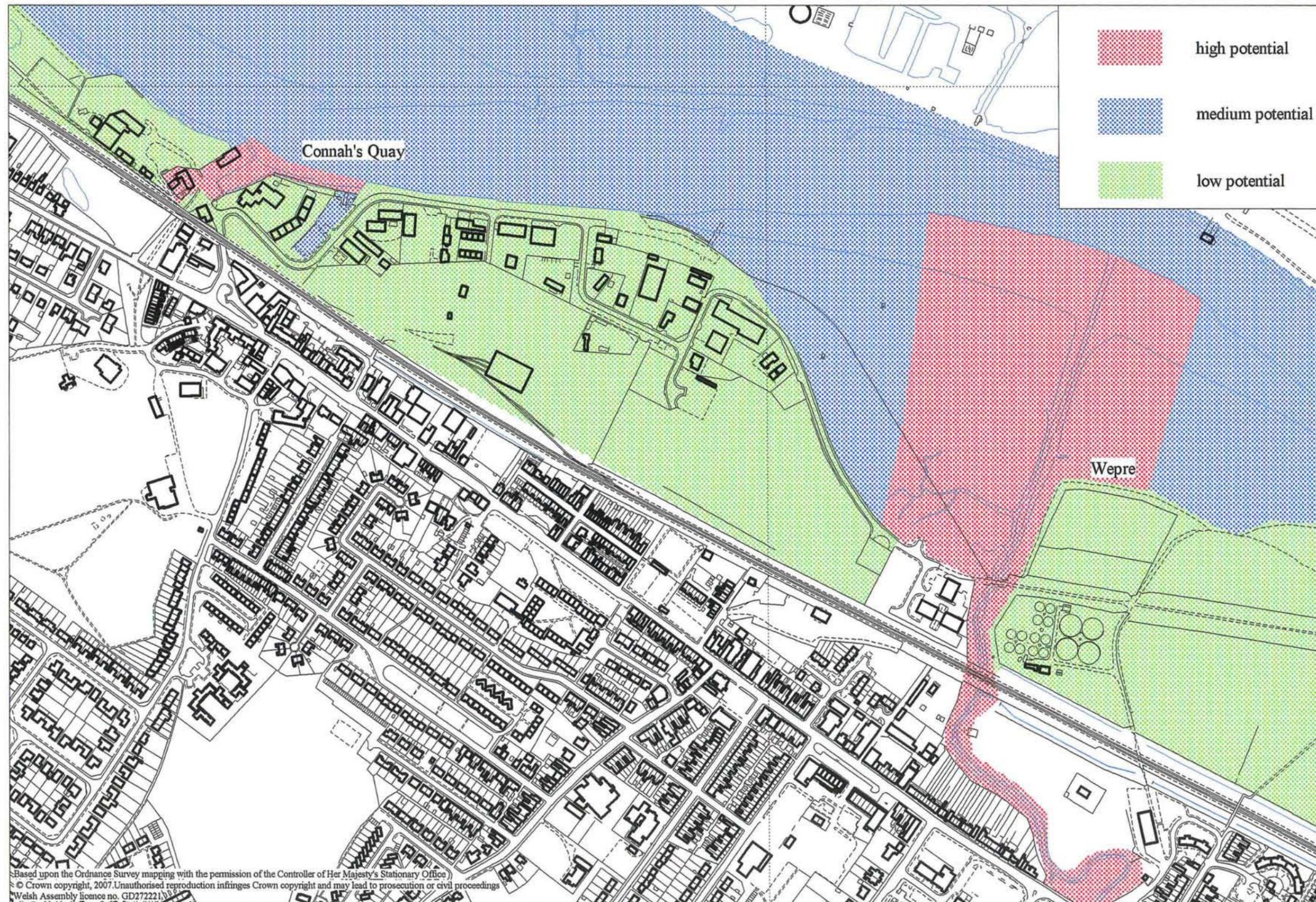Welsh Assembly licence no. GD272221

Fig. 46 Connah's Quay and Wepre archaeological potential, scale 1:5,000

13   QUEENSFERRY AND ASTON QUAY

Location

13.1 The modern settlement of Queensferry, which incorporates Aston Quay, is located on the south-western bank of tithe River Dee New Cut, 8.6km from Chester (SJ 324685).

Historical background

13.2 Under the Act of Parliament which permitted the construction of the New Cut, a ferry was to be provided to transport passengers, cattle and vehicles. This was originally known as Lower Ferry, but was renamed King's Ferry around 1750 in honour of George II, and in 1837 became Queen's Ferry, in honour of Queen Victoria. In the early days horse whims were used to power the ferry, later to be replaced by a ferry with a windlass capstan, operated by two men on board. By 1861 the ferry appears to have been mechanically operated with an engine house on the Queensferry side (FRO D/BC/627). In 1897 the ferry was replaced by the Victoria Jubilee Bridge, which had a telescopic action to allow shipping to pass, and this in turn was replaced by the present bridge in 1926 (FRO D/GL/95).

13.3 A quay developed at Lower, or King's Ferry, for the shipment of coal from about 1740 when the Mancot Tramway was built to link Big Mancot Colliery with the Dee at Mancot Mark. A 21-year lease had been granted to George Hope of Chester by the Glynnes of Hawarden Castle to mine coal at Mancot and he clearly intended to make full use of the newly improved navigation along the Dee. The route followed the western side of Mancot Lane and then over the marsh to a wooden jetty on the Dee. Around 1793 this was replaced by an iron plateway, built by Beriah Botfield of Old Park Furnaces, near Coalbrookdale (Boyd, 15-16).

13.4 Aston Quay, as it came to be known, expanded further following the construction of a second tramway, or more accurately a system of tramways, which extended from Pentrobin Colliery, Buckley. The various sections of the tramway had different names but are generally referred to as the Aston Tramroad. The south section was built by Rigby, the Hawarden Ironmaster, and Hancock, the Buckley brick manufacturer, after the formation of a partnership in 1792. The lower 1¼ miles was replaced by an iron plateway around 1799, which itself was superseded by the Aston Hall Colliery Railway (Boyd 1991, 19). Although the tramway system served a number of collieries and brickworks, not all of those in the area had access to the system and had to transport their produce to the quay by horse and cart. William Shepherd, of Ewloe Barn Brickworks, for example, had no tramway but nevertheless had his own wharf at King's Ferry to export his output and import iron ore from Barrow (Boyd 1991, 25-7).

13.5 The Hawarden Tithe Survey of 1843 (Fig. 49a) identifies the main wharfage (720) as belonging to the Dundas Estate, while a second wharf (737) to the west of the ferry was owned by the Glynnes of Hawarden Castle. The survey also identifies the tramway (714) and a coal yard (723).

13.6 Such was the amount of shipping using the quay that in 1842 a Sailors' Home was built near the chemical works. This was later converted into a non-conformist chapel and eventually demolished in 1949 (FRO D/GL/95).

13.7 An interesting circular was issued in February 1849 (FRO D/HA/582) with the obvious intention of increasing the amount of shipping using the quay:

> 'To Shippers, Merchants, Shipmasters and others frequenting the River Dee. The King's Ferry Wharf belonging to Sir Stephen Glynne Bart., and formerly occupied by the later Mr Charles Davison, is being put into an efficient state of repair and will be found a most

commodious place for loading and discharging vessels on the Dee, being provided with an excellent crane store house and other conveniences'.

13.8 The circular also listed wharfage rates for a wide variety of commodities, including flour, sugar, barrels, soap, pig iron, castings, tallow and oil, wine and spirits, timber, slates, tin, alum, lead, potatoes and various other agricultural produce.

13.9 A Committee of Enquiry into the building of the Buckley Railway in 1860 calculated that 32,000 tons of cargo had been handled by the Dundas wharf in 1859. A plan of the quay in 1861 (FRO D/BC/627) identifying the property of Admiral Dundas shows the tramway entering via a weighing machine, with numerous branches diverging to various parts of the wharfage. The area around the main quay was occupied by Messrs Hancock & Co., with three coal stages and a further two to the west. To the east of the dock the wharves were occupied by Catherall, Davison & Co., Royle and the Patent Fuel Co. The approach to the ferry was shown with a horse whim and an engine house.

Shipbuilding and industry

13.10 Around 1885 Smith and Co. started building small iron vessels and barges on a site 250m west of the ferry, later moving to a site adjacent to the small inlet further to the east. In 1892 'Reliance' was built by Messrs J Wilson and Co., and by 1894 the yard was operated by the Queensferry Shipbuilding, and Engineering Co. It changed hands again in 1908/09, this time to Isaac J Abdella and Mitchell Ltd a company which had been formed in 1901 on the Thames and Severn Canal, near Stroud in Gloucestershire. The company concentrated on lighters and barges, but also made stern-wheel steamers, such as the 'Manoel Tomaz' in 1912, which was destined for Brazil, and the 'Broughton' which went to Nigeria. The yard closed in 1925, although the name continued with other short-lived firms into the 1930s (FRO D/DM/1036/1).

13.11 The development of the quay led to the founding of a number of industries in the area, which in turn increased the level of shipping. In 1781 a Mr Sharp, a button manufacturer in Chester, purchased newly enclosed land and erected what became known as the 'Chemistry'. Refuse from his Chester factory, including horn and bone, was sent to the new site which extracted Glauber's salt, sal-ammoniac and ivory-black, a type of bone charcoal (FRO D/GL/90). During the mid-19th century another chemical works, which was known locally as the 'Black Works', was started by Joseph Turner and Co. Ltd, who acquired the site of the Patent Steam Fuel Co. The works was later operated by Tar Distillers of Queensferry and then Midland Tar Distillers Ltd. The company initially produced printing and lithographic inks, paints, charcoal and coke founders dust and by 1900 was distilling tar and extracting Benzole and other oils, as well as pitch for road surfacing (Bates 1980, 45).

