Archaeology Wales

MV King Edgar, Historic Wreck Site

Archaeological Desk Based Assessment

By
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Report No. 1563

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REGISTERED CIfA ORGANISATION

Archaeology Wales

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Non – Technical Summary

In February 2017, Archaeology Wales was commissioned by Lanthorn Exploration Ltd to carry out an Archaeological Desk-Based Assessment to determine the archaeological potential and significance of the wreck site of the MV King Edgar, off the coast of Pembrokeshire, Wales. The assessment has been undertaken in as part of an application for salvage work on the vessel.

The MV King Edgar was a British-built cargo ship of 4536 grt, built by Harland & Wolff in 1927. It worked as a trading vessel for the King Line, operating worldwide, but largely concentrating on the Southeast Asia area during the interwar years. During the war years it was regularly part of the slow convoy routes along the African coast. In the winter of 1944/45 it was transferred to the slow north Atlantic convoy routes. As part of convoy SC-167 it was torpedoed in the Irish Sea on the 2nd March 1945, and subsequently sank under tow off St David's head, with the loss of four lives, three of which at sea. The site of the wreck has been identified and closely plotted, and appears to be in good condition.

The condition of the wreck is unknown, a well-preserved ship of this period may preserve some evidence of the design, construction and modification of the ship, as well as general life on board.

The King Edgar is relatively typical of cargo vessels of this time. There are numerous wrecks of such cargo vessels, particularly those sunk during the Second World War, although no comparative examples remain afloat. The King Edgar may therefore be of some representative significance. It is typical of a cargo vessel representing the closing stages of the dominance of UK trading vessels throughout the world in the early to mid-20th century. It is also representative of Harland & Wolff-built vessels, one of the most prominent ship building centres of this era. It is also representative of the large numbers of cargo vessels that were vital to Britain's war effort, and illustrative of the closing stages of the Battle of the Atlantic.

The King Edgar had a diesel engine, relatively rare for British vessels of this period, and at a time when diesel engines were still being developed. However, such diesel engines are well-represented in the surviving record.

Three crew members were lost with the ship. Although all loss of life has significance, this may not be considered a significant loss of life in terms of numbers and impact.

1 Introduction

1.1 In February 2017 Archaeology Wales (AW) was commissioned by Lanthorn Exploration Ltd, to carry out an archaeological Desk-Based Assessment of the proposed salvage of materials from the wreck of the King Edgar, which lies in St George's Channel, off the west coast of Pembrokeshire, Wales (51º53,124'N 05º35,928'W, NGR SM 52443 26923, Figures 1 & 2, AW Project Number 2500).

1.2 This assessment has been prepared as part of a submission for a licence to salvage the wreck (RML1610/1611). The purpose of this desk-based assessment, which is detailed in the following report, is to provide Natural Resources Wales (NRW) and Cadw with the information they are likely to request in respect of the proposed salvage. This assessment was recommended by the Maritime Officer of the Royal Commission on the Ancient and Historical Monuments in Wales (RCAHMW). The work is to highlight and assess the impact upon the wreck remains and the potential significance of those remains.

1.4 An application for a licence to salvage cargo from the wreck is currently in preparation.

2 Site Description

2.1 The wreck site lies in St George's Channel in the Irish Sea, approximately 20km from the coast of St David's Peninsula on the west coast of Pembrokeshire, Wales.

2.2 The wreck itself was located at 51º53,124'N, 05º35,928'W by HMS Bulldog in 1980, using Hi-FIX Parabolic scanning, which has an accuracy of 25m. At this point it was described as having a length of 144m and breadth of 26m, with its keel orientation at 39º/219º. There is a record of it being located as recently as September 2016 (UK Hydrographic Office) at 51º53,146'N, 05º35,841'W (NGR SM 52443 26923), with a length of 115m and breadth of 21.1m, with its keel orientation at 47º/227º. The wreck lies at a depth of between 63m and 85m

2.3 The site lies within the Seascape Character Area of SCA28 West Open Sea (PCNP 2013). This is a large marine area with a sandy gravel sea floor between 30m and 100m deep with a low wave stress. The floor has a gentle westward slope, with sediments overlying east-west striking Lower and Upper Palaeozoic bedrock, exposed along the shoreline, replaced offshore by younger northeast to southwest striking Mesozoic to Cenozoic bedrock. Tidal currents run parallel to the coast.

3 Methodology

3.1 The aim of this assessment is to establish the significance of the King Edgar and to inform salvage proposals.

3.2 The primary objective is to make full and effective use of existing information in establishing the archaeological significance of the King Edgar, to elucidate the presence or absence of archaeological material, its character, distribution, extent, condition and relative significance. This will help inform future decision making, design solutions and potential mitigation strategies.

3.3 This report has been compiled and written in accordance with the principles outlined in the CIfA *Standard and Guidance for Archaeological Desk Based Assessment (2014).* The standard set by this document is as follows:

> "Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the *Code of conduct* and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.."

A desk based assessment is defined as:

> Desk-based assessment is a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.

3.4 There is no specific guidance on assessing wrecks in Welsh waters, therefore this assessment utilizes criteria set out in a variety of documents that have largely been concerned with assessing the significance of wreck sites in English waters. This work will however be underpinned by Cadw's Conservation Principles for the Sustainable management of the historic environment of Wales (2011). This states that the significance of an historic asset embraces all of the cultural heritage values that people associate with it, or which prompt them to respond to it. In order to assess the significance of an historic asset these Principles state that four component values need to be considered. These are:

- Evidential value
- Historical value
- Aesthetic value
- Communal value

3.5 However, as no assessment of significance for an historic wreck site has yet been undertaken in Welsh waters this document will utilize the specific guidance and layout that has been used in comparable studies in England, which draw on Historic England's Designation Selection Guide – Ships and Boats: Prehistory to Present (HE 2012). The key considerations applied to vessels are broken down into seven topics. These are:

- Period
- Rarity

- Documentation
- Group Value
- Survival/Condition
- Fragility/Vulnerability
- Diversity
- Potential

3.6 Due consideration is also given to the detailed research and guidance presented in a series of reports for Historic England undertaken by Wessex Archaeology. Of particular note for this wreck are *Assessing Boats and Ships 1914-1938: Archaeological Desk-Based Assessment* (Donohue 2011a) and *Assessing Boats and Ships 1939-1950: Archaeological Desk-Based Assessment* (Donohue 2011b).

3.7 More recent studies of particular relevance to the MV King Edgar include *The National Importance of Cargo Vessels: Tees Pilot* (Firth & Rowe 2016). Although studying the Tees area, this report for Historic England is of particular relevance in examining the guidance used to assess the importance of post-1840 cargo vessels, which can be applied in the current context. However, for the sake of current consistency the topics outlined in the Historic England Designation Selection Guide (HE 2012) will be used in this report.

3.8 Archaeological remains on the seabed, and any archaeological procedures associated with them, are subject to local, regional and national policy, guidance and legislation aiming to protect and maintain the historic environment.

