

REPORT ON MACHINERY.

No. 20,180

Port of <u>Hull</u>		Received at London Office <u>SAT. 20 JUN 1908</u>	
No. in Survey held at <u>Hull & Goole</u>	Date, first Survey <u>June 5/07</u>	Last Survey <u>June 11th 1908.</u>	
Reg. Book. <u>78</u>	(Number of Visits <u>57</u>)		Tons { Gross <u>199</u> Net <u>63</u>
Master <u>Steel Se. H. Towhee</u>	Built at <u>Goole</u>	By whom built <u>The Goole S. B. & L. Co. Ltd</u>	When built <u>1908</u>
Engines made at } <u>Hull</u>	By whom made } <u>Messrs Earle's Co. Ltd</u>	when made <u>1908</u>	
Boilers made at }	By whom made }	when made <u>1908</u>	
Registered Horse Power <u>55</u>		Owners <u>Kelsall Brothers & Beeching Ltd.</u>	Port belonging to <u>Hull</u>
Nom. Horse Power as per Section 28 <u>55</u>		Is Refrigerating Machinery fitted for cargo purposes <u>No</u>	Is Electric Light fitted <u>No</u>
ENGINES, &c.—Description of Engines <u>Triple Expansion</u> No. of Cylinders <u>3</u> No. of Cranks <u>3</u>			
Dia. of Cylinders <u>12" - 21" - 33"</u>		Length of Stroke <u>21"</u>	Revs. per minute <u>105</u>
Dia. of Screw shaft <u>6.7"</u>		Material of <u>Steel</u>	
Is the screw shaft fitted with a continuous liner the whole length of the stern tube <u>No</u>		Is the after end of the liner made water tight <u>Yes</u>	
Is the propeller boss <u>Yes</u>		If the liner is in more than one length are the joints burned <u>Yes</u>	
Between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive <u>Yes</u>		If two liners are fitted, is the shaft lapped or protected between the liners <u>No</u>	
Length of stern bush <u>35 1/2"</u>		Dia. of Thrust shaft under <u>12 1/2" x 4 1/2"</u>	
Dia. of Crank shaft journals <u>6.5"</u>		Dia. of Crank pin <u>6.5"</u>	
Pitch of Screw <u>9'-6" to 10'-6"</u>		No. of Blades <u>4</u>	
State whether moveable <u>No</u>		Total surface <u>26 sq ft</u>	
No. of Feed pumps <u>1</u>		Diameter of ditto <u>2 1/2"</u>	
Stroke <u>10"</u>		Can one be overhauled while the other is at work <u>Yes</u>	
No. of Bilge pumps <u>1</u>		Diameter of ditto <u>2 1/2"</u>	
Stroke <u>10"</u>		Can one be overhauled while the other is at work <u>Yes</u>	
No. of Donkey Engines <u>One</u>		Sizes of Pumps <u>4 1/2" x 2 1/4" x 4"</u>	
No. and size of Suctions connected to both Bilge and Donkey pumps <u>One 2" to hold, Two 2" to tanks</u>		In Engine Room <u>One 2" to hold, Two 2" to tanks</u>	
No. of Bilge Injections <u>1</u>		Is a separate Donkey Suction fitted in Engine room & size <u>Yes 2 1/2"</u>	
Are all the bilge suction pipes fitted with roses <u>Yes</u>		Are the roses in Engine room always accessible <u>Yes</u>	
Are the sluices on Engine room bulkheads always accessible <u>Yes</u>		Are all connections with the sea direct on the skin of the ship <u>Yes</u>	
Are they Valves or Cocks <u>both</u>		Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates <u>Yes</u>	
Are the Discharge Pipes above or below the deep water line <u>above</u>		Are they each fitted with a Discharge Valve always accessible on the plating of the vessel <u>Yes</u>	
Are the Blow Off Cocks fitted with a spigot and brass covering plate <u>Yes</u>		What pipes are carried through the bunkers <u>hold suction</u>	
How are they protected <u>Iron casing</u>		Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times <u>Yes</u>	
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges <u>Yes</u>		Dates of examination of completion of fitting of Sea Connections <u>25.4.08</u>	
of Stern Tube <u>25.4.08</u>		Screw shaft and Propeller <u>25.4.08</u>	
Is the Screw Shaft Tunnel watertight <u>Yes</u>		Is it fitted with a watertight door <u>Yes</u>	
worked from <u>Yes</u>		BOILERS, &c.—(Letter for record <u>S.</u>) Manufacturers of Steel <u>Messrs Beardmore Co.</u>	
Total Heating Surface of Boilers <u>900 sq ft</u>		Is Forced Draft fitted <u>No</u>	
No. and Description of Boilers <u>One Cyl. Multi</u>		Working Pressure <u>160 lbs</u>	
