

# REPORT ON MACHINERY.

Received at London Office

Date of writing Report 26 Dec 1919 When handed in at Local Office 2 Jan 1920 Port of Greenock  
 No. in Survey held at Greenock Date, First Survey 12th June 1918 Last Survey 31 Dec 1919  
 Reg. Book. on the Steel Steamer "Dundrum Castle" (Number of Visits 111)  
 Master H. P. Barden-Smith Built at Greenock By whom built Harland & Wolff When built 1919  
 Engines made at Greenock By whom made John S Kincaid & Co Ltd when made 1919  
 Boilers made at Greenock By whom made John S Kincaid & Co Ltd when made 1919  
 Registered Horse Power \_\_\_\_\_ Owners Immin Castle Line Port belonging to London  
 Nom. Horse Power as per Section 28 517 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Kincaid & Co 572

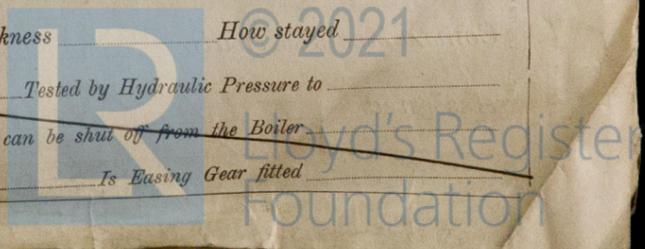
**ENGINES, &c.**—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three  
 Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 77 Dia. of Screw shaft as per rule 14.68 Material of screw shaft Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight in the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive \_\_\_\_\_ If two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush 60 1/2  
 Dia. of Tunnel shaft as per rule 13.33 Dia. of Crank shaft journals as per rule 13.99 Dia. of Crank pin 1 1/2 Size of Crank webs 28.9 Dia. of thrust shaft under collars 1 1/2 Dia. of screw 17.6 Pitch of Screw 16.6 No. of Blades 4 State whether moccable No Total surface 98.248  
 No. of Feed pumps Two Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines Two Sizes of Pumps 7-18 - 14-24 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 3 1/2 In Holds, &c. None 3/4 - Tunnel 3/4  
 Circulating Pump Separate Engine  
 No. of Bilge Injections Two sizes 1 1/2 Connected to condenser, or to circulating pump None Is a separate Donkey Suction fitted in Engine room & size Two 3/4  
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible \_\_\_\_\_  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line Both  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes  
 What pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Deck

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Clydebank  
 Total Heating Surface of Boilers 7668 1/2 Is Forced Draft fitted Yes No. and Description of Boilers Three Single Endless  
 Working Pressure 180 lb Tested by hydraulic pressure to 260 lb Date of test 30 April 19 No. of Certificate 1380  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 68.344 No. and Description of Safety Valves to each boiler Two Spring Area of each valve 9.620 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 24 Mean dia. of boilers 15.6 Length 11.6 Material of shell plates Steel  
 Thickness 1 1/2 Range of tensile strength 28-32 Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: ENR seams all welded  
 long. seams All shop Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 9/16 Lap of plates or width of butt straps 1 1/2  
 Per centages of strength of longitudinal joint ENR rivets 88.3 Working pressure of shell by rules 182 lb Size of manhole in ENR 16.12  
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Straight Material Steel Outside diameter 50 1/4  
 Length of plain part top Thickness of plates crown Description of longitudinal joint Welded No. of strengthening rings None  
 Working pressure of furnace by the rules 182 lb Combustion chamber plates: Material Steel Thickness: Sides 2 1/32 Back 1 1/16 Top 2 1/32 Bottom 2 1/32  
 Pitch of stays to ditto: Sides 10 1/2 x 9 1/2 Back 10 1/2 x 8 1/2 Top 10 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads None Working pressure by rules 180 lb  
 Material of stays Steel Area at smallest part 2.43 Area supported by each stay 98.3 Working pressure by rules 222 lb End plates in steam space: None  
 Material Steel Thickness 1 1/32 Pitch of stays 2 1/4 How are stays secured All nut Working pressure by rules 181 lb Material of stays Steel  
 Area at smallest part 8.290 Area supported by each stay 4.73 Working pressure by rules 182 lb Material of Front plates at bottom Steel  
 Thickness 1 1/32 Material of Lower back plate Steel Thickness 2 1/32 Greatest pitch of stays 13 1/8 Working pressure of plate by rules 181 lb  
 Diameter of tubes 2 1/4 Pitch of tubes 4 x 3 7/8 Material of tube plates Steel Thickness: Front 5/16 Back 1 1/16 Mean pitch of stays 9.8  
 Pitch across wide water spaces 13 1/8 Working pressures by rules 181 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 x 14 1/2 Length as per rule 55.56 Distance apart 20 1/2 Number and pitch of stays in each 3-9  
 Working pressure by rules 187 Steam dome: description of joint to shell \_\_\_\_\_ % of strength of joint \_\_\_\_\_  
 Diameter \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet holes \_\_\_\_\_  
 Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Crown plates \_\_\_\_\_ Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

