

# REPORT ON MACHINERY.

No. 19969

Port of Hull

Received at London Office **TUES 21 APL 1908**

Survey held at Hull Date, first Survey Aug 23/07 Last Survey 15<sup>th</sup> Apr 1908

on the Steel S.S. Kirkham Abbey (Number of Visits 60)

Built at Hull By whom built Messrs Charles G. Ltd Tons <sup>Gross</sup> 1162 <sub>Net</sub> 509 When built 1908

Made at Hull By whom made Messrs Charles G. Ltd when made 1908

Registered Horse Power 499 Owners Hull + Netherlands S.S. Co. Ltd Port belonging to Hull

Horse Power as per Section 28 499 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Cylinders 25 1/4 - 40 1/2 - 67 Length of Stroke 42 Revs. per minute 106 Dia. of Screw shaft 13 1/2 Material of screw shaft Steel

screw shaft fitted with a continuous liner the whole length of the stern tube No Is the after end of the liner made water tight Yes

propeller boss Yes If the liner is in more than one length are the joints burned No lines If the liner does not fit tightly at the part the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No

If two are fitted, is the shaft lapped or protected between the liners No Length of stern bush 60 1/2

Tunnel shaft 12 1/2 Dia. of Crank shaft journals 12 3/4 Dia. of Crank pin 13 1/4 Size of Crank webs 19 1/2 x 8 1/2 Dia. of thrust shaft under 15

Dia. of screw 15 - 6 Pitch of Screw 17 - 3 No. of Blades 4 State whether moveable No Total surface 64 1/2

Feed pumps 2 Diameter of ditto 5 1/2 Stroke 14 Can one be overhauled while the other is at work Yes

Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

Donkey Engines 3 Sizes of Pumps 10 1/2 Cent. No. and size of Suctions connected to both Bilge and Donkey pumps None

Engine Room Two 2', one 2 1/2', special bilge 4' In Holds, &c. Aft hold port 2' Star 2', Tunnel Well 2 1/2'

Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size 4"

Are 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 None

Are 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 above

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

Are pipes carried through the bunkers hold suction How are they protected wood casing

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Time of examination of completion of fitting of Sea Connections 17.3.08 of Stern Tube 17.3.08 Screw shaft and Propeller 17.3.08

Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from deck

Manufacturers of Steel Steel Coy of Scotland

Heating Surface of Boilers 8,100 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Cyl. Mult. Single Ended

Working Pressure 185 lbs Tested by hydraulic pressure to 370 lbs Date of test 12.3.08 No. of Certificate 1633

Can each boiler be worked separately Yes Area of fire grate in each boiler 60 1/2 sq ft No. and Description of Safety Valves to boiler Two Spring

Area of each valve 8.29 sq ft Pressure to which they are adjusted 189 lbs Are they fitted with easing gear Yes

Least distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15.0" Length 12.0" Material of shell plates Steel

Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.

seams D.S.S.R. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9 1/16" Lap of plates or width of butt straps 2 1/2"

Working pressure of shell by rules 215 lbs Size of manhole in shell 16" x 12"

Compensating ring 40" x 30" x 1 1/2" No. and Description of Furnaces in each boiler 3 Browns Imp. Material Steel Outside diameter 45 1/4"

Thickness of plates 5" Description of longitudinal joint Welded No. of strengthening rings 1

Working pressure of furnace by the rules 205 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"

of stays to ditto: Sides 8' x 8' Back 8' x 8' Top 8' x 7 1/2' If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 210 lbs

Material of stays Steel Diameter at smallest part 1 1/8" Area supported by each stay 64 sq ft Working pressure by rules 185 lbs End plates in steam space:

Material Steel Thickness 1 5/32" Pitch of stays 20" x 14 1/2" How are stays secured D. Nuts + washers outside 7' x 7 1/4" Working pressure by rules 186 lbs Material of stays Steel

Diameter at smallest part 2 3/16" Area supported by each stay 335 sq ft Working pressure by rules 192 lbs Material of Front plates at bottom Steel

Thickness 3/32" Material of Lower back plate Steel Thickness 3/32" Greatest pitch of stays 14" x 8" Working pressure of plate by rules 189 lbs

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 3/32" Back 7/8" Mean pitch of stays 7 1/2"

Working pressures by rules 186 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2" x 1 1/4" Length as per rule 36 1/2" Distance apart 7 3/8" Number and pitch of stays in each Three - 8"

Working pressure by rules 219 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked steadily

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Reinforced with rings Distance between rings Working pressure by rules End plates: Thickness How stayed Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

Lloyd's Register Foundation W860-0022

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_

Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air circulating feet and bilge pump valves, and a quantity of assorted bolts nuts etc*

The foregoing is a correct description,

Manufacturer.