4 Archaeological and Historical Background

4.1 Sources Used

4.1.1 National Monuments Record (NMR)

Historic Environment Record (HER)

United Kingdom Hydrographic Office (UKHO)

Maritime and Coastguard Agency Receiver of Wreck

International Journal of Nautical Archaeology or other relevant journals

Standing Conference on Problems Affecting the Coastline (SCOPAC) Website

Offshore Geological Mapping (British Geological Survey (BGS) Maps

SeaZone Hydrospatial

The Shipwreck Index of the British Isles

Larn, R. & Larn, B, 1995. *Shipwreck Index of the British Isles Volume 1*. London: Lloyd's Register of Shipping

Public Record Office, Kew

Press Articles

www.wrecksite.eu

http://uboat.net

http://www.theyard.info

A full list of sources consulted is provided to the rear

4.2 History of the King Edgar

4.2.1 Build

The MV (Motor Vessel) King Edgar was a British-built cargo ship of 4536 gross register tonnage (grt). It was built by Harland & Wolff in 1927 (yard no 757) in Belfast, for Philipps, Phillips & Co – King Line, who still owned the vessel at the date of sinking. Its dimensions were given at 400.6ft (122.1m) long, 54.8ft (17.8m) wide and 23.6ft (7.2m) deep. It was powered by a diesel engine driving a single shaft and single screw, capable of up to 10 knots. It was steel built, with a single steel deck, steel shelter deck and cruiser stern.

It was one of 40 ships built by Harland & Wolff in 1927, of which eleven were cargo ships. Harland & Wolff built a total of seventeen cargo ships for the King Line, eleven of which were relative contemporaries of the King Edgar, built between 1925 and 1928.

4.2.2 Use: Interwar

The King Line was owned by Philipps, Philipps & Co. Sir Owen Cosby Philipps owned a number of other lines, at one point controlling up to 538 ships trading around the world. The King Edgar began life mainly as a cargo vessel, although records in the National Archives indicate it also carried passengers on at least some of its journeys. The King Edgar appears to have been operating internationally from the start of its service. The Lloyds Register lists a number of British ports as its registered port in the late 1920s and 1930s, including Belfast, Hull, South Shields and Cardiff, whilst also listing visits to Auckland, New Zealand, and passenger lists charting journeys from Australia to London in 1931 and 1934. Shipping news provided in a number of regional newspapers, mainly from 1930 to 1934, also chart the journeys of the King Edgar, with stopovers in ports such as Vladivostok, Las Palmas, Miri, Shanghai, Port Said and Hamburg. Its cargo and crew during this period are not listed.

Given that it was part of the King Line it would seem likely that the King Edgar operated as a Cargo Liner, operating on fixed routes and timetables, rather than as a 'tramp' ship, operating according to the demand for local cargoes. Cargo Liners also tended to be larger, typically between 4000 and 8000 grt (Firth & Rowe 2016). It would appear that by the time war broke out the King Edgar was largely operating throughout Southeast Asia. Photographs of the ship during this period survive, see photos 1 – 3. The King Line was identified with a yellow funnel, with a black top.

4.2.3 Use: Wartime

Although the King Edgar remained a ship owned by the King Line, at some point it was leased to the Department of Trade who made reparations to King Line after its loss. Similarly at some point during the war it would have undergone some degree of refitting, with armaments added as indicated by the presence of gunners on board when the ship sank. The extent of this refitting is not recorded, although some of these modifications may be apparent on Photo 4.

The Merchant Shipping Movement Cards, relating specifically to the wartime period,

along with various convoy lists, provide a clearer picture of the movement of the King Edgar throughout the world during this period. At the start of the war the King Edgar was largely operating in Southeast Asia, around Australia, Indonesia and India, transporting a very mixed variety of goods such as sugar, cotton, maize, coal, sulphur phosphates and zinc concentrates. Only a couple of journeys appear to have brought it back to the UK, largely ending up in Barry, South Wales. By 1940 journeys back to the UK became somewhat more frequent, with the King Edgar travelling between Southeast Asia and the UK via either South Africa or Suez. The cargo remained a changeable one, including maize, and other grains, zinc and coal as the main ones listed. The 1940s also saw its first entry into the convoy systems. In January – February of 1940 it was part of convoy SL-17 transporting Maize to London. The SL convoys were a series of slow moving convoys from Freetown in Sierra Leone to the UK. In June/July of the same year it travelled as part of SL-37, a much larger convoy of 46 ships, which included the King Malcolm, another ship of the King Line. 1941 saw more journeys to north and east Africa, including one journey as part of convoy SL-61 in January 1941. This convoy was attacked en-route by aircraft, sinking two of the 21 ships in the convoy, and damaging the King Edgar, which required repairs in Belfast. Journeys to Africa and Southeast Asia remained the most frequent journeys in 1942, in March it ran as part of convoy SL-103. This year also saw the first north-Atlantic trip in October, from New York via Panama and Cuba to South Africa. When listed, coal appears to have been its major cargo. In 1943 the Atlantic appears to have become its main route of operations, with journeys from Buenos Aires and Montevideo to North Africa and the UK. These changing routes may have come about through the loss of much of Southeast Asia to the Japanese in 1941-42. In November/December it formed part of convoy SL-140, and was then, in December 1943, pressed into special military service to the Mediterranean. It was again pressed into special military service in August of 1944. Details of these missions are not recorded, although operations in the Mediterranean in December 1943 may be associated with preparations for allied assaults in Italy the following month, and during August 1944 more allied troops were being landed in France. The SL series of convoys ended in November 1944, after which the King Edgar appears to have transferred to the north Atlantic routes, in November/December it was stopping in Victoria, Port Alberni and New Westminster, all in British Columbia, carrying timber and metals. This route was the also first and only journey it undertook in 1945, as part of convoy SC-167, before being torpedoed as it neared its final destination in the UK.

4.2.4 Loss: Final Journey

On its final journey the King Edgar was part of Convoy SC-167, a slow north Atlantic Convoy. The convoy gathered around Halifax, Novia Scotia, before beginning its passage across the Atlantic on around the 15th February 1945. The convoy left with 36 ships plus a rescue ship, with another two ships joining the convoy as it passed Sydney (Cape Breton), Novia Scotia. The ships were a mixture of nationalities, including Yugoslavian, Swedish, Danish, Greek and Norwegian, although the bulk (23 ships) were British. There was also a range of materials being transported, largely foods stuffs, timbers and metals, that were destined for ports all around the UK. The convoy left with four escort ships, another six joining them on the 19th February.

The King Edgar had initially sailed from Victoria (British Colombia) and was carrying a cargo of 1667 standard lumber logs, 2038 tons of plywood, 250 tons of lead and 250

tons of zinc spelter. She had a crew of 35 on board, along with 11 gunners.

On the evening of the 2nd March 1945, as it entered the Irish Sea and some 20 miles northwest of St David's head, the convoy was attacked by German submarine U-1302, commanded by Wolfgang Herwartz. The U-1302 started its attack at 18.12 and torpedoed the King Edgar, along with a Norwegian ship, the SS Novalsi, in the same convoy. Three crew members (2 crew and 1 gunner) were lost in the initial attack, but the remaining 33 crew, 10 gunners and the master (Arthur Warren Wheeler) were able to abandon ship and were picked up by HMS Nyasaland and landed at Milford Haven. One further gunner, presumably injured in the initial attack, subsequently died the following day in sick quarters in Milford Haven. The King Edgar was taken under tow towards Milford Haven, but broke free and sank off the west coast of Pembrokeshire.

