

# REPORT ON MACHINERY.

No. 15322

Date of writing Report

19 *18/12* When handed in at Local Office

Port of *West Hartlepool*

Received at London Office *WED. 20 DEC. 1916*

No. in Survey held at Reg. Book.

Date, First Survey *14<sup>th</sup> Jan/16* Last Survey *12<sup>th</sup> Dec. 1916*

on the *Steel screw steamer Kepwickhall*

(Number of Visits *61*)

Master *E. J. Harris*

Built at *West Hartlepool* By whom built *James & Co. Ltd.*

Tons { Gross *4129*  
Net *2573*  
When built *1916*

Engines made at *Hartlepool*

By whom made *Richardsons, Westgate & Co. Ltd.* when made *1916*

Boilers made at *Hartlepool*

By whom made *Richardsons, Westgate & Co. Ltd.* when made *1916*

Registered Horse Power

Owners *West Hartlepool Steam Navigation Co. Ltd.* Port belonging to *West Hartlepool*

Nom. Horse Power as per Section 28 *405*

Is Refrigerating Machinery fitted for cargo purposes *no*

Is Electric Light fitted *yes*

## ENGINES, &c.—Description of Engines *Triple Expansion*

No. of Cylinders *Three* No. of Cranks *Three*

Dia. of Cylinders *26, 42, 90*

Length of Stroke *48*

Revs. per minute *65*

Dia. of Screw shaft *as per rule 14.45* Material of screw shaft *Iron*

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

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

Length of stern bush *5-0*

Dia. of Tunnel shaft *as per rule 12.98*

Dia. of Crank shaft journals *as per rule 13.63*

Dia. of Crank pin *14*

Size of Crank webs *20 1/2 x 8 1/2* Dia. of thrust shaft under

collars *14 1/2*

Dia. of screw *1 1/2 - 6*

Pitch of Screw *17-2*

No. of Blades *four*

State whether moveable *no*

Total surface *96.2*

No. of Feed pumps *two*

Diameter of ditto *3 1/2*

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 *General Service 5 x 6 duplex*

*Feed 4 x 6 duplex*

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *two 3/2 Bilge suction two 3/2*

*and Main Engine direct 2 1/2*

In Holds, &c. *two in each hold 3/2*

No. of Bilge Injections *size 6*

Connected to condenser, or to circulating pump *yes*

Is a separate Donkey Suction fitted in Engine room & size *yes 3/2*

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 *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*

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 *9/10/16*

of Stern Tube *30/10/16*

Screw shaft and Propeller *3/11/16*

Is the Screw Shaft Tunnel watertight *yes*

Is it fitted with a watertight door *yes*

worked from *top platform*

## BOILERS, &c.—(Letter for record *5*)

Manufacturers of Steel *J. Spencer & Sons, Leeds & Co. Ltd.*

Total Heating Surface of Boilers *6733*

Is Forced Draft fitted *no*

No. and Description of Boilers *Three, single End 4 1/2 ft. diam.*

Working Pressure *180 lbs*

Tested by hydraulic pressure to *360 lbs*

Date of test *15/8/16*

No. of Certificate *8439*

Can each boiler be worked separately *yes*

Area of fire grate in each boiler *55.6*

No. and Description of Safety Valves to

each boiler *no direct spring*

Area of each valve *4070*

Pressure to which they are adjusted *185 lbs*

Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *24*

Mean dia. of boilers *15-3*

Length *11-0*

Material of shell plates *steel*

Thickness *1 3/32*

Range of tensile strength *28 1/2 - 32*

Are the shell plates welded or flanged *no*

Descrip. of riveting: cir. seams *2 1/2 in.*

long. seams *5/16 - TR*

Diameter of rivet holes in long. seams *1 3/32*

Pitch of rivets *8 3/8*

Lap of plates or width of butt straps *14 1/2*

Per centages of strength of longitudinal joint

rivets *84.9*

plate *85.45*

Working pressure of shell by rules *182 lbs*

Size of manhole in shell *16 1/2 x 13*

Size of compensating ring *7 3/4 x 1 1/2*

No. and Description of Furnaces in each boiler *three expansion* Material *steel* Outside diameter *48 3/4*

Length of plain part *top*

Thickness of plates *bottom*

Description of longitudinal joint *weld*

No. of strengthening rings

Working pressure of furnace by the rules *194 lbs*

Combustion chamber plates: Material *steel*

Thickness: Sides *1 1/32*

Back *1 1/32*

Top *1 1/32*

Bottom *1 1/32*

Pitch of stays to ditto: Sides *7 1/2 x 8 1/4*

Back *8 1/4 x 8*

Top *4 1/2 x 8 1/8*

If stays are fitted with nuts or riveted heads *no*

Working pressure by rules *185 lbs*

Material of stays *steel*

Diameter at smallest part *1 1/8*

Area supported by each stay *8 1/2 x 8*

Working pressure by rules *180 lbs*

End plates in steam space:

Material *steel*

Thickness *1 1/32*

Pitch of stays *12 x 20 1/2*

How are stays secured *by nuts*

Working pressure by rules *180 lbs*

Material of stays *steel*

Diameter at smallest part *2 2 3/32*

Area supported by each stay *21 x 17*

Working pressure by rules *194 lbs*

Material of Front plates at bottom *steel*

Thickness *1 1/8*

Material of Lower back plate *steel*

Thickness *2 1/32*

Greatest pitch of stays *14*

Working pressure of plate by rules *190 lbs*

Diameter of tubes *3 1/2*

Pitch of tubes *4 1/4 x 4 1/2*

Material of tube plates *steel*

Thickness: Front *1 1/8*

Back *2 1/32*

Mean pitch of stays *10 1/8*

Pitch across wide water spaces *14 1/2*

Working pressures by rules *183 lbs*

Girders to Chamber tops: Material *steel*

Depth and

thickness of girder at centre: *8 1/4 x 1 1/2*

Length as per rule *31 3/8*

Distance apart *8 5/8*

Number and pitch of stays in each *three 7 1/2*

Working pressure by rules *181 lbs*

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

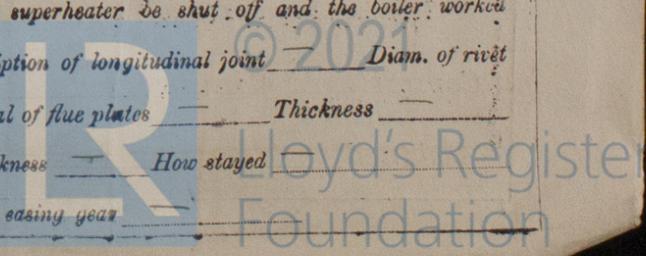
How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

WSS-0127



IS A DONKEY BOILER FITTED? *No Donkey Boiler* If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: *Two Each top End, Bottom End & Main Bearing Bolts, one set of coupling bolts, one set each feed & side pump valves, three each steam & donkey check valves, Propeller & Tail shaft & mounted bolts & arm.*

The foregoing is a correct description,

For RICHARDSONS, WESTGARTH & Co., LIMITED

*S.P. Ruppel*

ASSISTANT GENERAL MANAGER

Manufacturer.

Dates of Survey while building: During progress of work in shops -- *1916 Jan 14 19 22 28 Feb 7 Mar 2 June 2 5 6 7 9 12 13 14 20 23 28 29 30 July 3 8 11 13 18*  
During erection on board vessel -- *20 24 25 26 31 Aug 1 4 15 16 21 22 Feb 14 15 16 19 20 25 27 28 Oct 2 6 9 10 11 25 28 30 Nov 2 8 14 16 21 22 Dec 4 7 8 12*  
Total No. of visits *61* Is the approved plan of main boiler forwarded herewith *yes* ✓

Dates of Examination of principal parts: Cylinders *24/1/16 28/1/16* Slides *21/7/16 28/7/16* Covers *32/1/16 28/1/16* Pistons *21/1/16 28/1/16* Rods *7/8/16 1/8/16*  
Connecting rods *2/6/16 27/1/16* Crank shaft *14/1/16 18/7/16* Thrust shaft *14/1/16 18/7/16* Tunnel shafts *8/7/16 25/7/16* Screw shaft *24/1/16 28/1/16* Propeller *27/1/16 28/1/16*  
Stern tube *24/1/16 27/1/16* Steam pipes tested *22/1/16* Engine and boiler seatings *2/1/16* Engines holding down bolts *2/1/16 8/1/16*  
Completion of pumping arrangements *22/1/16* Boilers fixed *15/1/16* Engines tried under steam *22/1/16*  
Main boiler safety valves adjusted *22/1/16* Thickness of adjusting washers *4 20 7 1/2 32 1/2*  
Material of Crank shaft *steel* Identification Mark on Da. *5799 18/7/16* Material of Thrust shaft *steel* Identification Mark on Da. *5799 18/7/16*  
Material of Tunnel shafts *iron* Identification Marks on Da. *5799 8/7/16* Material of Screw shafts *iron* Identification Marks on Da. *5799 8/7/16*  
Material of Steam Pipes *not iron - expanded* Test pressure *800 lbs* ✓  
Is an installation fitted for burning oil fuel *no* ✓ 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 \_\_\_\_\_

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

*Evaporator Body tested 50 lbs & leak 100 lbs Hyd. pump Marked (25/1/16 14/9/16)*

*The machinery of the vessel has been built under special survey the material & workmanship sound & good.*

*The Boilers & steam pipes have been tested by hydraulic pressure in accordance with the Rules, the machinery worked satisfactorily at the workshops, the safety valves have been regulated under steam to their working pressure & running gear fitted, rendering the vessel eligible in my opinion to have the notation*

*\* LMC - 180 LBS 12.16*

*It is submitted that this vessel is eligible for THE BROOD + LMC 12.16.*

*J.P.R.*

*J.W.D. 20/12/16*

The amount of Entry Fee ... £ 3 : 0 :  
Special ... £ 40 : 5 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *18/12/16*  
When received, *21/12/16 22/12/16*

Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute

FRI. DEC. 22. 1916

Assigned

*+ LMC 12.16*



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WEST HARTLEPOOL

Certificate (if required) to be sent to

The Surveyor or registered agent to write on or below the space for Committee's Minute.