The waterfront (Figs 49-50)

13.12 Following the construction of the River Dee New Cut a small settlement developed around the ferry site (PRN 34243). Further to the east the Mancot Tramway (PRN 37792) brought coal to the riverside, presumably to a wharf or landing stage, and by 1870 it terminated on a pier (PRN 83037) extending into the river.

13.13 In the late 18th century the Aston Tramway (PRN 87848) brought bricks and coal from the Buckley area and a new quay developed around a small inlet. A number of landing stages were built, each with a connecting branch of what later became the Aston Hall Colliery Railway. One landing stage (PRN 34241) to the west of the ferry belonged to the Glynnes of Hawarden Castle, while those close to Aston Quay itself were owned by the Dundas Estate, and the most easterly (PRN 83031)appears to have been associated with the nearby chemical works (PRN 103918).

13.14 The ferry was replaced by the Victoria Jubilee Bridge (PRN 87852) in 1897, crossing at the same point as the ferry. A new bridge was constructed in 1926 immediately upstream and all that now survives of the original structure are the stone abutments on either bank of the river (PRNs 34267-8).

Archaeological potential (Fig. 51)

13.15 The redevelopment of Queensferry during the late 20th century, and in particular the construction of the new road bridge, have had a detrimental effect on much of the port-related archaeology. In the main dockside area, originally owned by the Dundas Estate, the former quay (PRN 83031) is now silted and abandoned, with no indication of its former significance or any trace of the shipyard (PRN 83030) which developed along its north-western side. Of the seven landing stages which once flanked this side of the river, only two have any significant remains (PRNs 34240 and 34255; Fig. 53), although some timbers survive of a third (PRN 83054). The line of the Mancot Tramway (PRN 37792) has been adopted by a road and the associated pier (PRN 83037) can now only be identified by a spread of rubble in the inter-tidal zone.

Fig. 47   Aston Quay landing stage (PRN 34240) with the new road bridge in the background.
Photo CPAT 2079-018

13.16 Further downstream the site of the quay operated by the Glynnes of Hawarden Castle has fared rather better as no redevelopment has taken place. The base of a sandstone landing stage (PRN 83055) and the remains of the timber wharfage (PRN 34241) survive along the low watermark, while the tramway embankment (PRN 87848), now partly adopted by a track and footpath, leads towards the river. There is also a World War II pillbox (PRN 34256) close to the landing stage.

13.17 There is now no trace of the ferry slipway (PRN 87850) which was presumably destroyed when the Victoria Jubilee Bridge (PRN 87852) was constructed, and two substantial stone abutments are all that remain of this bridge.

Fig. 48 Queensferry Quay and landing stage. Photo CPAT 2079-023

13.18 Despite the redevelopment there is still likely to be considerable archaeological potential in the undeveloped area around the main quay and what is left of the waterfront to the south-east. The area of the Glynnes' quay appears to have seen little disturbance since it was abandoned and there is therefore considerable potential for buried archaeological features associated with the quayside and tramway, as well as the remains of the landing stage and wharf along the river frontage.

Fig. 49 Map regression for Queensferry and Aston Quay

Key

(light blue)	Features noted on field visit
(pink hatched)	Features depicted on early Ordnance Survey 1:2,500 mapping
(red line)	
(blue line)	high water mark 1870
(green line)	River Dee Embankments

landing stage PRN 83055

pillbox PRN 34256

quay PRN 34241

Shipyard PRN39811

bridge abutment PRN 34268

Ferry Inn PRN 83026

Victoria Jubilee Bridge PRN 87852

ferry PRN 34243

Aston Tramway PRN 87848

bridge abutment PRN 34267

landing stage PRN 83028

landing stage PRN 87851

ferry slipway PRN 87850

landing stage PRN 83029

shipyard PRN 83030

Aston Quay PRN 83031

landing stage PRN 83032

landing stage PRN 83054

landing stage PRN 34240

weighbridge PRN 83027

landing stage PRN 34255

chapel PRN 83035

pier PRN 83037

chemical works PRN 103918

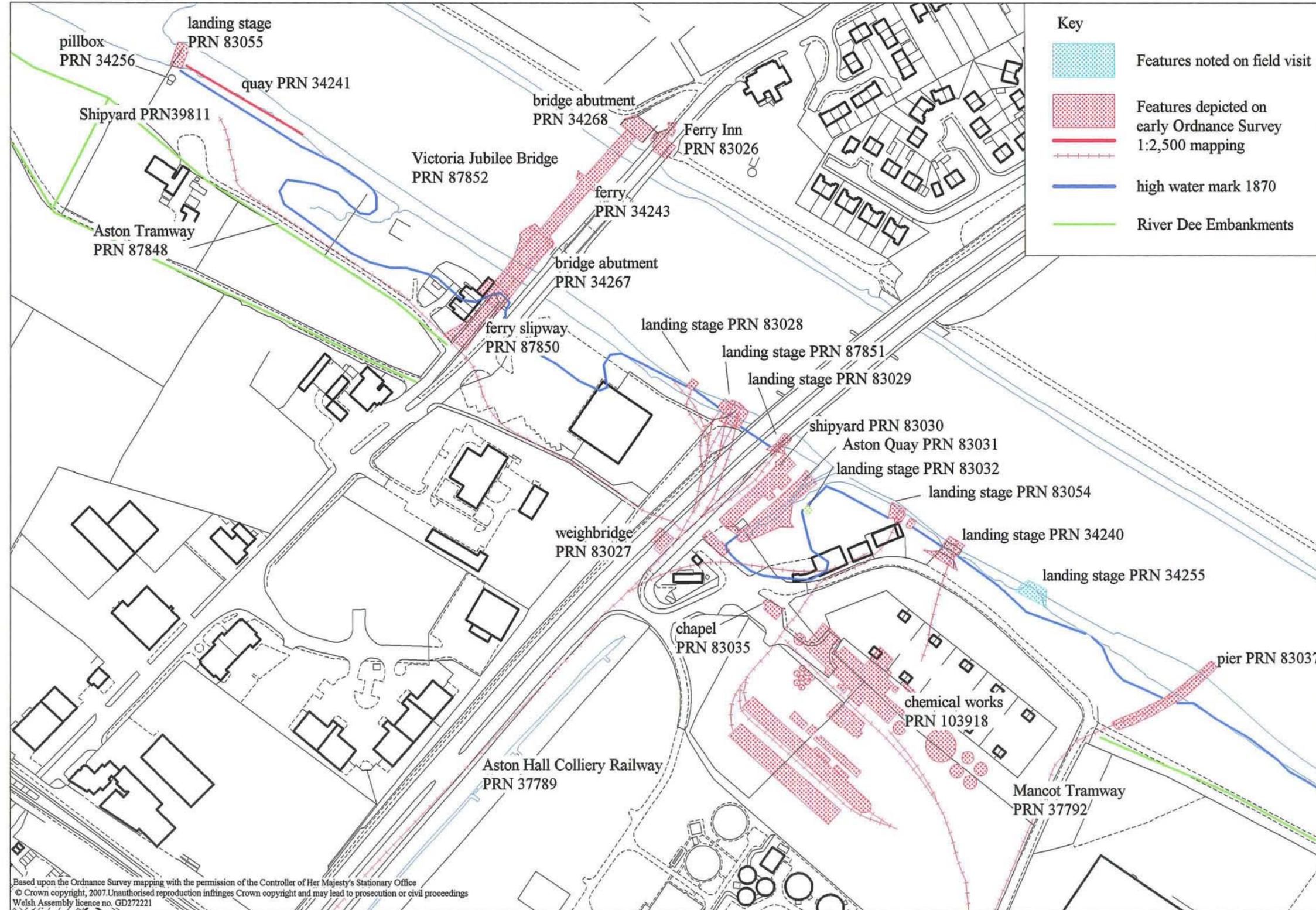Aston Hall Colliery Railway PRN 37789

Mancot Tramway PRN 37792

Fig. 50 Queensferry port related features, scale 1:2,500

Fig. 51 Queensferry archaeological potential, scale 1:2,500

14   SANDYCROFT

Location
14.1 Sandycroft is located on the south-western bank of the River Dee New Cut, 7km from Chester (SJ 338676).

Historical background
14.2 Sandycroft Quay developed around a small inlet known as Fowl Pool Gutter at Sandycroft Mark. About 1751 a lease was granted by the Glynnes of Hawarden Castle to John Dutton and Walter Stubbs of Beckbury, near Broseley, Shropshire, which permitted the construction of a tramroad from Sandycroft Colliery, Buckley, past the lead smelting works at Pentrobin and along Moor Lane to Sandycroft Mark; it is possible, however, that only the section along Moor Lane was ever completed. This was later replaced by the Sandycroft Railroad, which may have been built by Sir John Glynne around 1790, and from 1801 was leased to Rigby, the Hawarden Ironmaster, and Hancock, the Buckley brick manufacturer (Boyd 1991, 16; 40-2). The quay therefore originally developed as a means of shipping coal.

Shipbuilding and Industry
14.3 A small shipyard developed alongside the inlet during the mid-19th century, operated by Thomas Cram & Co. Around 1852 they began building the 'Royal Charter', an iron sailing clipper with an auxiliary steam screw. The vessel was launched in July 1854 and wrecked off Moelfre, Anglesey on 27 October 1859 with the loss of over 400 lives.