4.2.5 Loss: Lost Crew

From a total crew of 46, four people lost their lives as a result of the U-boat attack. Three died during the attack, and are described as 'missing presumed drowned' having died at sea, with their bodies not recovered. As the ship did not sink straight away, but went down whilst under tow, it is unclear if they were still on the ship when it sank, or went into the water during the attack and are therefore not on the ship. The fourth was clearly rescued from the ship, but died the following day in sick quarters in Milford Haven.

The three that died during the attack consisted of Robert Arthur Ogden, a Senior Ordinary Seaman and member of the Merchant Navy. He was born in Nottingham, though living in Leicester during the war, and was 19 years old at the time the ship was struck. His name is engraved on the Tower Hill Memorial in London. Despite his young age he was awarded a number of medals, these included the 1939-45 Star, the Pacific Star, the France and Germany Star and the War Medal. The 1939-45 Star was usually awarded to those who had served the length of the war, due to his age however this would suggest Robert instead received it as a gallantry medal, which carried no minimum qualifying period. The Pacific Star indicates he served in the Pacific, an area the King Edgar frequently operated in the early years of the war, but appeared to do so less frequently after 1941. This may suggest Robert either started young or may have transferred to the King Edgar after serving elsewhere. The France and Germany Star was awarded to those in direct support of land operations in Western Europe. This was presumably the last medal to be awarded as he was awarded a clasp to wear along with earlier medals. The War Medal was often a posthumous award. This collection of medals suggest a varied and eventful service for someone of just 19 years of age. No medal listings were found for the remaining lost crew members.

William Taylor, a Greaser from Hull, was 32 years old when the ship was struck. He was also a member of the Merchant Navy, and his name is also engraved on the Tower Hill Memorial.

Peter Roche, from Knaresborough, North Yorkshire, was 24 at the time. He was a bombardier with the 3rd Maritime Regiment of the Royal Artillery. His name is engraved on the Chatham Naval Memorial.

Petty Officer Norman Victor Roper from New Oscott, Sutton Coldfield, was a naval gunner aboard the King Edgar. He died the following day in sick quarters in Milford Haven. His cause of death is given as pulmonary tuberculosis, whether his death was

incidental to the torpedo attack, or brought about through gases or chemicals released during the attack is not recorded. His body was returned home and interred at Witton Cemetery in Birmingham.

4.2.6 Survival & Investigation

Risdon Beazley held a salvage contract on this vessel from 1954 to 1973, when it was cancelled (D.Groom, pers.comm.). Risdon Beazley specialised in the salvage of metal cargoes, and were notably responsible for the salvage of the SS Great Britain. It would appear initial investigations into the salvage was made by Risdon Beazley Ulrich Harms in 1971 when an approximate sinking position was established for the King Edgar, however there is currently no record of salvage work actually having taken place on the wreck (Martin & Craigie-Halkett 2006).

In 1972 the wreck site was charted at 51º53,12N, 05º35,06W. In 1977 it was located using Sonar and Hifix by HMS Herald (an ocean survey ship for the Royal Navy) at 51º5311.501N 05º3545.325W. Although better located it was not investigated further, and no depths were established, and it was thought at that time that the wreck did not stand proud of the seabed. In 1978 it was located using a magnetometer and decca navigational system, with remains then described as standing 50 feet (15m) proud of the seabed, at a depth of around 60m. In 1980 HMS Bulldog surveyed the area, locating the wreck, with an intact mast, at 51º33,06N, 05º25,52W using Hydrosearch sonar. The wreck lay between 64.6m and 89m deep, lying at 39/219 degrees, with its bow to the southwest. Its length was given as 144.7m, beam of 26m. A Notice to Mariners was issued (NM 1381/80).

There is a report that the wreck was surveyed by a National Coast Guard survey vessel as recently as September 2016 by multibeam, located at 51º53.146N, 05º35.841W, generally lying at a depth of 85m, although with the highest point of the wreck being 63.5m down. It was described as 115m long, 21.1m wide, with a shadow height of 22.3m, orientated 47/227 degrees. It was described as intact, although the stern was starting to break up. The wreck is described as lying on rock (UK Hydrographic Office 2017).

4.3 Historical Background

4.3.1 Shipbuilders

Harland & Wolff Ltd was formed in 1861 by Edward James Harland and Hamburg-born Gustav Wilhelm Wolff. Based in Belfast at Queen's Island, Harland and Wolff were a huge and very important shipbuilding company, particularly in the early to mid-20th century. The current shipbuilding complex is only one of two yards left in the U.K. capable of building large merchant ships. The yard was most well-known for building high-class transatlantic passenger liners and was considered to be the best in the world, but they also built a large number of cargo vessels of comparable size to the King Edgar. As they expanded they acquired yards in Glasgow, Southampton, Liverpool and London, although Belfast remained the base of their operations. They initially started building cargo ships and sailing ships, but by the 1870s became renowned for introducing and promoting new innovations such as the 'Belfast Bottom' and steam propulsion, culminating in building high class transatlantic passenger liners, most

notably the Olympic class liners for the White Star Line, which included the Olympic, Britannic and Titanic between 1909 and 1914.

Despite the loss of finances and reputation that came with the sinking of the Titanic in 1909, by the start of the First World War Harland & Wolff were the largest shipbuilding company in the UK. At the outbreak of war they were initially overlooked by the Admiralty, but by 1915 they were receiving orders for military cruisers and monitors, and went on to build a large number of ships for the British Admiralty in both their Belfast and Glasgow docks.

Following the war Harland & Wolff initially maintained high levels of production as orders to replace vessels lost during the war continued to roll in. The company went back to concentrating largely on cargo ships and oil tankers, of which large numbers were built, also continuing to build a wider variety of ships including passenger ships, tugs, coasters and barges. However this boom in shipbuilding was not to last, by 1925 a general economic slowdown meant that finances available for building new ships were diminishing, resulting in a reduction in the orders and output at Harland & Wolff. This period also saw the death of one of its leading chairman, the highly influential Lord Pirrie, in 1924, with another chairman, Lord Kylsant, becoming embroiled in a scandal surrounding the financial collapse of the Royal Mail Group, leading to his resignation in 1929, and eventual arrest and imprisonment on charges of fraud in 1931. By the time Frederick Rebbeck became chairman and chief executive in 1930 Harland & Wolff were in financial trouble, requiring much financial restructuring including scaling back the ship-building slipways, closing two of the Glasgow yards and the ship repair facility in London. The company's finances began a gradual recovery from 1933/34 onwards, culminating once again in a high output during the Second World War (McCluskie 2013).

However, it was in this period of financial instability and economic uncertainty that the King Edgar was built. Despite these problems the output from Harland & Wolff throughout the 1920s remained productive. In 1925, when the King Line received their first two ships from Harland & Wolff, 32 ships were completed, of which 16 were cargo ships. This declined the following year to 24 ships (9 cargo ships) but in 1927, when the King Edgar was finished, Harland & Wolff completed 43 ships. Eleven of these were cargo ships, largely of a size comparable to the King Edgar. The King Edgar itself was one of three very similar ships produced for the King Line, along with the King Edwin and the King Egbert. During the period around the building of the King Edgar Harland & Wolff produced a large variety of ships for a number of different clients. Only a handful of companies placed multiple orders, with companies such as Lago Shipping Company, the Argentine Navigation Company and Elder Dempster being the most prolific, the first two ordering largely oil tankers, the latter ordering a mix of cargo and passenger ships. The King Line were one of the most prominent companies ordering cargo vessels at this time, but they also had very close personal and financial ties to Harland & Wolff (see below). Alongside the three ships mentioned above, the King Line also received two in 1925 and six in 1928, all of which were of a similar size, but slightly larger than the King Edgar. The majority of cargo ships produced by Harland & Wolff in the years around 1927 fell within the 4500 – 5300 tonnage range (McCluskie 2013).

