

# REPORT ON MACHINERY.

No. 13044

Port of WEST HARTLEPOOL

REC'D. 29 AUG 1906

Received at London Office

No. in Survey held at **HARTLEPOOL**

Date, first Survey **22<sup>nd</sup> Feb, 1906** Last Survey **17<sup>th</sup> August, 1906**

Reg. Book. **S.L. Dipton**

(Number of Visits **31**)

Gross **3811.46**

Master **J. V. Day**

Built at **Hartlepool** By whom built **Furness, W. Hay & Co. Ltd.** When built **1906**

Net **2470.76**

Engines made at **Hartlepool** By whom made **Richardson Westgarth & Co. Ltd.** when made **1906**

Boilers made at **"** By whom made **"** when made **1906**

Registered Horse Power **"** Owners **Peart & Co. Ltd. (Beechingham Co.)** Port belonging to **Newcastle-on-Tyne**

Nom. Horse Power as per Section 28 **317.15** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **No**

ENGINES, &c.—Description of Engines **Triple Expansion** No. of Cylinders **3** No. of Cranks **3**

Dia. of Cylinders **24-39-66** Length of Stroke **45** Revs. per minute **60** Dia. of Screw shaft **1 1/2** 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 **No** 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 **Yes** If two

liners are fitted, is the shaft lapped or protected between the liners **Yes** Length of stern bush **4'-10"**

Dia. of Tunnel shaft **12.15** Dia. of Crank shaft journals **12.65** Dia. of Crank pin **13** Size of Crank webs **8x2.1** Dia. of thrust shaft under

collars **13"** Dia. of screw **16.9** Pitch of Screw **16.6** No. of Blades **4** State whether moceable **No** Total surface **88.9**

No. of Feed pumps **2** Diameter of ditto **3** Stroke **27** Can one be overhauled while the other is at work **Yes**

No. of Bilge pumps **2** Diameter of ditto **3 3/4** Stroke **27** Can one be overhauled while the other is at work **Yes**

No. of Donkey Engines **2** Sizes of Pumps **6x4x6.9 8 1/2. 4** No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room **(4) 3 1/2 Dia** In Holds, &c. **Fore Hold (2) 3 1/2 No. 2 Hold (2) 3 1/2**

No. of Bilge Injections **1** sizes **5** Connected to condenser, or to circulating pump **Cir** Is a separate Donkey Suction fitted in Engine room & size **Yes 3 1/2**

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 **Yes**

Are all connections with the sea direct on the skin of the ship **Yes** Are they Valves or Cocks **Leath.**

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 **Yes**

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 **None** 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**

Dates of examination of completion of fitting of Sea Connections **13/7/06** Stern Tube **29/6/06** Screw shaft and Propeller **13/7/06**

Is the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **Top Platform**

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **Clydebridge Steel works.**

Total Heating Surface of Boilers **4891** Is Forced Draft fitted **No** No. and Description of Boilers **2. Large ended**

Working Pressure **180lbs** Tested by hydraulic pressure to **360lbs** Date of test **20/6/06** No. of Certificate **3062**

Can each boiler be worked separately **Yes** Area of fire grate in each boiler **52.5** No. and Description of Safety Valves to

each boiler **2 Spring** Area of each valve **7.067** Pressure to which they are adjusted **185lbs** Are they fitted with easing gear **Yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **15'0"** Mean dia. of boilers **16'0"** Length **10'9"** Material of shell plates **S**

Thickness **19/32** Range of tensile strength **28.5/32** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **DR**

long. seams **TRDBS** Diameter of rivet holes in long. seams **19/32** Pitch of rivets **8'8"** Lap of plates or width of butt straps **18'1/4"**

Per centages of strength of longitudinal joint rivets **86.8** Working pressure of shell by rules **181.5lbs** Size of manhole in shell **16 1/2 x 13**

Size of compensating ring **19/32** No. and Description of Furnaces in each boiler **3 No. 1** Material **S** Outside diameter **50 3/4**

Length of plain part **9"** Thickness of plates **19/32** Description of longitudinal joint **Welded** No. of strengthening rings **"**

Working pressure of furnace by the rules **180lbs** Combustion chamber plates: Material **S** Thickness: Sides **19/32** Back **19/32** Top **19/32** Bottom **14/16**

Pitch of stays to ditto: Sides **8'2 1/2 x 7 1/2** Back **8'4 x 8** Top **8'2 1/2 x 7 1/2** stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **183lbs**