14.4 By the time of the Hawarden Tithe Survey in 1843 a foundry had developed on the eastern side of the inlet, having its own wharfage. The site was taken over by John Taylor in 1862, a firm which had been established as the Mold Foundry at Rhydymwyn in 1837. The company specialised in making machinery for the mining industry. In 1874 the company became Messrs Bricknell, Taylor and Co., and around 1890 changed its name again to the Sandycroft Foundry and Engine Works Company Ltd. In 1886 the South Africa gold mines were opened and the company was overwhelmed with orders, supplying machinery also to India, Brazil, Australia, New Zealand and numerous mines and collieries throughout Britain. By the 1920s competition had increased significantly and in 1925 the works closed owing to a lack of orders (FRO D/GL/100). The works was taken over by Industrial Minerals of Ireland Ltd in 1929 and during the 1930s was used by the International Electrolytic Plant Co. (FRO D/HA/1502).

14.5 In 1917 a new high explosives factory was built on the site of a derelict chemical works at Queensferry, and a smaller detached site at Sandycroft produced mono-nitro-toluene, which was taken to the main factory for further nitration to produce TNT. The factory closed during the 1920s (Cocroft 2000, 166-9).

The waterfront (Figs 53-54)
14.6 Sandycroft Quay (PRN 34242) developed around Fowl Pool Gutter from the 1750s, following the opening of a tramroad (PRN 19100) carrying coal from Sandycroft Colliery. The tramroad was later replaced by Sandycroft Railroad. A small shipyard grew up alongside the inlet during the mid-19th century (PRN 39813).

14.7 Sandycroft Foundry (PRN 103920) developed around the quay from at least the 1840s and by the early 20th century occupied an extensive area with numerous buildings, its own tramway system (PRN 83041) and wharfage along the eastern side the quay.

Fig. 52 Sandycroft Quay showing timber revetment on the left and stone revetment on the right.
Photo CPAT 2079-003

Archaeological potential (Fig. 55)

14.8 The quay itself (PRN 34242) is relatively well preserved with the dressed stone revetment along the south-east side surviving more or less intact, although the timber revetment on the north-west side is in poor condition. The landward end of the quay has been modified as part of water management and flood prevention measures, although the remains of timber revetments (PRN 83053) survive along both sides of the gutter to the south-west of the road. The area along the north-west side of the quay has been recently levelled and a new building erected, while along the south-east side some of the 19th-century foundry buildings still survive. Along the riverside there are the remains of a timber landing stage (PRN 34251) and two other areas of timber posts (PRNs 34246 and 83052) which may have been part of stages or wharves.

14.9 The main 20th-century buildings belonging to the foundry survive and are now used as industrial units and workshops, although some are derelict. The area between these buildings and the river is now wasteland with scrub vegetation, although the earthworks and brick foundations are still discernible for some of the buildings and tramways which occupied the area.

Fig. 53 Map regression for Sandycroft Quay

Key

Features noted on field visit

Features depicted on early Ordnance Survey 1:2,500 mapping

high water mark 1870

River Dee Embankments

landing stage
PRN 34251

landing stage
PRN 83052

Sandycroft Quay
PRN 34242

landing stage
PRN 34246

landing stage
PRN 34250

Sandycroft Quay timbers
PRN 83053

Sandycroft Foundry railway sidings
PRN 83041

Sandycroft Foundry
PRN 103920

Sandycroft Farm
PRN 83040

Sandycroft Railroad
PRN 19100

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Fig. 54 Sandycroft port related features, scale 1:2,500

Key
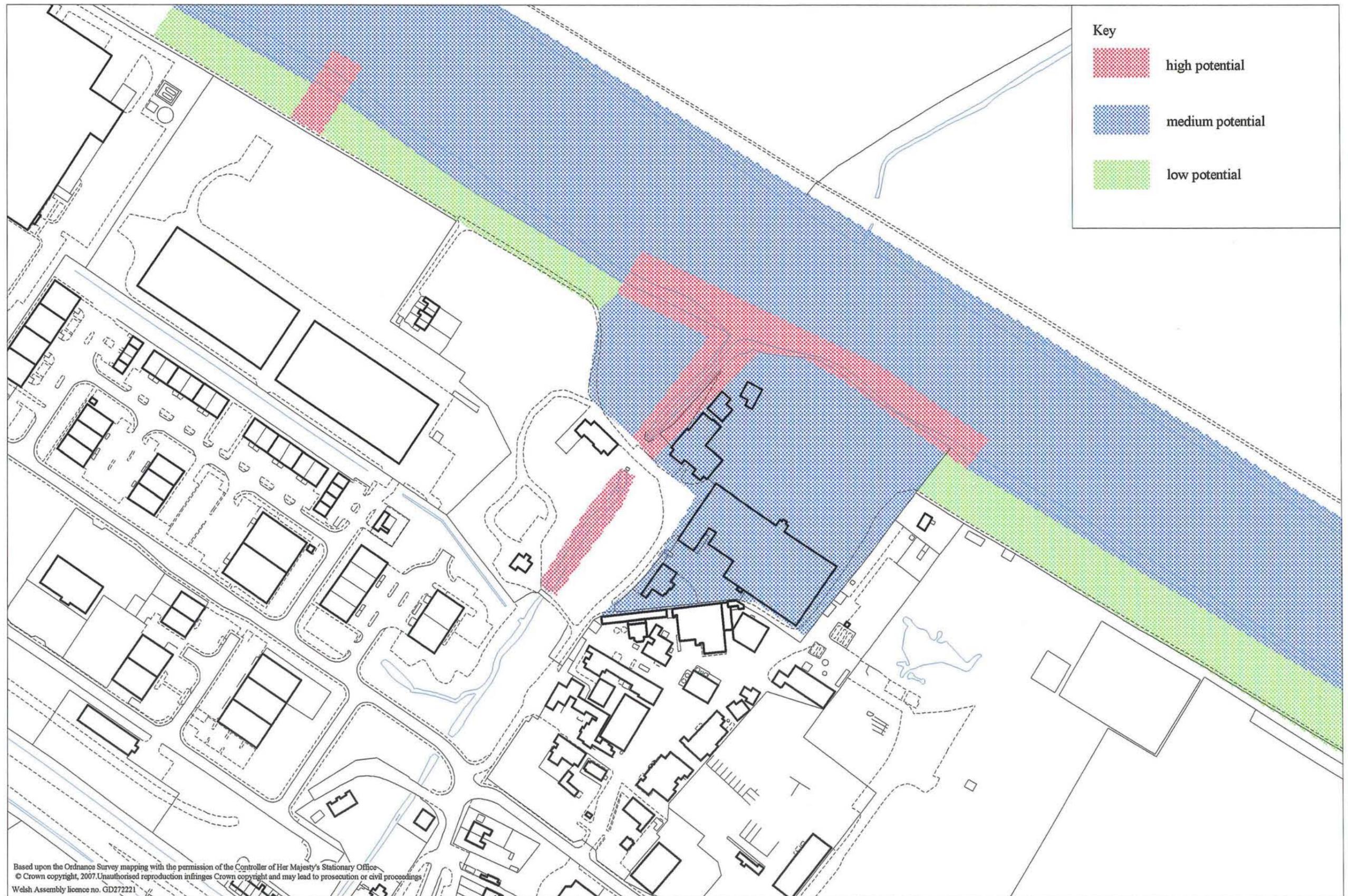
high potential

medium potential

low potential

Fig.55 Sandycroft archaeological potential, scale 1:2,500

15   MINOR QUAYS AND LANDING STAGES

15.1   As well as the three main ports of the River Dee New Cut a number of smaller wharves and landing stages also developed, generally directly associated with local industry. For the purpose of convenience these have been grouped together into this section of the report and are described in order from Saltney westwards to Shotton (Fig. 56).

Saltney Quay and Shipyard

15.2   A small quay (PRN 87846) was developed at Saltney by the Great Western Railway, with sidings leading directly from the Chester to Holyhead line. The wharf was mainly used for importing iron ore and exporting coal. The main part of the quayside lay to the east of a small inlet which forms the border between Wales and England. In 1913 the area between the railway and the river on the Welsh side was acquired by J Crichton and Co. Ltd who set up a shipyard building metal ships (Dixon & Pickard 2002). The area of the shipyard is currently being redeveloped, although the riverside remains undisturbed where parts of the timber revetment survive for the wharfage and along the side of the inlet.

15.3   1.7km further downstream at Saltney was a second wharfage (PRN 37799) associated with nearby industry. The remains of the timber revetment can still be seen along the riverside and also along either side of a small inlet, which may have been used as a quay.

Queensferry Engineering Works and Munitions Factory

15.4   In 1899 the firm of Willans and Robinson Ltd, Engineers and Boilermakers, bought land at Queensferry, on the east side of Chemistry Lane, between the railway and the Dee embankment, to built a factory. The modern works had an extensive system of railway sidings and tramways (PRN 83039) and was equipped with its own landing stage (PRN 34254) which was fitted with an electrically operated crane for unloading pig iron and anthracite, which were conveyed directly to the works via an aerial ropeway (PRN 83038). In 1903 the company was the first to produce vanadium steel, a high tensile alloy. The works closed in 1910, and in August 1914 was taken over as a camp for German internees and then in 1917 became the site of a new high explosives factory (FRO D/GL/91). The large and self-sufficient factory (PRN 34291) had one of the largest and most efficient sulphuric acid plants in the world. A smaller detached site at Sandycroft produced mono-nitro-toluene, which was taken to the main factory for further nitration to produce TNT. The factory closed during the 1920s (Cocroft 2000, 166-9).