During the Second World War 169 Harland & Wolff ships were sunk, 106 of which were cargo ships. Five Harland & Wolff-built, King Line-owned ships were sunk during the

war, none of the ships of a similar design to the King Edgar are still afloat. Harland & Wolff went on to produce another six ships for the King Line up to 1958, taking the total up to 17.

4.3.2 Technology

As stated above the King Edgar was one of three similar vessels, and of a size typical to cargo ships of this era, and was equipped with a diesel engine driving a single shaft and single screw. The diesel engine came into prominence during the interwar years. Although first adopted for marine propulsion in 1902, the first ocean-going ship to use it appeared in 1910 and it did not start to become commonplace until after the First World War, and found increasing favour with ship owners in the 1920s and 1930s. Such engines offered greater fuel and space economy. The diesel engines themselves were heavier than the more typical steam-reciprocating engines, but as they did not require boilers their operating weights were much the same. Diesel engines occupied less space, and required fewer engine room hands. During this period the diesel engines required high-grade diesel oil, which was more expensive than the oil that could be used in oil-powered steamships. It was not until the 1950s that the diesel engine was modified to run on the lower-grade oil (HE 2012b). However, this additional cost could be off-set against the savings made by employing fewer engine hands, and the allowing more room for cargoes.

Harland & Wolff had been using diesel engines in some of their ships prior to the Frist World War, having the sole licence in the UK to use the diesel engines developed by Burmeister & Wain of Copenhagen (B&W). During the war the first British marine diesel engines were developed, by Vickers of Barrow, with mixed success. Following the end of the war the need to replace shipping lost during the conflict was largely met through the production of traditional ships with steam-powered propulsion. However, by the 1920s as demand for new ships declined, ship-owners began to seek better efficiency and lower costs, which spurred further development of the diesel engine. British shipbuilders were relatively slow to start adopting diesel engines, but by the early 1920s Swan Hunter had started developing diesel engines, having obtained a licence from the Swedish engine designer AB Diesel Motorer, which they then produced from their works on the Clyde in the 1920s. A number of British engineers, Doxford being one of the more successful, were designing and developing marine diesel engines throughout the 1920s and 1930s. However these engines generally met with varieties of success during these decades, demonstrating the developing nature of the technology. Where diesel engines were being used it was largely using continental-designed engines (Griffiths 1997).

Long distance trade, which the King Edgar was involved in, was also slower than most to adopt the diesel engine, as it was not until the early 1920s that it was shown that diesel engines were more efficient in this area of shipping. It also became apparent that diesel ships could travel further without bunkering, which allowed them to take on fuel at ports where it was cheapest, and the number of ports offering diesel grade oil gradually increased during the 1920s. This was of particular importance ot vessels involved in the 'tramp' routes, being part of the King Line the King Edgar may not have been involved in this. The UK remained slow to expand its diesel-powered fleet however, due in part to the ready availability of coal to fuel the traditional steam-powered shipping, and the depression of the 1930s restricting innovation. It was not until the later 1930s that diesel engines reached parity with steam engines in UK

shipping (Griffiths 1997).

The design of the engine used within the King Edgar is not stated, however both its sister ships, the King Edwin and the King Egbert were equipped with 6 cylinder 4SCSA diesel engines. A brief search of similar engines indicates this particular type of diesel engine was used on many more ships, although generally of the later 1920s and onward. The single-shaft and screw propulsion powered by this diesel engine is thought be a relatively common type of propulsion.

4.3.3 Shipping Company

The King Line was first formed in 1889, when it was known as the King Alfred Steamship Company, owning a ship of that name. It was managed by Philipps & Co. In 1893 the name was changed to the King Line as further second-hand ships were acquired. The company bought and sold a number of ships in its early years, but gradually increased its fleet to include ten tramp steamers by the beginning of the First World War.

Sir Owen Cosby Philipps, who had set up the company with his elder brother John Philipps, also owned the Scottish Steamship Company by the end of the 19th century. In the first 20 years of the 20th century Philipps went on to acquire a large number of shipping companies, including the White Star Line, Elder Dempster, Glen Line and Shire Line among others, earning himself the title 'Lord of the Seven Seas', through the control of 538 ships trading all around the world. Such associations are resonant of the British Merchant Navy at the height of its dominance, and the King Line, with its yellow funnels topped in black, are an important representative component of this trading activity. Some of these other companies owned by Philipps & Co, White Star and Elder Dempster in particular, were also significant customers of Harland & Wolff, and Owen Cosby Philipps himself also became a chairman of Harland & Wolff in 1924. In 1923 Philipps had been created a peer and became known as Lord Kylsant.

His controlling stake in Harland & Wolff may explain why King Line placed a relatively large order with the shipbuilders, in a period of relative economic uncertainty. However the King Line had lost six ships during the First World War, and sold another two, and was therefore in desperate need of new ships, and around 1923 the management of the King Line had transferred to Dodd, Thompson & Co, led by Vernon Thompson. By the start of the Second World War the King Line had expanded to 20 ships, trading worldwide, of which the King Edgar was one. The various shipping logs suggest the King Edgar was particularly prominent in Southeast Asia.

Lord Kylsant had become embroiled in a financial scandal by the start of the 1930s which led to his downfall and the collapse of his shipping empire. He was found guilty of concealing the appalling state of the Royal Mail Groups finances and convicted of fraud in his handling of these finances, and sent to prison in 1931/2.

By this time however the King Line was separate from Lord Kylsant, and continued to trade worldwide. During the war much of the King Line fleet was requisitioned by the Department of Trade, although still owned by the King Line, to help in the war effort. It lost a total of twelve ships during the Second World War, all of which were cargo ships. Of these, five were built by Harland & Wolff (King Edgar, King Edwin, King John, King Lud and King Malcolm). Following the war the King Line started to replace its lost ships. In 1948 King Line was bought by Union-Castle, and the traditional trading

pattern changed, with higher specification ships brought in to act as relief ships for the cargo liner operations. Further mergers in 1956 led to a co-ordination and rationalisation of the network, and the conventional cargo ships were sold or transferred within the new group of operators, to be gradually replaced by bulk carriers.

4.3.4 Wartime

The King Edgar traded worldwide throughout the Second World War, initially featuring in the slow convoy routes (SL) that ran from Freetown in Sierra Leone to the UK. This route generally took just a few weeks to complete, and does not appear to have suffered greatly from enemy action, although one convoy was hit by aircraft, even this threat presumably diminished after the Allied invasion of North Africa in October 1942. The King Edgar does not appear to feature within the North Atlantic convoy routes until late 1944-45. The SC-167 was one of the last SC convoy routes to cross the Atlantic. The SC convoys comprised the slower vessels, travelling from New York or Novia Scotia to the UK. They operated in periods throughout the war, but as slower convoys they appear to have presented a better target to the patrolling U-boats, and of all the UK-bound convoys the SC route suffered the most. In a total of 177 convoys, 211 ships were lost, 145 of which were lost whilst in convoy (Warsailors.com). The threat to these convoys are also indicated by the number of escort vessels, with 10 listed as part of SC-167, compared with the typically only one or two listed as part of the SL convoys.