*F. J. Palethorpe*  
SHIPBUILDING & ENGINEERING CO. LIMITED.

Dates of Survey while building { During progress of work in shops - 1907 - Aug 23, 30, Sep 4, 9, 12, 19, 24, Oct 10, 18, 28, Nov 1, 8, 14, 18, 21, 26, Nov 27, Dec 2, 4, 13, 16, 20, 30.  
During erection on board vessel - 1908 - Jan 26, 27, 8, 9, 14, 15, 17, 21, 22, 24, 27, 28, 31, Feb 1, 3, 4, 5, 6, 7, 10, 13, 14, 19, 20, 25, 26, 28, Mar 2, 5, 9, 16, 17, 18, 19, Apr 1, 15 -

Total No. of visits *60*

Is the approved plan of main boiler forwarded herewith *No*

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders *14.1.08* Slides *14.2.08* Covers *14.1.08* Pistons *14.1.08* Rods *14.1.08*  
Connecting rods *14.1.08* Crank shaft *21.1.08* Thrust shaft *21.1.08* Tunnel shafts *21.1.08* Screw shaft *21.1.08* Propeller *16.3.08*  
Stern tube *14.1.08* Steam pipes tested *21.10.07* Engine and boiler seatings *6.2.08* Engines holding down bolts *17.3.08*  
Completion of pumping arrangements *13.4.08* Boilers fixed *17.3.08* Engines tried under steam *18.3.08*  
Main boiler safety valves adjusted *13.4.08* Thickness of adjusting washers *For 3/8, 1/2, 3/4, 1, Post 3/8, 3/4, 1, 1 1/8, 1 1/2, 1 3/4, 2, 2 1/2, 3, 3 1/2, 4, 4 1/2, 5, 5 1/2, 6, 6 1/2, 7, 7 1/2, 8, 8 1/2, 9, 9 1/2, 10, 10 1/2, 11, 11 1/2, 12, 12 1/2, 13, 13 1/2, 14, 14 1/2, 15, 15 1/2, 16, 16 1/2, 17, 17 1/2, 18, 18 1/2, 19, 19 1/2, 20, 20 1/2, 21, 21 1/2, 22, 22 1/2, 23, 23 1/2, 24, 24 1/2, 25, 25 1/2, 26, 26 1/2, 27, 27 1/2, 28, 28 1/2, 29, 29 1/2, 30, 30 1/2, 31, 31 1/2, 32, 32 1/2, 33, 33 1/2, 34, 34 1/2, 35, 35 1/2, 36, 36 1/2, 37, 37 1/2, 38, 38 1/2, 39, 39 1/2, 40, 40 1/2, 41, 41 1/2, 42, 42 1/2, 43, 43 1/2, 44, 44 1/2, 45, 45 1/2, 46, 46 1/2, 47, 47 1/2, 48, 48 1/2, 49, 49 1/2, 50, 50 1/2, 51, 51 1/2, 52, 52 1/2, 53, 53 1/2, 54, 54 1/2, 55, 55 1/2, 56, 56 1/2, 57, 57 1/2, 58, 58 1/2, 59, 59 1/2, 60*

Material of Crank shaft *Steel* Identification Mark on Do. *160A FC* Material of Thrust shaft *Steel* Identification Mark on Do. *160A FC*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *160A FC* Material of Screw shafts *Steel* Identification Marks on Do. *160A FC*  
Material of Steam Pipes *Steel* Test pressure *600 lbs*

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *The engines and boilers of this vessel have been constructed under special survey, the materials and workmanship are good. The boilers tested by hydraulic pressure, and with the engines placed on board and tested under steam, they are now in good order, and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of *L.M.C. 4.08* in the Register Book*

*These Engines and Boilers are somewhat similar to those fitted on the *Revaux Abbey*. Hull Report No 19962*

It is submitted that this vessel is eligible for THE REGD. *L.M.C. 4.08.* ELEC. LIGHT F.D.

The amount of Entry Fee. £ *3* : : When applied for, *6/4* : : 19*08*.  
Special £ *44* : : 19 : :  
Donkey Boiler Fee £ : : : :  
Travelling Expenses (if any) £ : : : :  
When received, *MR* *13/4* : : 19*08*.

*J. Barclay* 21.4.08.  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

WEB 22 APL 1908

Assigned

MACHINE WRITTEN



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Certificate (if required) to be sent to Hull