**SUPERHEATER.** Type \_\_\_\_\_ Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_  
 Date of Test \_\_\_\_\_ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_  
 Diameter of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

2164-0222



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded? -

SPARE GEAR. State the articles supplied: - The top end bolts. The bottom end bolts. The main bearing bolts. One set coupling bolts. One set end frame valves. One set balance frame valves. Sapelle shaft Sapelle bolts etc. ✓

The foregoing is a correct description,

FOR JOHN G. KINCAID & COY., LIMITED.

*J. Kincaid*

Manufacturer.

Arthur Street Engine Works.

Dates of Survey while building { During progress of work in shops - - (1918) June 12-18-20 July 23 Aug. 19-23 Sept 11-12-16-24 Oct 1-2-7-22-24-28 Nov. 6-15-20-22 Dec. 2-5-9-16-18-20 (1919) Jan 9-16-16-21-30 Feb 4-6-7-10-12-17-19-21-25-26-27 Mar. 4-6-10-12-17-19-21-25-27-30 Apr 2-7-9-11-16-21-28-30 May 5-8-13-15-21-23-26 June 3-5-10-12-16-18 July 1-2-4 Aug 1-4-5-7-11-15-19-25 Sept 2-5-12-16-22-26-5 Oct 2-7-14-18 21-22-23-28-29-30 November 3-11-18-26 Dec. 3-10-23-29-31 Total No. of visits 111. Is the approved plan of main boiler forwarded herewith London ✓

Dates of Examination of principal parts - Cylinders 7/8/19 Slides 2/9/19 Covers 7/8/19 Pistons 22/9/19 Rods 12/9/19 Connecting rods 25/8/19 Crank shaft 16/9/19 Thrust shaft 16/9/19 Tunnel shafts 14/10/19 Screw shafts 10-9-19 Propeller 26/9/19 Stern tube 14/10/19 Steam pipes tested 4/10/19 Engine and boiler seatings 2/10/19 Engines holding down bolts 14/10/19 Completion of pumping arrangements 23/12/19 Boilers fixed 3/12/19 Engines tried under steam 23/12/19 Completion of fitting sea connections 24/10/19 Stern tube 16/10/19 Screw shaft and propeller 23/10/19 Main boiler safety valves adjusted 23/12/19 - 29/12/19 Thickness of adjusting washers P 1/2 . 5 1/2 - P 1/8 . 5 1/2 - P 1/8 . 3 1/2 Material of Crank shaft Steel Identification Mark on Do. 299 Material of Thrust shaft Steel Identification Mark on Do. 299 Material of Tunnel shafts Steel Identification Marks on Do. 299 Material of Screw shafts Steel Identification Marks on Do. 299 Material of Steam Pipes Iron Test pressure 540 lb Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓ Have the requirements of Section 49 of the Rules been complied with ✓ Is this machinery duplicate of a previous case? - If so, state name of vessel 'Biapra' Ex No 17486 24/6/19

General Remarks (State quality of workmanship, opinions as to class, &c. Workmanship good.)

The Machinery and Boilers of this Steamer have been examined under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the certification F. D. and L.M.C. 12. 19 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12. 19. F.D.

*JWR* *WKA* 8/1/20 *JRR*

The amount of Entry Fee ... £ 3 : 0 : When applied for, Special ... £ 45 : 17 : 3rd Jan. 1920. Donkey Boiler Fee ... £ 17 : 0 : 5/2/20 Travelling Expenses (if any) £ : : When received, 3/21/20 1920 24/5/20

*James Jones*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 6 - JAN 1920

Assigned + L.M.C. 12. 19. F.D.

*Greenock*

The Surveyors are requested not to write on or below the space for Committee's Minute.