The Battle of the Atlantic was the longest continuous military campaign of the Second World War, at its height between mid-1940 and the end of 1943, a period when the King Edgar was largely engaged in carrying cargo around southeast Asia, Africa and South America. The outcome of the battle was a strategic victory for the Allies as the German blockade failed, but this was only achieved at great cost: 3,500 merchant ships and 175 warships were sunk for the loss of 783 U-boats. The peak of the threat from U-boat activity came between the summer of 1940 and the Spring of the following year. U-boats began to operate in 'wolf packs', with multiple submarines converging on the same convoy and overwhelming the defences. This forced a change in tactics for the Allies, who greatly expanded the Royal Canadian Navy in particular and increased the convoy escorts. New radar technology, and a better use of aircraft also helped. By the summer of 1941 these escorts were extended to cover the whole of the Atlantic crossing, and American cruisers also began to provide escorts. From the Spring of 1942 to the autumn of 1943 U-boat attacks had also spread to the south Atlantic, a period when the King Edgar is listed as making journeys around the South Atlantic, although no U-boats attacks are recorded on its journeys in this period. Technological advances, increasing resources and aerial superiority meant that the Allied forces began to achieve surface naval superiority in the Atlantic from 1943, and U-boats began to suffer heavy losses, forcing Admiral Donitz to change the tactics of U-boat warfare. Wolf packs were withdrawn from the Atlantic and now began to operate individually, and concentrated on the sea around the UK. From 1943 the Irish Sea was selected as one of the new theatres of war. The introduction of the *Schnorkel*, allowing them to obtain fresh air and recharge their batteries without surfacing, also made the U-boats more effective. To counter this threat an effective system of convoys including anti-submarine trawlers escorted ships around the coast of the UK, although long-distance convoys arriving, and in particular departing the UK continued to suffer losses.

Groups of submarine hunters also operated around the coast in an attempt to locate and destroy the U-boats.

During the winter of 1944-45 U-boats launched a sustained attack on shipping in the Irish Sea. During two days in January 1945 U-1055 sank four merchant ships in the southern Irish Sea. A few days later U-1172 sank two more and damaged the frigate HMS Manners, although she was subsequently chased and sunk in St Georges Channel. U-1051 was also sunk off Anglesey the previous day. By the end of February U-1302 was on station off the north Pembrokeshire Coast, commanded by the 27 year-old Wolfgang Herwaltz (Photos 6). Herwaltz was 10 months in to his first command, and the U-1302 was on only its second patrol, having been launched in April 1944. The submarine was a Type VIIC/41, of which 91 appear to have been built since they were first introduced in 1941. The Type VIIC was the most common of the Atlantic U-boats, the VIIC/41 being a slightly modified version that could achieve greater depths and higher speeds. There is one surviving example of this type of submarine, on display at the Marine Memorial at Laboe, outside Kiel (Photo 5). U-1302 struck first on the 28th February, sinking the British cargo ship MV Norfolk Coast off the coast of Strumble Head. On the 2nd March she struck convoy SC-167, and sank the King Edgar and the Norwegian vessel SS Novasli. The U-1302 did not report these attacks and remained undetected, but another submarine, the U-775 was reported in the area and ships of the Royal Canadian navy were sent to hunt for it. Five days after the attack on the King Edgar the La Hulloise identified the U-1302 as it was taking on air via its *Schnorkel* close to the coast near Fishguard. The La Hulloise attacked, and was joined by the Starthadam and Thetford Mines, sinking the U-boat with depth charges to the loss of all 48 crew members. Naval patrols and aircraft continued to attack U-boats in the Irish Sea, but the naval conflict was coming to an end. The U-1024 was captured off Anglesey in April, the last U-boat to be captured during the war (Davies 2013).

4.3.5 Rarity

There appears to have been no systematic survey or comprehensive assessment of early to mid-20th century wreck sites off the Welsh coast, therefore comparative analysis of the significance of this wreck site is difficult. Within a 10km search area around the wreck of the King Edgar the National Monuments Record records a further 27 wreck sites of modern date, although the potential for many more wreck sites is noted. Of these sites 19 have been positively identified. Seven ships, including the King Edgar, sank during the 2nd World War. These include NPRN 273228 Brynymor, a steel-hulled steamship that foundered after a collision in 1942. Two ships were sunk in 1941 after being attacked by aircraft, the steamship St Fintan (NPRN 240314) and the small steel cargo vessel or coaster Fowey Rose (NPRN 273552). The remaining four ships were all the casualties of an intense period of submarine activity in the winter of 1944/45. Alongside the King Edgar was the Novasli (NPRN 506488), a Norwegian ship, part of the same convoy and sank by the same U-boat. The remaining two ships were both Liberty-class cargo ships, the Jonas Lie (NPRN 273253) and the Dan Beard (NPRN 240675). Both were of a similar size to the King Edgar and similarly part of the North Atlantic convoys at the time they were sunk by submarine torpedoes. The Jonas Lie was taken under tow but parted and sank. Two crew members, of a total of 69, died in the attack. The current condition of the wreck is unknown. The Dan Beard split in two, and is described as well broken. 29 crew member were lost from a complement of 67. The Novasli was more badly damaged than the King Edgar,

although attempts were made to put it under tow. When these failed the ship was scuttled using gun fire and depth charges.

As stated, the King Edgar was one of three ships of the same design produced by Harland & Wolff for the King Line in 1927/8, along with the King Egbert and the King Edwin. All three ships were lost during the Second World War. The King Egbert was en-route from the River Tyne to Port Said, carrying a cargo of coal, when it struck a mine off the coast of Norfolk on the 12th December 1939, with the loss of one crew member. The wreck is located at TG3644341486, at a depth of around 15 to 18m. The condition of the wreck is unknown, although it lies in relatively shallow waters and is likely to have been dived.

The King Edwin was unloading whilst at dock in Valetta, Malta on the 14th April 1943 when it caught fire. It was declared a total loss and originally scuttled in the harbour. In 1945 however it was raised and towed out away from the harbour, before being scuttled once more. This wreck is located off the coast of Valetta at a depth of around 100m. Despite the fire and having been scuttled, the wreck appears to survive relatively intact and has been dived. A video of the wreck can be found at https://youtu.be/zyc-m34uPSs.

5 Assessment of Importance

In order to assess the significance of the wreck the key considerations given in Historic England's Designation Selection Guide have been used (HE 2012). These key considerations are set out below.

5.1 Period

The identification of the wreck as that of the MV King Edgar is secure. The King Edgar was built in 1927, and was torpedoed northwest of St David's head on 2 March 1945, sinking whilst under tow towards Milford Haven.

The 1920s is a period when shipbuilding was in something of a decline during the interwar years, although a number of similar vessels were being produced by Harland & Wolff and operated by the King Line during this period.