15.5   Many of the original buildings survive although there is now no trace of the tramways, and all that remains of the aerial ropeway is a pair of sawn-off posts just inside the fencing on the north-east side of the compound. The landing stage survives, along with a smaller adjacent stage, although both are in poor condition.

Hawarden Bridge Ironworks

15.6   In 1895 John Summers and Sons built an ironworks on reclaimed land at Shotton, on the northern bank of the River Dee. The company imported scrap iron, iron ore, and other raw materials by sea and exported sheet metal by both sea and rail. The firm had its own fleet of steam ships and operated a landing stage, which at its peak during the early 20th century, included a railway link (PRN 34264) (Bates 1980, 42-3).

Shotton Steelworks

15.7 The site of the ironworks was later taken over by Shotton Steelworks, greatly expanding the area of the factory. Two landing stages (PRNs 34264-5) appear to be associated with the later works, the more easterly of which has the wreck of a timber coastal vessel alongside, which was registered at Peterhead (PRN 34266). Of more significance is the small quay (PRN 34288), which was developed by the steelworks and is still in use today.
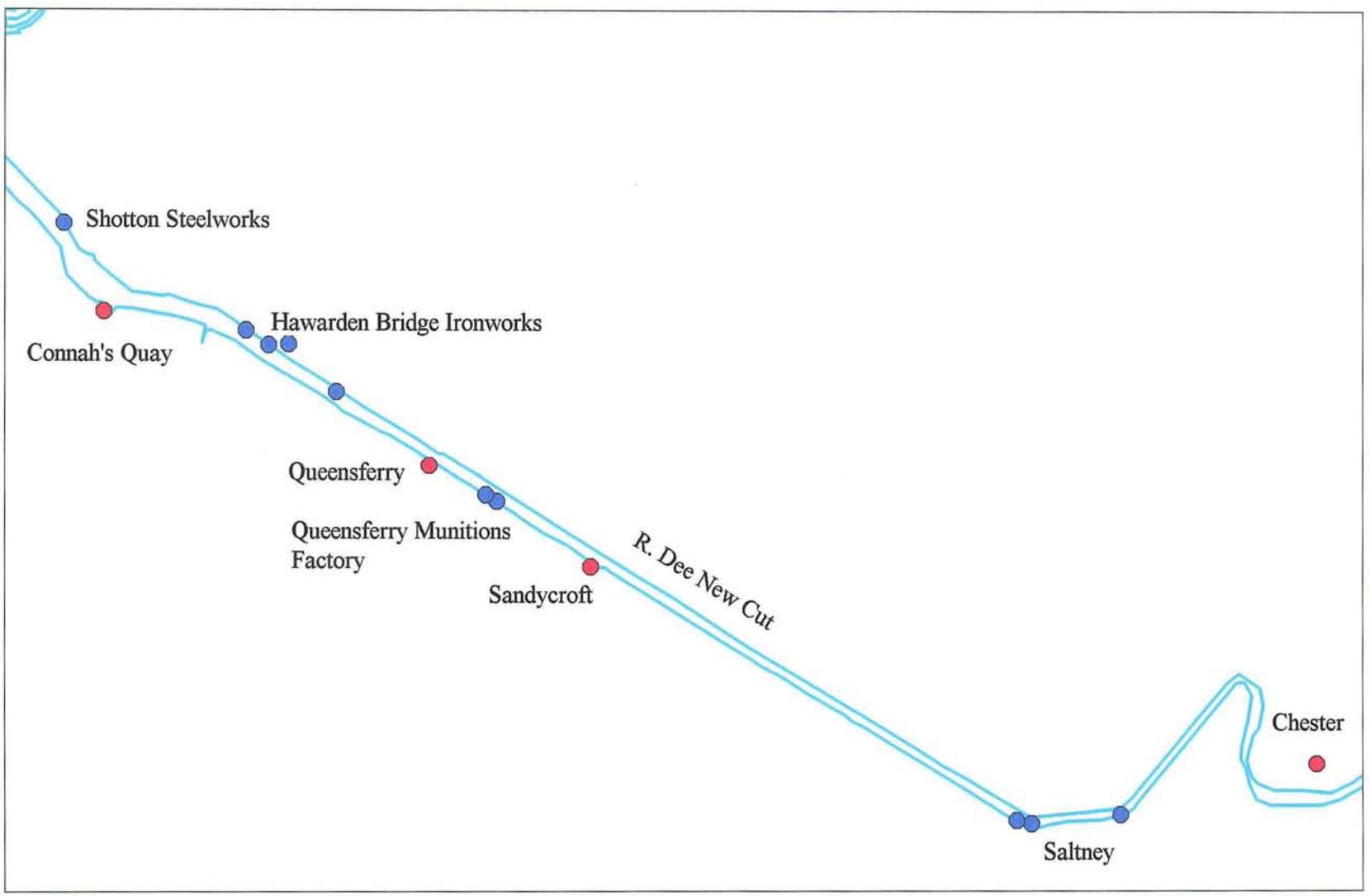
Fig. 56 Minor quays and landing stages of the River Dee New Cut

PART 4

16   MANAGEMENT OF HISTORIC PORTS

16.1   Although ports and harbours have played an important role in Welsh history, their significance, and that of maritime archaeology in general, has only recently begun to be appreciated. Many of the individual structures, wrecks and other coastal features were first recorded during the survey of Welsh coastal archaeology which was funded by Cadw during the 1990s. Information from this survey was integrated into the regional Historic Environment Record, which forms the basis for assessing the potential impact of new development on the historic environment. Similarly, the results from the present study will also be integrated into the HER, providing enhanced baseline data from which to assess future development proposals.

16.2   During their sometimes long history many ports have seen successive phases of redevelopment as their infrastructure has been modified to adapt to the changing nature of trade, industry and shipping, and in north-east Wales a significant number of ports have now become redundant, or are only used by a few small, local vessels. Indeed, the only active port of any size, at Mostyn, has only recently seen significant redevelopment. Although other ports may no longer be active, they often occupy prime sites for redevelopment, either for industry, housing or leisure. Whatever the nature of the development it is likely to have an impact on some aspect of the maritime historic environment.

16.3   The importance and relevance of the historic environment in relation to ports, and how it must be taken into account in development proposals, has recently been the subject of a policy statement by English Heritage (English Heritage 2006). Although no similar document has been produced for Wales the general themes remain valid on both sides of the border and much of the following has been drawn from that source.

The nature of the maritime historic environment

16.4   The maritime historic environment comprises a wide range of structures and other evidence of all past human activity related to the sea. In north-east Wales this includes: prehistoric sites, such as those between Prestatyn and Rhyl, where Mesolithic hunter gatherers occupied coastal margins which are now beneath the land; potential Roman ports at Prestatyn and Pentre Ffwrndan; medieval ports at Rhuddlan, Talacre and Flint; 18th and 19th-century ports such as Foryd and those along the Dee Estuary between Mostyn and Saltney; a number of wrecks, notably in the harbour at Foryd; the remains of coastal industries such as salt extraction and lead smelting; and military defence features, such as the pillboxes at Mostyn and along the River Dee New Cut.

Impacts of redevelopment

16.5   The redevelopment of ports, whether retaining their prime function or diversifying, can impact on the maritime historic environment in a number of ways. The construction of new buildings, roads etc can lead to direct damage to historic harbour and related structures. The dredging of channels to aid navigation or modifications to the waterfront, on the other hand, may have an indirect effect by changing currents which could impact on wrecks and other features buried in the sand and silt. In many cases redevelopment will impact on sites the nature and extent of which are already known. However, there is always the potential for previously unrecorded features to be revealed during the course of development.

Development, planning and historic ports

16.6   The terrestrial planning process, as set out in various Planning Policy Guidance notes, only applies as far as the mean low water, but it is generally accepted that the principles should also be applied

to other approved consents, such as applications for dredging. Where a particular development is thought likely to impact on the maritime historic environment the planning process will normally require a programme of work to be undertaken to assess the potential and significance of historic features and predict the potential impact of the development, leading to an appropriate mitigation strategy. In the case of large developments this will be included as part of an Environmental Impact Assessment (EIA) which requires the developer to compile an Environmental Statement describing the likely significant effects of the development on the environment, including the historic environment, and proposed mitigation measures.

16.7   As with any development, and particularly with larger developments, early consultation is always to be recommended, both with the planning authority and with their archaeological advisor, or regional archaeological curator.

16.8   The assessment of the maritime historic environment in relation to a particular development can be achieved through a variety of non-intrusive or intrusive means, although generally a combination of approaches will be employed. The first stage of assessment is normally a detailed desk-based study of available historic cartography, documents, photographs and published material. Inevitably, this is usually limited to the more recent history of a site and may not provide any information earlier than the late 18th or early 19th centuries. Direct site investigations can also be non-intrusive, employing a variety of remote sensing techniques such as geophysical or radar surveys which can be effective in identifying buried terrestrial features, as well as potential wreck sites. Intrusive investigations normally take the form of archaeological trial excavations and geotechnical boreholes or test pits. Although the latter are often undertaken independently they can have a direct impact on buried archaeological deposits, or may be able to inform on the archaeological potential.