Material of stays **S** Diameter at smallest part **1 3/8** Area supported by each stay **8'4 x 8** Working pressure by rules **180lbs** End plates in steam space:

Material **S** Thickness **1"** Pitch of stays **16 1/4 x 16 1/8** How are stays secured **DNW** Working pressure by rules **180lbs** Material of stays **S**

Diameter at smallest part **2 1/2** Area supported by each stay **16 1/4 x 16 1/8** Working pressure by rules **187lbs** Material of Front plates at bottom **S**

Thickness **14/16** Material of Lower back plate **S** Thickness **13/16** Greatest pitch of stays **13"** Working pressure of plate by rules **194lbs**

Diameter of tubes **3 1/4** Pitch of tubes **4 1/2** Material of tube plates **S** Thickness: Front **15/16** Back **12/16** Mean pitch of stays **9"**

Pitch across wide water spaces **14 1/4** Working pressures by rules **188lbs** Girders to Chamber tops: Material **S** Depth and

thickness of girder at centre **8'2 x 1 3/4** Length as per rule **32** Distance apart **8 3/4** Number and pitch of stays in each **(3) 7 1/4**

Working pressure by rules **187lbs** Superheater or Steam chest; how connected to boiler **"** Can the superheater be shut off and the boiler worked

separately **"** Diameter **"** Length **"** Thickness of shell plates **"** Material **"** Description of longitudinal joint **"** Diam. of rivet

holes **"** Pitch of rivets **"** Working pressure of shell by rules **"** Diameter of flue **"** Material of flue plates **"** Thickness **"**

If stiffened 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 **"**

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 casing 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 \_\_\_\_\_

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

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:— 1 spare propeller, 1 spare propeller shaft, 2 Main Check valves, 2 Donkey ditto, 1 set HP Packing rings, 1 set S.P. ditto, 2 HP piston & valve rings & spare gear as per rule requirements

The foregoing is a correct description,  
 RICHARDSONS, WESTGARTH & CO. LIMITED  
 18, RIGOLE, Manufacturer.

Dates of Survey while building: During progress of work in shops— 1906 Mar. 22, Apr. 3, 23, 24, May 3, 9, 10, 16, 18, 21, 24, 25, 29, 30, 31, June 1, 4, 15, 19, 20, 27.  
 During erection on board vessel— 29 July, 2, 4, 5, 6, 11, 13, 16, 18, Aug. 14.  
 Total No. of visits 31

Is the approved plan of main boiler forwarded herewith no

Dates of Examination of principal parts— Cylinders 16/5/06 Slides 25/5/06 Covers 30/5/06 Pistons 30/5/06 Rods 4/7/06  
 Connecting rods 4/7/06 Crank shaft 27/6/06 Thrust shaft 18/7/06 Tunnel shafts 10/5/06 Screw shaft 20/5/06 Propeller 20/6/06  
 Stern tube 29/6/06 Steam pipes tested 13/7/06 Engine and boiler seatings 13/7/06 Engines holding down bolts 13/7/06  
 Completion of pumping arrangements 13/7/06 Boilers fixed 13/7/06 Engines tried under steam 13/7/06  
 Main boiler safety valves adjusted 14/4/06 Thickness of adjusting washers S B S 8 3/8 P B 3/8 1/32 P B S 8 13/16  
 Material of Crank shaft S Identification Mark on Do. 4446 Material of Thrust shaft S Identification Mark on Do. 4446  
 Material of Tunnel shafts S Identification Marks on Do. 4446 Material of Screw shafts S Identification Marks on Do. 4446  
 Material of Steam Pipes W Iron Test pressure 500 lbs.

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

4417 Area 12.3 tons total 28.0 tons II 3.5 long.

The Engines & Boilers of this vessel have been constructed under special survey & the materials & workmanship are sound & good. The engines have been tried under steam & the safety valves of the Main & Donkey boilers have been adjusted under steam to the working pressure.

The Machinery is now in good & safe working condition & eligible in my opinion to have the notation of + LMC 8.06 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.06

The amount of Entry Fee... £ 3 : : When applied for.  
 Special ... £ 25 17 : : 24. 8. 06  
 Donkey Boiler Fee ... £ : : :  
 Travelling Expenses (if any) £ : : :  
 When received, 28. 8. 06

Wm. Hos. & Stanton  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 31 AUG 1906

Assigned

MACHINERY CERTIFICATE WRITTEN.