The King Edgar is one of a large number of ships lost to U-boats attacks around the UK coastline during the Second World War.

5.2 Rarity

The MV King Edgar was one of three similar ships built for the King Line by Harland & Wolff in 1927/8. All three were lost during the Second World War, the locations of all three wrecks are known.

The ship was a cargo ship, one of eleven cargo ships built by Harland & Wolff in the same year, and one of eleven similar cargo ships built for the King Line by Harland & Wolff between 1925 and 1929. Harland & Wolff built a total of 62 cargo ships during this period. The King Line was operating around 20 cargo ships during this period. As

such the vessel itself is a relatively common type of vessel of that era. There are currently however no similar cargo vessels still afloat, and wreck sites of Harland & Wolff vessels also appear relatively rare, with only two positively identified sites recorded in English waters (Donohue 2011b), one presumably being the sister ship of the King Edgar, lost off the coast of Norfolk. The number of Harland & Wolff-built wrecks in Welsh waters has not been fully quantified, although three wrecks are recorded in the NMR as being Harland & Wolff-built (NPRNs 271614, 272124 & 273546) and comprise two steel-hulled early 20th century steamships, and one iron-hulled late 19th century steamship.

Ships built in the 1920s represent the largest sample of Second World War wrecks recorded in English waters (Donohue 2011b), it is not known if this is also the case for Welsh waters.

Within 10km of the site of the King Edgar a further 27 wreck sites are recorded in the NMR, with the potential for many more. 19 of these sites have been positively identified, seven of which comprise ships sunk during the Second World War. Of these one was sunk in the same attack as the King Edgar, and two were similar cargo vessels of a contemporary convoy.

The King Edgar was attacked by a U-boat of relatively standard design, and as part of a convoy system that suffered heavily from such attacks. Wrecks of ships sunk through U-boat attack are relatively common in UK waters.

Although the loss of any human life is significant, there were comparatively few casualties aboard the King Edgar. These individuals were from dispersed backgrounds throughout the UK.

The ship was likely powered by a 6 cylinder 4SCSA diesel engines, with a single-shaft and screw propulsion. Such engines appear more popular on later ships, but the King Edgar lies at a period of development for the diesel engine as they became more widespread in the interwar years. Wrecks of this era with diesel engines are also comparatively rare, with the vast majority being steam powered. Cargo vessels are also plentiful as wrecks in this period, although similarly those powered by diesel engines are relatively rare in comparison to steam ships.

However, despite it appearing to be under-represented in the wreck record, the high representativeness of diesel-driven vessels in the preserved record (National Historic Ship Record) means such vessels are unlikely to be considered of special interest on the basis of their rarity in this respect (Donohue 2011a;12). Early examples are of special interest, particularly in vessels where steam engines were replaced by diesel, but the King Edgar appears to be around 15 years into the use of diesel at Harland & Wolff, and therefore may not be of such value.

5.3 Documentation

There appears to be little surviving direct documentary evidence relating to the King Edgar. Photographs and references to the vessel survive, as do logs of some of its journeys, identification of some of its final crew members, notes in some newspaper articles and information on the convoy routes and sinking of the vessel. A detailed examination of documentation contained within the Harland & Wolff archives held by

the Public Record Office of Northern Ireland (PRONI) has not been undertaken, and there remains the potential for further details to be contained within that archive.

There is no distinct and tangible link to a significant person.

5.4 Group Value

The King Edgar is part of a maritime trading period representative of the final stages of the UK dominance of global trade. It appears to be a relatively typical trading vessel in terms of its size and design, and ownership, and can therefore be considered a good representative example, for which no other examples remain afloat.

The King Edgar was also by one of the most prominent shipbuilding companies of the early to mid-20th century, and is of value in its preservation of details regarding Harland & Wolff construction techniques.

The vessel is also part of the development of the marine diesel engine during the interwar years. However, this development, particularly in British built ships, is considered to be slow to develop during this period with the main innovations taking place on continental diesel engine manufacturers. Ship design changed little during this period, other than a change to welded construction, therefore the King Edgar is unlikely to represent any significant technological advances during this period.

Throughout most of the war the King Edgar was involved in trade from Southeast Asia and around the coast of Africa, largely being part of the convoy routes along the African coast. However, the sinking of the King Edgar is representative of the final stages of the Battle of the Atlantic, as U-boats continued to try and have an impact on British shipping. Cargo vessels are by far the most dominant form of Second World War wreck in UK waters, and are therefore of interest as a group of vessels vital to the war effort. It's sinking is also representative of a specific period of targeted U-boat attacks in the Irish Sea in the winter of 1944/45.

5.5 Survival/Condition

The wreck was last reported, in September 2016, as largely intact, although the stern is starting to break up. It lies at a depth that is unlikely to have been affected by the passage of surface boats, or leisure diving. The wreck lies on rock, in an area of low wave stress. A salvage contract was awarded for this wreck, but no evidence has come to light to indicate that salvage work ultimately took place. The condition of the wreck has not been closely examined however, it is likely to have suffered a degree of corrosion since its sinking and the extent of the damage it sustained during the U-boat attack is unknown.

5.6 Fragility/vulnerability

The site lies in a relatively stable condition. It still appears to contain a cargo of value to salvage operations, as is currently the case.

5.7 Diversity

The design of the vessel does not appear to have incorporated unique characteristics that have been worthy of special mention. It appears relatively representative of the period and type of vessel. There were no rapid or revolutionary changes in shipbuilding technology in this period (Donohue 2011b).

As mentioned, the diesel engine may be of some interest in terms of its development stage in marine diesel propulsion systems.

5.8 Potential

The potential likely lies in the ability of the wreck to provide a good representative example of a relatively common form of cargo transport of the interwar years, of which no surviving examples exist, and may contain evidence of the armament and possible re-fitting of cargo vessels to put them on a wartime footing. The cargo is perhaps of less significance, and although it may contain some detail of significance to the North Atlantic convoys.

The King Edgar is one of a number of wartime losses, which appear relatively well-attested in UK waters.

Potential also lies in its use of a diesel engine at a time when diesel engines of this sort, particularly in British vessels, were still in relatively early stages of development.

There is also the potential for human remains to survive on the wreck. Three lives were lost at the time of the attack, and it is not known if they were parted from the ship at the time, or went down with it as it subsequently sank under tow.

6 Conclusions

6.1 The studies by Wessex Archaeology (Wessex Archaeology 2008, Donohue 2011a & b) highlights the difficulty in assessing wrecks of this era due to an absence of any agreed corpus of work upon which the assessment of individual wrecks can be based. They do however highlight a number of distinctive features of significance for wrecks in English waters. The work states that for a wreck of this period to be of special interest it is likely to have to make a distinctive contribution in respect of one or more of the following:

- Illustrate a key narrative of the period;
- Represent a distinct and tangible link to significant persons or events;
- Be representative of significant loss of life or related responses in seafaring safety;
- Have made a distinct cultural contribution;
- Have current relevance or parallels.

The ship can be compared with similar wrecks to determine whether its interest is indeed 'special'. This factors have been used as the basis for the framework used in assessing designated wrecks in England (HE 2012), the main categories of which are illustrated within this report.