Shoreline Management Plans

16.9   The first generation of Shoreline Management Plans (SMPs) provide a large-scale assessment of the risks associated with coastal processes and present a long term policy framework to reduce these risks to people and to the developed, historic and natural environment in a sustainable manner. An SMP is a high-level document that forms an important element of the strategy for flood and coastal erosion risk management. DEFRA has now produced guidelines for the production of a second generation of SMPs, and all aspects of the maritime historic environment should be taken into account during this process.

Ports of north-east Wales: maritime historic environment potential

16.10 To varying degrees all of the ports included within the present study have surviving elements of their historic structure and these features, together with the potential for unrecorded and buried structures, should be taken into account as part of any development proposals. The following provides a summary of the historic environment potential for each of the ports.

Rhuddlan

16.11 The medieval port associated with the castle is now silted but has considerable potential for buried structures, vessels and artefacts. The only visible structure belonging to the post-medieval port is the dressed stone revetment wall for the quay on the north-east bank of the Clwyd, immediately below the bridge. There is, however, the potential for further quayside structures along the waterfront. On the opposite bank the buildings of the former Phoenix Foundry survive along with a warehouse.

Foryd

16.12 The harbour at Foryd is currently undergoing the first stage of a programme of redevelopment, affecting the site of the 19th-century timber yard and its associated quayside. Further redevelopment is likely in the near future and the area contains significant archaeological potential which should

be taken into account by the planning process. The original wharf, a stone-built pier, survives on the western side of the harbour and on the eastern side parts of the 19th-century shipyard remain relatively undeveloped and there is also potential for buried deposits, including peat and shell middens, which may date back to the Mesolithic. Of particular interest are the three known wreck sites within the harbour, The Alice, The City of Ottawa, and a coastal sailing vessel, all of which could be affected either directly, or indirectly as a result of changes to the waterfront or dredging which could change currents within the harbour. There is also significant potential for previously unrecorded wrecks within the harbour which may be entirely buried by sand and silt.

Talacre

16.13 The harbour at Talacre is likely to have its origins in the medieval period and has considerable potential for buried structures and wrecks in the sand and silt inside the harbour, within the area of the flushing pond to the west, and immediately outside the harbour. The surface remains of the main harbour date from the early 19th century, while the wharf associated with Point of Ayr Colliery is largely late 19th-century in date. Although it was not possible to gain access as part of the present study it is likely that significant structural remains survive.

Mostyn

16.14 Unfortunately, the recent redevelopment of Mostyn has had a serious impact on the historic port leading to loss or burial of significant features. No provision was made for any recording prior to their loss and this should act as a salutary lesson with regard to the potential redevelopment of other sites. It is possible that some features still survive, in particular the Second World War pillboxes.

Llannerch-y-môr

16.15 It is likely that late 20th-century redevelopment has had a considerable impact on the 19th-century quayside and few original features are now evident. There is, however, significant potential on the site of the former leadworks, particularly the surviving smelting chimney.

Greenfield

16.16 The harbour still used by small vessels and there is considerable potential for the site to be redeveloped as a tourist and leisure facility, particularly given the proximity of country park and visitor centre at Greenfield Valley. The south-east side of the 19th-century harbour survives, as does the flushing pond, and there is considerable potential for other features and wrecks to be preserved within the deep silts inside the harbour.

Bagillt

16.17 There are now few visible remains of the Dee Bank quay, although some stone and timber revetment survives along the north-west side together with the remains of a timber sluice associated with the Milwr Tunnel. The basal remains of the leadworks dressing sheds are still visible to the north-west and further structures are likely to have been buried beneath the surrounding spoil tips. Similarly, the south-eastern quay also has few visible remains although part of the timber revetment is visible along the north-west side and both flushing ponds survive. Despite the paucity of visible remains there is still considerable potential for quayside features to survive at both quays where they have been buried beneath the silt and saltmarsh.

Flint

16.18 There is now no visible evidence for the medieval quays associated with the castle and town, although it is likely that significant buried remains survive relating to both sites. The later quayside and harbour remains undeveloped, however, despite the construction of new industrial and business units in the surrounding area and significant buried remains may therefore survive. A small area adjacent to the railway remains undeveloped and is in part the site of a reservoir associated with the

leadworks.

Connah's Quay

16.19 The redevelopment of Connah's Quay has had a serious impact on many of the historic port features, although the original stone-revetted pier and wharfage, together with the adjacent stone-lined dock and the Old Quay House still survive. The second dock has been infilled, while the wharf between the two docks only survives as a row of posts projecting from the mud and visible at low water. The areas between the two docks, and adjacent to the eastern wharfage have largely been redeveloped and are now occupied by numerous small industrial units. The site of the shipyards is now occupied by an active timber yard and there are no obvious traces of the slipways and other associated structures. Despite the extensive redevelopment of the quayside there is still significant archaeological potential in the area of the surviving dock and wharf. These features, together with the Old Quay House, have considerable historic significance as the last surviving remains of the port and every effort should be made to ensure that they do not suffer the same fate as the other quayside features.

16.20 The area around the Wepre Gutter has the potential for features and wrecks associated with its use as a harbour during the medieval and early post-medieval periods, which may be buried and preserved by the river silts.

Queensferry

16.21 The redevelopment of Queensferry during the late 20th century has had a detrimental effect on much of the port-related archaeology. In the main dockside area the quay is now silted and abandoned and of the seven landing stages which once flanked this side of the river, only two have any significant remains. There is, however, likely to be considerable archaeological potential in the undeveloped area around the main quay and what is left of the waterfront to the south-east. Further downstream the site of a second quay has considerable potential for buried archaeological features associated with the quayside and tramway, as well as the remains of the landing stage and wharf along the river frontage.

Sandycroft

16.22 The quay is relatively well preserved, although abandoned and silted. The area along the north-west side of the quay has been recently levelled, while along the south-east side some of the 19th-century foundry buildings still survive. Along the riverside there are the remains of a timber landing stage and two other areas of timber posts which may have been part of stages or wharves. The main 20th-century buildings belonging to the foundry survive and are used as industrial units and workshops, although some are derelict. The area between these buildings and the river is now wasteland, although earthworks and building foundations are still visible.

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River Dee
D/BJ/424   The River Dee from a survey made by Captain Greenvile Collins, 1684
D/BJ/424   The River Dee from a survey made by John MacKay, 1732
D/LA/65   Plan of the Dee Estuary by Fearon and Eyes, 1736/7
D5120/1   A survey of the marshlands (within the parish of Hawarden) on the south of part of the
                  new cut or new channel of the River Dee and of the gutters and receptacles of water
                  therein, *c*.1750. Chester Record Office
DC/196   The River Dee. From the sea to Parkgate from a map by PP Burdett, 1771. From
                  Parkgate to Chester from a survey by Thomas Boydell. Made for the River Dee Co.
                  1770-1771
D/LA/076   Admiralty Plan of the Dee Estuary, 1834
D/BT/426   River Dee from Chester to Flint, surveyed by Robert Stevenson and Sons, 1839
D/LA/008   River Dee Upper Estuary in 1737 shewing reclamation to 1889, 1700 and 1732 limits

Bagillt
D/LA/076   Admiralty Plan of the Dee Estuary, 1834
Tithe Survey for Holywell parish, 1841
Ordnance Survey 1st edition 25" Flint 6.11, 1871
Ordnance Survey 2nd edition 25" Flint 6.11, 1899
DC/134   correspondence re: Bagillt gutter and docks 1931-2

Photographs
2/7B   Fer and other vessels at Bagillt Docks
2/145   Old docks c. 1915
1/184   Old docks c. 1910

Connah's Quay
Tithe Survey for Northop parish, 1839
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D/DM/1203/1-2   Photos and postcards.
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D/DM/274/11   Plan showing condition of docks. 1938
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DC/381   papers re: proposed closure of wharves and docks. 1928-9
NT/1155   dissertation on port. 1970s
NT/231   copies of documents relating to shipping. 1868, 1962
QS/DR/47   Buckley and CQ Railway plans and sections. 1859
QS/DR/111R   Connah's Quay Railway and Docks. 1865
QS/DR/120   Buckley Railway (Docks at Connah's Quay etc). 1866
QS/DR/156   Wrexham Mold and Connah's Quay Railway, additional lands at Connah's Quay.
                       1868-9
QS/DR/186   Wrexham Mold and Connah's Quay Railway, extensions and Dock. 1881-2

Photographs
PR/15/51   Connah's Quay docks *c.* 1900
15/108B   Salmon net fishing at docks
15/109   Quay House 1890s
15/110   Quay House c.1905
15/111   Quay House c.1910
15/112   The Conway 1890s
15/113   River Dee at Connah's Quay c.1861
15/114   River Dee at Connah's Quay 1920s
15/115B   Low water at Connah's Quay c.1910
15/116-7B   The derelict port of Connah's Quay 1969
15/118   Shipyard
15/119B   Shipyard
15/128   Docks c1895
15/129B   Docks c.1900
15/130   Docks c. 1905
15/159   Quay House 1906
15/161   The Robert Brown in dry dock near Connahs Quay c.1900
15/177-8B   Ryelands at docks c.1910
15/180B   SS Mourne c.1910
15/183B   The Old Quay House c.1900
15/189B   Steam crane at docks
15/195B   The Shipyard c.1900

Flint
John Speed's plan of Flint 1611
D/LA/076 Admiralty Plan of the Dee Estuary, 1834.
Tithe Survey for Flint parish, 1839
Plan of Property in and adjoining the Town of Flint for sale by Mr Leifchild, 1854
Ordnance Survey 1st edition 25" Flint 6.16, 1874 and 9.4, 1871
Ordnance Survey 2nd edition 25" Flint 6.16, 1899 and 9.4, 1899