Tested by hydraulic pressure to <u>320 lbs</u>		Date of test <u>22.4.08</u>	
No. of Certificate <u>1641</u>		Can each boiler be worked separately <u>Yes</u>	
Area of fire grate in each boiler <u>24 1/2 sq ft</u>		No. and Description of Safety Valves to <u>Yes</u>	
each boiler <u>Two Spring</u>		Area of each valve <u>3.14 sq ft</u>	
Pressure to which they are adjusted <u>165 lbs</u>		Are they fitted with easing gear <u>Yes</u>	
Smallest distance between boilers or uptakes and bunkers or woodwork <u>11 1/2"</u>		Mean dia. of boilers <u>10'-6"</u>	
Length <u>9'-6"</u>		Material of shell plates <u>Steel</u>	
Thickness <u>3/32"</u>		Range of tensile strength <u>28-32</u>	
Are the shell plates welded or flanged <u>No</u>		Descrip. of riveting: cir. seams <u>L.D.</u>	
long. seams <u>O.B.S.O.C.</u>		Diameter of rivet holes in long. seams <u>1 1/8"</u>	
Pitch of rivets <u>5 3/8"</u>		Lap of plates or width of butt straps <u>11 1/2"</u>	
Per centages of strength of longitudinal joint <u>86.7%</u>		Working pressure of shell by rules <u>161 lbs</u>	
Size of compensating ring <u>30" x 28" x 3/32"</u>		No. and Description of Furnaces in each boiler <u>Two plain</u>	
Material <u>Steel</u>		Outside diameter <u>2'-10"</u>	
Length of plain part <u>6'-4 1/2"</u>		Thickness of plates <u>3/8"</u>	
Description of longitudinal joint <u>Welded</u>		No. of strengthening rings <u>0</u>	
Working pressure of furnace by the rules <u>176 lbs</u>		Combustion chamber plates: Material <u>Steel</u>	
Thickness: Sides <u>5/8"</u>		Back <u>3/32"</u>	
Top <u>5/8"</u>		Bottom <u>5/8"</u>	
Pitch of stays to ditto: Sides <u>8 1/2" x 8 1/2"</u>		Back <u>10" x 9"</u>	
Top <u>8 1/2" x 7 1/2"</u>		If stays are fitted with nuts or riveted heads <u>Yes</u>	
Working pressure by rules <u>164 lbs</u>		Material of stays <u>Steel</u>	
Diameter at smallest part <u>1 1/2"</u>		Area supported by each stay <u>72.25 sq in</u>	
Working pressure by rules <u>195 lbs</u>		End plates in steam space: <u>Yes</u>	
Material <u>Steel</u>		Thickness <u>3/8"</u>	
Pitch of stays <u>15 x 15</u>		How are stays secured <u>O.N.</u>	
Working pressure by rules <u>161 lbs</u>		Material of Front plates at bottom <u>Steel</u>	
Diameter at smallest part <u>2 1/4"</u>		Area supported by each stay <u>225 sq in</u>	
Working pressure by rules <u>195 lbs</u>		Material of Lower back plate <u>Steel</u>	
Thickness <u>3/8"</u>		Greatest pitch of stays <u>14" x 9"</u>	
Working pressure of plate by rules <u>191 lbs</u>		Diameter of tubes <u>3"</u>	
Pitch of tubes <u>4 5/8" x 4 3/8"</u>		Material of tube plates <u>Steel</u>	
Thickness: Front <u>7/8"</u>		Back <u>1 1/8"</u>	
Mean pitch of stays <u>9"</u>		Pitch across wide water spaces <u>14"</u>	
Working pressures by rules <u>160 lbs</u>		Girders to Chamber tops: Material <u>Steel</u>	
Depth and thickness of girder at centre <u>7 1/4" x 7 1/2"</u>		Length as per rule <u>2'-2"</u>	
Distance apart <u>7 1/2"</u>		Number and pitch of stays in each <u>Two 8 1/2"</u>	
Working pressure by rules <u>246 lbs</u>		Superheater or Steam chest; how connected to boiler <u>Can the superheater be shut off and the boiler worked separately</u>	
Diameter <u>14"</u>		Length <u>14"</u>	
Thickness of shell plates <u>3/8"</u>		Material <u>Steel</u>	
Description of longitudinal joint <u>Welded</u>		Diam. of rivet <u>1 1/8"</u>	
Pitch of rivets <u>5/8"</u>		Working pressure of shell by rules <u>161 lbs</u>	
Diameter of flue <u>14"</u>		Material of flue plates <u>Steel</u>	
Thickness <u>3/8"</u>		If stiffened with rings <u>Yes</u>	
Distance between rings <u>14"</u>		Working pressure by rules <u>161 lbs</u>	
End plates: Thickness <u>3/8"</u>		How stayed <u>Yes</u>	
Working pressure of end plates <u>161 lbs</u>		Area of safety valves to superheater <u>Yes</u>	
Are they fitted with easing gear <u>Yes</u>			