6.2 The King Edgar is not a particularly rare type of vessel, however no comparative examples remain afloat. Cargo vessels, particularly of the 1920s, are a common element of the Second World War wreck assemblage around the UK. This lack of rarity however indicates the vessel may be of some representative value. The King Edgar is typical of cargo vessels representing the closing stages of the dominance of UK trading vessels in international waters in the early to mid-20th century. It also represents a typical example of vessel produced by Harland & Wolff, one of the most prominent and important ship building companies of this era. It has some value in a wartime context, in being a representative example of the huge numbers of cargo vessels that were vital to Britain's war effort, and were lost to enemy action in the waters around the coast. The sinking represents the closing stages of the Battle of the Atlantic and U-boat activity.

6.3 Wrecks of this period with diesel engines are relatively rare, and this may be of some significance in containing evidence of the developing nature of the diesel engine at this time, however, diesel engines of this type are well-represented in the surviving record.

6.4 A well-preserved vessel of this type may therefore preserve some evidence of the design, construction and modification to the ship, particularly wartime refitting, as well as evidence of its use and general life on board. The condition of the wreck however is unknown at this time.

6.5 Three crew members were lost with the ship, and were described as 'lost at sea'. It is not currently known if these remain with the wreck of the MV King Edgar.

7 Sources

Donohue, D 2011a *Assessing Boats and Ships 1914-1938: Archaeological Desk-Based Assessment* Wessex Archaeology Report 70861.02

Donohue, D 2011b *Assessing Boats and Ships 1939-1950: Archaeological Desk-Based Assessment* Wessex Archaeology Report 70861.03

Firth, A & Rowe, P 2016 *The National Importance of Cargo Vessels. Tees Pilot.* Fjordr, Marine and Historic Environment Consulting Report for Historic England. Ref 16261

Griffiths, D 1997 'British Marine Industry and the Diesel Engine' in *The Northern Mariner/Le Marin du nord, Vol.VII, No.3, pp11-40*.

Historic England 2008 *Protected Wreck Sites at Risk: A Risk Management Handbook*

Historic England 2012 *Designation Selection Guide. Ships and Boats: Prehistory to Present*

Historic England 2012 *Ships and Boats: 1840-1950. Introductions to Heritage Assets*

Historic England 2015 *Accessing England's Protected Wreck Sites: Guidance Notes for Divers and Archaeologists*

Larn, R. and Larn, B. 1995-2000 *Shipwreck Index of the British Isles*, 5 vols.

Martin, R & Craigie-Halkett 2006 *Risdon Beazley Marine Salvor* Brook House Books, Southampton

McCluskie, T 2013 *The Rise and Fall of Harland and Wolff* Stroud: The History Press.

Milner, M. 2005 *Battle of the Atlantic* Tempus Publishing Ltd.

Nautilus Group 2016 *MV King Edgar: History* Unpublished research

Pembrokeshire Coast National Park Authority 2013 *Seascape Character Assessment: Supplementary Planning Guidance*

UK Hydrographic Office 2017 *Hydrographic Report: Wreck No.12097 (UKHO ID)*

UNESCO 2001 *The UNESCO Convention of the of the Protection of Underwater Cultural Heritage*

Wessex Archaeology 2008 *Selection Guide: Boats and Ships in Archaeological Contexts*. Wessex Archaeology Unpublished Report.

Websites

http://nationalhistoricships.org.uk

http://ads.ahds.ac.uk/catalogue/projArch/alsf/search_maritime.cfm

www.wrecksite.eu

http://uboat.net/

http://www.gracesguide.co.uk

http://www.cwgc.org/

http://warsailors.com

http://www.naval-history.net

http://www.convoyweb.org.uk

http://www.coflein.gov.uk/

http://www.theshipslist.com

Newspaper Articles

Hull Daily Mail

5/6/30 Shipping News

4/7/30 Shipping News

6/8/30 Shipping News

9/8/30 Shipping News

26/8/30 Shipping News

26/2/32 Shipping News

28/6/34 Shipping News

Shields Daily News

16/8/33 Arrivals and Sailings

Western Morning News

14/3/34 Shipping News

Archives

National Archives

BT 389/17/248: Merchant Shipping Movement Cards – King Edgar

BT 26/963/39: Passenger List 1931

BT 26/1043/86: Passenger List 1934

BT 110/1244/16: Register of Shipping & Seamen 1945

BT 99/4156: Register of Shipping & Seamen 1931

ADM 199/2184/94: Convoy Lists 1939-40

ADM 199/2185/38: Convoy Lists 1940

ADM 199/2186/29: Convoy Lists 1940-41

ADM 199/2188/82: Convoy Lists 1941-2

ADM 199/2190/95: Convoy Lists 1943-44

ADM 199/2191/80: Convoy Lists 1944

ADM 199/2193/99: Convoy Lists 1944-45

BT 395/1/73760: Medal Listing of Robert Arthur Ogden

PRONI

D2805: Harland & Wolff archives

Figure 1: Site location map.