Foryd
Tithe Survey for Abergele parish, 1839
Tithe Survey for Rhuddlan parish, 1839
Ordnance Survey 1st edition 25" Denbs 2.13-4, 1877 (Flint 1.13-4, 1871)
Ordnance Survey 2nd edition 25" Denbs 2.13-4, 1899 (Flint 1.13-4, 1899)
QS/DR/49   Foryd Bridge and railway 1859

QS/DR/64	Rhyl Harbour bridge and railway 1860
QS/DR/65	Rhyl Harbour bridge and railway 1861
QS/DR/188	Rhyl Voryd and Plastirion Tramways 1882
QS/DR/184	Rhyl Voryd and Plastirion Tramways 1881
DC/167, 169	report on Foryd. 1853
NC/55	cutting on Rhyl harbour
NC/395	colourful characters of Rhyl's Foryd Harbour. 1979
NC/86, 88	cutting on Rhuddlan and Rhyl. 1973

Photographs

56/256C	1900
56/257B	1900
56/258C	1894
56/259C	1894
56/260C	1900
56/261-272	

Greenfield

Tithe Survey for Holywell parish, 1841
Ordnance Survey 1st edition 25" Flint 6.6, 1871
Ordnance Survey 2nd edition 25" Flint 6.6, 1899

| QS/DR/249 | Greenfield Harbour and light railway. 1913 |

Llannerch-y-môr

Tithe Survey for Whitford parish, 1848
Ordnance Survey 1st edition 25" Flint 6.1, 1872
Ordnance Survey 2nd edition 25" Flint 6.1, 1899

| D/BC/236 | Downing Estate. Plan of land held by John Pryce Eyton under lease, late 19th-century. |

Mostyn

Tithe Survey for Whitford parish, 1848
Ordnance Survey 1st edition 25" Flint 2.16, 1872
Ordnance Survey 2nd edition 25" Flint 2.16, 1899

QS/DP/4, 9, 10	Plans of Cambrian and Mostyn Docks. 1865/1888
QS/DD/5	Pier and railway at Mostyn. Nov 1851
D/DM/161/5	Plan of docks. 1888-9
D/DM/492/10-11	cutting re: docks. c.1960
D/M/5139iii	A New Survey of the River Dee (pre 1737)
D/M/5139x	Map of the Manor of Mostyn in 1816 by Thomas Jones of Denbigh
D/M/5139xi	Map of the Coal Pits referred to in the Report of John Farey, 1814
D/M/5248	Map of Mostyn Hall, Garden, Park and Demesne and the Manor of Mostyn, seat of Sir Thomas Mostyn, Baronet, Lord of the said Manor, by Thomas Badeslade, 1742
QS/DP/5	Plan and Section of an Embankment for enclosing the Whitford, Trewaelod and Parlor Du Sands, Pile Pier and Railway near Mostyn Station on the Chester and Holyhead Railway.
QS/DR/249	Plans and sections of Greenfield Harbour and Light Railway, November 1913.

Photographs

| 42/50 | Mostyn Quay showing Mary and Temple c. 1905 |

Queensferry

Tithe Survey for Hawarden parish, 1843
Ordnance Survey 1st edition 25" Flint 10.11 and 10.15, 1870
Ordnance Survey 2nd edition 25" Flint 10.11 and 10.15, 1899

D/BC/608	draft lease of Aston Wharf. 1858
D/BC/627	plan of Aston Wharf. 1861
D/DM/1036/1	notes on history of Abdella and Mitchell's Dee shipbuilding works
D/DM/1203/1-2	Postcards
D/GL/87-95	notes including shipbuilding. c.1900
D/HA/1618	plan of munitions factories. 1921
D/HA/361	wharfage accounts. 1839, 1843
D/HA/582	notice giving wharfage rates. 1849

Photographs

D/DM/1036/1 p.61	Abdella and Mitchell's Shipyard in 1918
51/41	Shipping c. 1910
51/44-5	steamer at shipyard c.1920
51/46	Pepuhy c.1900
51/47	boatyard c.1900
51/48	boatyard c. 1900
51/49	boatyard c.1905
51/53-6B	launching of SS Brightside at Abdella and Mitchells yard 1930

Rhuddlan

Tithe Survey for Rhuddlan parish, 1839
Ordnance Survey 1st edition 25" Flint 4.7, 1872 & Flint 4.6, 1895
Ordnance Survey 2nd edition 25" Flint 4.6-7, 1899

NT/M/94(ii)	Estate map 1756
NT/M/86	Estate map 1780
NT/M/93	Map of 1810
NT/M/93	Map of the Bodrhyddan Estate in Rhuddlan and Dyserth in 1810 shows the quay at Rhuddlan as the property of the Dean of St Asaph and Mrs Barbara Younge. Print of 1795 CRO 879

Sandycroft

Tithe Survey for Hawarden parish, 1843
Ordnance Survey 1st edition 25" Flint 10.16, 1870
Ordnance Survey 2nd edition 25" Flint 10.16, 1889

D/DM/865/7	plan of Sandycroft Farm. 19th Century
D/DM/990/6	notes on history
D/GL/99-101	notes on foundry and shipbuilding
D/HA/1502	sale of foundry. 1927, 1951
NT/137	article on foundry. 1953

Photographs

60/35B	River Dee. 1917
60/37B	foundry employees at jetty. c.1900
60/46-7	The Grace Darling

Talacre
D/BT/426 River Dee from Chester to Flint, surveyed by Robert Stevenson and Sons, 1839.
Tithe Survey for Llanasa parish, 1839
Ordnance Survey 1st edition 25" Flint 2.7, 1872
Ordnance Survey 2nd edition 25" Flint 2.7, 1899

DC/296   copy of Talacre Pier and Harbour Act. 1866
QS/DP/4   Cambrian Docks (proposed dock and railway at Llanasa) 30 Nov 1865
QS/DP/5   Plans and book of reference
QS/DP/6   Plans and book of reference
QS/DP/7   Talacre Pier and Harbour 30 Nov 1865

APPENDIX 1
GAZETTEER OF SITES

Bagillt

PRN	Name	Grid ref.	Type	Period	Condition
12000	Milwr Tunnel	SJ2130675982	Level	Post Medieval	Intact
34248	Bagillt Boundary stone	SJ2220075500	Boundary stone	Post Medieval	Intact
34270	Bettisfield Quay	SJ2146076114	Quay	19th century	Damaged
34271	Bagillt Quay Railway	SJ2220075600	Railway	19th century	Damaged
34296	Bettisfield Rope Walk	SJ2120076275	Ropewalk	Post Medieval	Destroyed
37756	Bagillt Smeltworks	SJ2205075349	Smelt mill	Post Medieval ?	Destroyed
37807	Bagillt Magazine	SJ2145276171	Magazine	20th century ?	Destroyed
37812	Bagillt Smithy I	SJ2139075889	Blacksmiths workshop	20th century ?	Destroyed
37847	Bagillt Upper Smelting Works Yard	SJ2120075999	Lead works ?	20th century	Damaged
37848	Bagillt Wharf II	SJ2225075549	Wharf	20th century	Damaged
37874	Bagillt River Bank Smelting Works	SJ2127076100	Smelt mill	Post Medieval	Unknown
37959	Bagillt Harbour Flushing Pond	SJ2210275501	Flushing pond	20th century	Damaged
39819	Bagillt Shipyard	SJ2200075400	Shipyard	Post Medieval	Unknown
41074	Bettisfield Colliery Winding Engine House and Heapstead	SJ2154275954	Engine house	19th century	Intact
41075	Bettisfield Colliery Lamp Room	SJ2150775942	Lamp room	19th century	Intact
43147	Milwr Tunnel, low water outlet	SJ2137076080	Water channel	19th century ?	Intact
43148	Milwr Tunnel, main portal	SJ2135076090	Tunnel portal	19th century	Intact
43149	Milwr Tunnel, drainage channel	SJ2131076150	Water channel	19th century	Intact
43150	Milwr Tunnel, lagoon	SJ2127076270	Reservoir	19th century	Intact
43151	Milwr Tunnel, portal	SJ2135076060	Tunnel portal	20th century ?	Intact
43152	Milwr Tunnel, portal	SJ2118076260	Tunnel portal	19th century	Intact
43154	Bagillt steam engine	SJ2138076120	Steam engine	19th century	Damaged
43155	Bagillt crane base	SJ2145176147	Crane	19th century	Damaged
72363	Dee Bank Leadworks, tramway	SJ2125075980	Tramway	19th century	Damaged
83082	Bettisfield Upper Works (zinc)	SJ21207592	Zinc works	19th century	Unknown
83083	Bettisfield ('Hawarden' or 'Bagillt') Iron works	SJ2121076130	Iron works	19th century	Unknown
83551	Bagillt Copper works railway	SJ22297528	Railway	19th century	Unknown
83552	Bagillt wharf I	SJ22187547	Wharf	19th century	Unknown

83553	Bagillt Copper works chimney	SJ2218775413	Chimney	19th century	Unknown
83554	Bagillt leadworks chimney	SJ2208075065	Chimney	19th century	Unknown
83562	Bagillt Wharf III	SJ22177543	Wharf	19th Century	Damaged
87999	Bagillt Reservoir	SJ2206475448	Reservoir	Post Medieval	Unknown
89572	Bettisfield Colliery slag heap	SJ2170076100	Slag heap	Post Medieval ?	
103980	Bagillt Lead Works	SJ2140076160	Lead works	19th century	Destroyed
103981	Bettisfield Colliery	SJ2155076000	Colliery	Post Medieval	Damaged
104002	Bagillt Harbour	SJ2218075450	Port	Post Medieval	Damaged
104035	Bagillt Station Copper Works	SJ2226075330	Copper works	Post Medieval	Near destroyed