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		
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:— 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, feed, and bilge pump valves, and a quantity of assorted bolts nuts etc.

The foregoing is a correct description,

Manufacturer.

J. J. Palethorpe

Dates of Survey while building
During progress of work in shops— 1907—Jun 5. 12. 17. 19. 22. 26. 29. Jul 4. 8. 17. 23. 30. Aug 20. 23. 30. Sep 4. 9. 12. 19. 24. Oct 10. 18. 28. Nov 1. 26.
During erection on board vessel— Dec 4. 13. 16. 1908—Jan 6. Feb 4. 6. 10. 19. Mar 2. 9. 12. 17. 19. 25. 31. Apr 6. 15. 22. 24. 25. 28. 29. 30. May 1. 5. 7. 15.
Total No. of visits 57

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders 2. 3. 08 Slides 15. 4. 08 Covers 9. 6. 08 Pistons 12. 9. 07 Rods 12. 9. 07
Connecting rods 19. 9. 07 Crank shaft 25. 4. 08 Thrust shaft 14. 1. 08 Tunnel shafts Screw shaft 25. 4. 08 Propeller 25. 4. 08
Stern tube 25. 4. 08 Steam pipes tested 29. 4. 08 Engine and boiler seatings 25. 4. 08 Engines holding down bolts 1. 5. 08
Completion of pumping arrangements 11. 6. 08 Boilers fixed 1. 5. 08 Engines tried under steam 1. 5. 08
Main boiler safety valves adjusted 1. 5. 08 Thickness of adjusting washers 5. 11. 32
Material of Crank shaft Steel Identification Mark on Do. 1936 ATG Material of Thrust shaft Steel Identification Mark on Do. 1114
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. 1114
Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs □

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules, the materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines secured on board, and tested under steam, and found satisfactory, 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 *LMC 6. 6. 08 in the Register Book.

These engines boiler are similar to those fitted on the Hull Report 19510 1/2 Tern

It is submitted that this vessel is eligible for THE RECORD + LMC 6. 08.

The amount of Entry Fee. £ 1 : : : When applied for, 19. 6. 19. 08
Special £ 8 : 5 : :
Donkey Boiler Fee £ : : : When received, 2. 9. 08
Travelling Expenses (if any) £ : 6 : 4 : 1. 9. 08

James Barclay
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

TUES. 23 JUN 1908

+ LMC 6. 08

MACHINERY CERTIFICATE
WRITTEN



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