ARCHAEOLOGY WALES
Revealing the past, informing the future

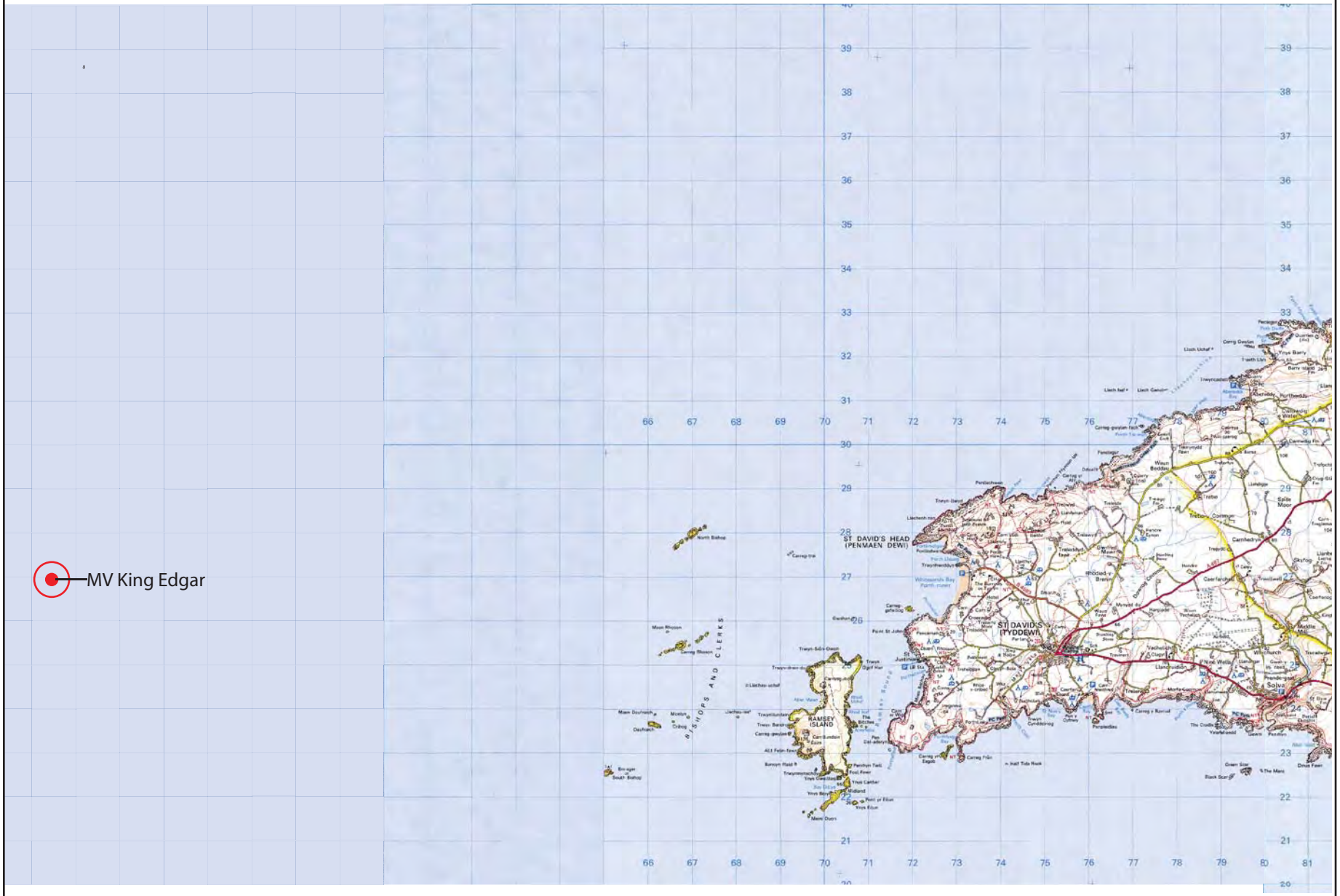

Figure 2: Site location map.
1:125000 @ A4

ARCHAEOLOGY WALES
Revealing the past, informing the future

Photo 1: The MV King Edgar at the Harland & Wolff docks in Belfast, presumably shortly after completion. Source unknown.

Photo 2: The MV King Edgar, unknown date. Photo courtesy J Claes (www.uboat.net).

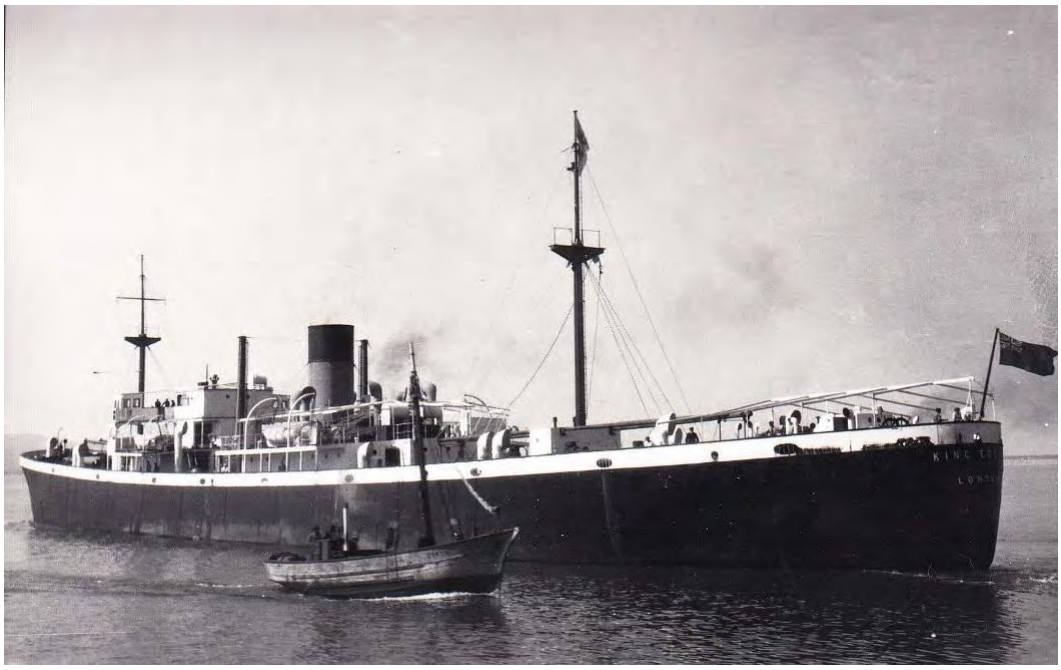

Photo 3: The MV King Edgar, date unknown. Photo courtesy of N Chipchase (www.wrecksite.eu).

Photo 4: Image purportedly showing the MV King Edgar. Unknown date, although several modifications are apparent from previous photos, which may suggest this photo was taken during wartime. Photo courtesy of N.Chipchase (www.wrecksite.eu).

Photo 5: The U-995, a type identical to the U-1302 that sank the MV King Edgar. Photo © Stephen Ames.

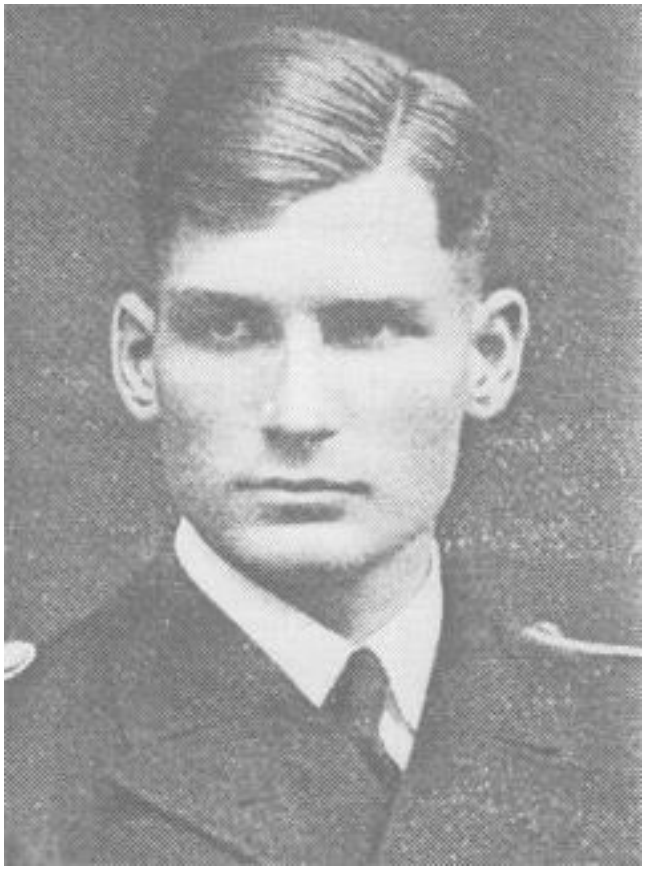

Photo 6: Wolfgang Herwaltz, the commander of the U-1302. Kriegsmarine Crew photo (www.uboat.net).

ARCHIVE COVER SHEET

MV King Edgar, Historic Wreck Site

Site Name:	MV King Edgar
Site Code:	DKE/17/DBA
PRN:	-
NPRN:	340319
SAM:	-
Other Ref No:	-
NGR:	NGR SM5243826885
Site Type:	Historic Wreck (20th century)
Project Type:	Desk-based assessment
Project Manager:	Philip Poucher
Project Dates:	February/March 2017
Categories Present:	Modern
Location of Original Archive:	AW
Location of duplicate Archives:	RCAHMW, Aberystwyth
Number of Finds Boxes:	0
Location of Finds:	N/A
Museum Reference:	
Copyright:	AW
Restrictions to access:	None

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