Connah's Quay

PRN	Name	Grid ref.	Type	Period	Condition
34230	Connah's Quay Dock I	SJ2940069900	Dock	Post Medieval	Damaged
34231	Connah's Quay Dock II	SJ29496984	Dock	Post Medieval	Destroyed
37739	Latchcraft Tramroad	SJ30616925	Tramway	18th century	Unknown
37772	Wrexham, Mold and Connah's Quay Railway (dismantled)	SJ29326983	Railway	19th century	Unknown
37781	Connah's Quay Chemical Works	SJ29806970	Factory	19th century	Unknown
37782	Wepre Chemical Works	SJ30186940	Factory	19th century	Unknown
37825	Connah's Quay landing stage I	SJ29796978	Landing stage	19th century	Unknown
37826	Connah's Quay wharf IV	SJ29257001	Wharf	19th century	Unknown
39812	Connah's Quay shipyard I	SJ29206998	Shipyard	Post Medieval	Unknown
83014	Connah's Quay shipyard II	SJ29306992	Shipyard	19th century	Unknown
83015	Connah's Quay slipway I	SJ29246998	Slipway	19th century	Unknown
83016	Connah's Quay shipyard seawall	SJ29326995	Wall	19th century	Unknown
83017	Connah's Quay slipway II	SJ29376994	Slipway	19th century	Destroyed
83018	Connah's Quay wharf I	SJ29406992	Wharf	19th century	Damaged
83019	Connah's Quay wharf II	SJ29476990	Wharf	19th century	Near destroyed
83020	Connah's Quay landing stage II	SJ29516989	Landing stage	19th century	Destroyed
83021	Connah's Quay docks reservoir	SJ29466979	Reservoir	19th century	Unknown
83022	Connah's Quay landing stage III	SJ2964569875	Landing stage	19th century	Destroyed
83023	Connah's Quay wharf III	SJ29706987	Wharf	19th century	Destroyed

83024	Connah's Quay wagon works and saw mill	SJ29666970	Saw mill	20th century	Unknown
83025	Connah's Quay River Dee embankment	SJ29936967	Reclamation bank	18th century	Unknown
83072	Wepre port	SJ30266945	Port	Post Medieval	Unknown
87972	Connah's Quay, The Quay House	SJ2933369886	Public House	18th century	
103747	Connah's Quay Port	SJ2943269856	Port	Post Medieval	Damaged

Flint

PRN	Name	Grid ref.	Type	Period	Condition
26956	Flint Castle Works	SJ2470073300	Factory	20th century	Unknown
34269	Flint Quay	SJ2435073600	Quay	Post Medieval	Damaged
37740	Flint Saltworks	SJ2446173454	Salt works	Post Medieval	Unknown
39818	Flint Shipyard	SJ2440073500	Shipyard	Post Medieval	Unknown
83074	Flint Marsh reservoir	SJ2391073990	Reservoir	19th century	Unknown
83075	Flint Chemical works railway	SJ2426073475	Railway	19th century	Unknown
83557	Flint Castle Quay	SJ2472073273	Quay	Medieval	Document
83558	Flint Town Quay	SJ2473473256	Quay	Medieval	Unknown
100325	Flint Castle	SJ2470973344	Masonry castle	Medieval	Damaged
100332	Flint, County Prison	SJ2467073280	Prison	Post Medieval	Destroyed
103985	Flint Alkali Works	SJ2575072170	Alkali works	20th century ?	Destroyed
104014	Flint Smelting Works	SJ2440073500	Smelt mill	Post Medieval	Destroyed
106396	Flint Dock Hulk	SJ2440073600	Wreck	Post Medieval	Submerged

Foryd

PRN	Name	Grid ref.	Type	Period	Condition
26197	Rhyl, Wellington Road, Foryd Bridge	SH9948080633	Bridge	19th century	Unknown
34274	Foryd Harbour Wreck (The Alice)	SH9940080650	Wreck	19th century ?	Damaged
34275	Foryd Harbour Wreck (City of Ottawa)	SH9961080710	Wreck	19th century	Damaged
34276	Foryd Harbour Wreck	SH9955080750	Wreck	20th century	Damaged
34277	Foryd Harbour	SH9950080600	Port	Post Medieval	Damaged
34281	Rhyl Bridge West Abutment	SH9947380520	Bridge	20th century	Damaged
34282	Rhyl Bridge East Abutment	SH9954780565	Bridge	20th century	Damaged
34292	Foryd Shipyard	SH99668068	Shipyard	20th century	Destroyed
81547	Foryd Harbour Wreck (Asia)	SH9953080450	Wreck	19th century	Unknown
81548	Foryd, For Rhyd ford	SH9946080600	Ford	Post Medieval	Unknown
81549	Rhyl, Marine Lake	SH9990080500	Reservoir	19th century	Intact
81550	Foryd Ferry	SH9946080600	Ferry crossing	19th century	Unknown
83080	Foryd breakwater	SH99468089	Breakwater	19th century	Unknown
83516	Foryd landing stage	SH9961080710	Wharf	19th century	Unknown

PRN	Name	Grid ref.	Type	Period	Condition
	east II				
83520	Foryd harbour pier	SH99418070	Landing stage	19th century	Intact
83521	Foryd Quay	SH99428071	Quay	19th century	Intact
83522	Foryd timber yard	SH99458087	Saw mill	19th century	Destroyed
83523	Foryd landing stage	SH99648077	Landing stage	19th century	Unknown
83528	Rhyl Bridge	SH9951480539	Bridge	19th century	Near destroyed
83529	Foryd Lifeboat Station	SH9950580416	Lifeboat station	19th century	Unknown
83555	Foryd Timber Yard Wharf	SH29958080	Wharf	19th Century	Damaged
83559	Foryd railway	SH99408073	Railway	19th Century	Unknown
102875	Foryd Telegraph Station (site of)	SH9940080500	Telegraph station	Post Medieval	Destroyed

Greenfield

PRN	Name	Grid ref.	Type	Period	Condition
34216	Greenfield Harbour	SJ2000077990	Harbour	18th century ?	Damaged
34273	Greenfield Quay Flushing Pond II	SJ1990077900	Flushing pond	20th century	Damaged
83546	Greenfield Quay Flushing Pond I	SJ1980077840	Flushing pond	19th century	Unknown
83547	Greenfield Quay railway	SJ1998077930	Railway	19th century	Unknown
83548	Holywell railway	SJ19877776	Railway	19th century	Unknown
83549	Greenfield breakwater	SJ2001078070	Breakwater	19th century	Unknown

Llannerch-y-môr

PRN	Name	Grid ref.	Type	Period	Condition
102395	Llannerch-y-môr Smelting Works	SJ1756079220	Smelt mill	Post Medieval	Destroyed
103674	Llannerch-y-môr Limekiln	SJ1753579192	Lime kiln	Post Medieval	Destroyed
34212	Llannerch-y-môr Quay	SJ1775079553	Quay	Post Medieval	Damaged
37733	Llannerch-y-môr leadworks railway	SJ1759979301	Tramway	19th century	Unknown
37852	Llannerch-y-môr Wheelpit	SJ1753079229	Wheel pit	20th century	Intact
37853	Llannerch-y-môr Textile Factory	SJ1754879219	Textile mill	20th century	Damaged
83076	Llannerch-y-môr mill pond I	SJ1741079200	Mill pond	19th century	Unknown
83077	Llannerch-y-môr mill pond II	SJ1754079100	Mill pond	19th century	Unknown
83079	Llannerch-y-môr tramway	SJ1769679458	Tramway	19th century	Unknown
83681	Llannerch-y-môr smelting works chimney	SJ1750079190	Chimney	19th century	Damaged

Mostyn

PRN	Name	Grid ref.	Type	Period	Condition
26562	Mostyn Quay	SJ1550081200	Port	Post Medieval	Damaged
26563	Mostyn Docks Flushing Pond I	SJ1545881036	Flushing pond	20th century	Destroyed
26564	Mostyn Docks	SJ1553481140	Port	19th century	Damaged
26565	Mostyn Docks Flushing Pond II	SJ1570081000	Flushing pond	20th century	Destroyed
26566	Mostyn Docks Isolation Hospital (site of)	SJ1563081230	Hospital	19th century	Destroyed
26567	Darwen and Mostyn Ironworks	SJ1570080900	Iron works	19th century	Destroyed
26572	Mostyn Docks Breakwater	SJ1585081500	Breakwater	20th century	Damaged
26577	Mostyn Docks Wreck	SJ1564081220	Wreck	20th century	Destroyed
34284	Mostyn Dock Wreck (possibly The Temple)	SJ1563081160	Wreck	20th century	Destroyed
34285	Mostyn Dock Wreck (Elizabeth)	SJ1564081080	Wreck	20th century	Destroyed
34286	Mostyn Dock Pillbox I	SJ1559181330	Pill box	20th century	Intact
34287	Mostyn Dock Pillbox II	SJ1581081460	Pill box	20th century	Unknown
37741	Mostyn salt house	SJ1584880619	Salt works	Post Medieval	Unknown
39816	Mostyn Shipyard	SJ1550081000	Shipyard	Post Medieval	Unknown
83539	Mostyn Quay Reservoir I	SJ1553081000	Reservoir	19th century	Unknown
83541	Mostyn Quay sawmill	SJ1541081100	Saw mill	19th century	Unknown
83542	Mostyn Colliery Wharf I	SJ1555581108	Wharf	19th century	Unknown
83543	Mostyn Colliery Wharf II	SJ1558581080	Wharf	19th century	Unknown
83544	Mostyn Quay railway	SJ1562081020	Railway	19th century	Unknown
102483	Mostyn Coalmine	SJ1554081070	Colliery	Post Medieval	Unknown

Queensferry

PRN	Name	Grid ref.	Type	Period	Condition
34240	Aston Quay landing stage VI	SJ3244068485	Landing stage	Post Medieval	Damaged
34241	Queensferry Quay	SJ32006876	Quay	Post Medieval	Damaged
34243	Lower Kings Ferry	SJ32226870	Ferry crossing	Post Medieval	Destroyed
34255	Aston Quay landing stage VII	SJ32496846	Landing stage	20th century	Damaged
34256	Queensferry Pillbox	SJ3196568770	Pill box	20th century	Damaged
34267	Queensferry Bridge SW Abutment	SJ32176867	Bridge	19th century	Damaged
34268	Queensferry Bridge NE Abutment	SJ32256874	Bridge	19th century	Damaged
37789	Aston Railway	SJ322684	Railway	19th century	Damaged
37792	Mancot Colliery,	SJ32506835	Tramway	20th century	Unknown

	Tramway				
39811	Queensferry shipyard I	SJ31976876	Shipyard	Post Medieval	Unknown
83026	Ferry Inn	SJ32276873	Public House	19th century ?	Destroyed
83027	Aston Quay weighbridge	SJ3226568490	Weighbridge	19th century	Destroyed
83028	Aston Quay landing stage I	SJ3228568585	Landing stage	19th century	Unknown
83029	Aston Quay landing stage III	SJ32346855	Landing stage	19th century	Unknown
83030	Queensferry shipyard II	SJ32336852	Shipyard	19th century	Unknown
83031	Aston Quay	SJ32346851	Port	19th century	Unknown
83032	Aston Quay landing stage IV	SJ3235568510	Landing stage	19th century	Unknown
83033	Aston Quay building	SJ3231068495	Building	19th century	Unknown
83034	Queensferry chapel	SJ32336845	Chapel	19th century	Destroyed
83035	Queensferry chemical works railway	SJ32346843	Railway	19th century	Destroyed
83036	Mancot Tramway pier	SJ32586840	Landing stage	19th century	Unknown
83054	Aston Quay landing stage V	SJ3241568505	Landing stage	19th century	Near destroyed
83055	Queensferry Quay landing stage	SJ3197568785	Landing stage	19th century	Damaged
87848	Aston Colliery tramway	SJ3211168635	Tramway	Post Medieval	Unknown
87850	Queensferry ferry jetty	SJ3219068667	Jetty	18th century	Destroyed
87851	Aston Quay landing stage II	SJ3230568570	Landing stage	Post Medieval	Unknown
87852	Victoria Jubilee Bridge	SJ3221068689	Bridge	19th century	
103918	Queensferry Chemical Works	SJ3240068397	Chemical works	Post Medieval	Damaged

Rhuddlan

PRN	Name	Grid ref.	Type	Period	Condition
34301	Rhuddlan Quay	SJ02007812	Quay	Post Medieval	Unknown
83514	Rhuddlan medieval port	SJ02407783			
83515	Rhuddlan quay	SJ02177803			
83517	Rhuddlan warehouse	SJ01987814	Warehouse	19th century	Unknown
83518	Rhuddlan wharf IV	SJ02007801	Wharf	19th century	Unknown
83519	Rhuddlan Phoenix Foundry warehouse	SJ02117796	Warehouse	19th century	Intact
83524	Rhuddlan Quay building	SJ02197803	Building	19th century	Unknown
83525	Rhuddlan Wharf II	SJ01837825	Wharf	19th century	Unknown
83526	Rhuddlan Wharf III	SJ0187078186	Wharf	19th century	Unknown
83527	Rhuddlan quay structure I	SJ0215078047	Structure	19th century ?	Unknown
102031	Rhuddlan Castle	SJ0246277909	Masonry castle	Medieval	Damaged
102034	Rhuddlan Bridge	SJ0218377997	Bridge	Post Medieval	Damaged
103601	Marsh Road Foundry	SJ0184077990	Foundry	Post Medieval	Destroyed
103603	Phoenix Iron Foundry	SJ0204977935	Iron foundry	Post Medieval	Intact

| 103605 | Marsh Road Tannery | SJ0186078090 | Tannery | Post Medieval | Destroyed |

Sandycroft

PRN	Name	Grid ref.	Type	Period	Condition
19100	Sandycroft Railroad	SJ33806698	Tramway	20th century	Destroyed
34242	Sandycroft Quay	SJ3385067600	Quay	Post Medieval	Damaged
34246	Sandycroft Quay landing stage III	SJ33926760	Landing stage	20th century	Near destroyed
34250	Sandycroft Quay Jetty	SJ3401567540	Jetty	20th century	Damaged
34251	Sandycroft Quay landing stage I	SJ33596779	Landing stage	20th century	Damaged
34297	Sandycroft Foundry	SJ3390067500	Foundry	Post Medieval	Damaged
39813	Sandycroft Shipyard	SJ33826758	Shipyard	Post Medieval	Unknown
83040	Sandycroft Farm	SJ33746735	Farm	19th century	Unknown
83041	Sandycroft Foundry railway sidings	SJ33816749	Railway	20th century	Unknown
83052	Sandycroft Quay landing stage II	SJ33826765	Landing stage	19th century	Near destroyed
83053	Sandycroft Quay timbers	SJ33786752	Quay ?	Post Medieval	Damaged
103920	Sandycroft Foundry	SJ3390067500	Iron foundry	Post Medieval	Damaged

Talacre

PRN	Name	Grid ref.	Type	Period	Condition
26553	Talacre Reclamation Bank	SJ1245184837	Flood bank	Post Medieval	Near intact
26554	Tanlan Reclamation Bank	SJ1278882965	Flood bank	Post Medieval	Near intact
26555	Talacre Harbour	SJ1260083600	Harbour	19th century	Damaged
26556	Point of Ayr Colliery Tramway	SJ1250083300	Tramway	19th century	
26557	Point of Ayr Crockford's Tramway (site of)	SJ1250083200	Tramway	19th century	Destroyed
26558	Point of Ayr Colliery	SJ1270083700	Colliery	19th century	Intact
39817	Talacre Shipyard	SJ1250083500	Shipyard	Post Medieval	Unknown
83530	Talacre Sluice House	SJ1256283456	Building	19th century	Unknown
83531	Point of Ayr Colliery railway/tramway	SJ12828371	Railway	19th century	Unknown
83532	Point of Ayr colliery sea defence	SJ128888378	Embankment	19th century	Unknown
83534	Point of Ayr miners' cottages (row) ?	SJ1248983477	Building	19th century	Unknown
83535	Point of Ayr colliery loading stage	SJ8347783705	Wharf	19th century	Unknown
83536	Point of Ayr tramway	SJ1229383709	Tramway	20th century	Unknown
83537	Point of Ayr colliery breakwater	SJ1290983791	Breakwater	20th century	Unknown

83538	Point of Ayr Colliery footbridge	SJ1265283589	Footbridge	19th century	Unknown
83540	Talacre embankment I	SJ1259483472	Embankment	19th century	Unknown
83556	Talacre Flushing Pond	SJ12418354	Flushing pond	19th Century	Unknown
83560	Picton Pool	SJ12708360	Harbour	Medieval	Unknown

Minor quays and landing stages

PRN	Name	Grid ref.	Type	Period	Condition
34247	Garden City Landing Stage	SJ31526915	Landing stage	20th century	Damaged
34253	Queensferry Munitions Factory landing stage II	SJ3295568175	Landing stage	20th century	Damaged
34254	Queensferry Munitions Factory landing stage I	SJ32866823	Landing stage	20th century	Damaged
34263	Shotton Steelworks Landing Stage I	SJ30916956	Landing stage	20th century	Damaged
34264	Shotton Steelworks Landing Stage II	SJ30716969	Landing stage	20th century	Damaged
34265	Shotton Steelworks Landing Stage III	SJ30506983	Landing stage	20th century	Damaged
34266	Shotton Steelworks Wreck	SJ3073569680	Wreck	20th century	Damaged
34288	Shotton Steelworks Quay	SJ29087063	Port	20th century	Damaged
34291	Queensferry Munitions Factory	SJ32586802	Factory	20th century	Damaged
37799	Saltney Dee Works Wharf	SJ3774965319	Port	20th century	Destroyed
83037	Queensferry munitions factory reservoir	SJ32716818	Reservoir	20th century	Unknown
83038	Queensferry munitions factory aerial ropeway	SJ32726813	Aerial ropeway	20th century	Near destroyed
83039	Queensferry munitions factory railway	SJ32546795	Railway	20th century	Unknown
83056	Saltney Shipyard	SJ38436533	Shipyard	20th century	Unknown
87842	Stoop Bridge Stage	SJ3761665350	Landing stage	19th century	Destroyed
87846	Saltney Quay	SJ3854765400	Landing stage	19th century	
104031	Hawarden Bridge Ironworks	SJ31096957	Iron foundry	19th century	Destroyed