ot. 4.

REPORT ON MACHINERY.

No. 18399

Port of Hull

No. in Survey Book. 17 — Survey held at Hull — Date, first Survey Oct 31st 1898 — Last Survey Sep 6th 1906. (Number of Visits 67)

Received at London Office TUES. 9 OCT 1906

ster — on the Douglas II — Tons Gross / Net

Built at Rutherglen — By whom built W. Chambers & Co Ltd — When built 1906

ines made at Hull — By whom made Humber Iron Works & Co — when made 1906

lers made at " — By whom made Humber Iron Works & Co — when made 1906

istered Horse Power 55 — Owners Bailey & Leetham — Port belonging to Hull

n. Horse Power as per Section 28 54.9 — Is Refrigerating Machinery fitted for cargo purposes No — Is Electric Light fitted No

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

. of Cylinders 13¾" ~ 20" ~ 32" — Length of Stroke 23" — Revs. per minute 125 — Dia. of Screw shaft as per rule 6.8" / as fitted 6 7/8" — Material of screw shaft Iron

he 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

he propeller boss Yes — If the liner is in more than one length are the joints burned Two Separate Liners — If the liner does not fit tightly at the part

ween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No — If two

rs are fitted, is the shaft lapped or protected between the liners No — Length of stern bush 2'-6½"

. of Tunnel shaft as per rule 5.7" 6.0 / as fitted 6¼" — Dia. of Crank shaft journals as per rule 6.3 / as fitted 6⅜" — Dia. of Crank pin 6⅜" — Size of Crank webs 10½" ~ 4" — Dia. of thrust shaft under

urs 6½" — Dia. of screw 7'-9" — Pitch of Screw 10'-0" — No. of Blades 4 — State whether moveable No — Total surface 28 ϕ

of Feed pumps 1 — Diameter of ditto 2" — Stroke 10" — Can one be overhauled while the other is at work ✓

of Bilge pumps 1 — Diameter of ditto 2" — Stroke 10" — Can one be overhauled while the other is at work ✓

of Donkey Engines One — Sizes of Pumps 5½" × 3" × 6" D. a. — No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Two 2" — In Holds, &c. One 2" aft One 2" forward.

d ejector suction from eng room bilge holds discharge overboard

of Bilge Injections 1 — sizes 3½" — Connected to condenser, or to circulating pump Condenser — Is a separate Donkey Suction fitted in Engine room & size Yes 2½" Ejector

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 None

all connections with the sea direct on the skin of the ship Yes — Are they Valves or Cocks both

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

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

t pipes are carried through the bunkers None. — How are they protected ✓

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

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

s of examination of completion of fitting of Sea Connections 10.4.06 — of Stern Tube 10.4.06 — Screw shaft and Propeller 10.4.06

e Screw Shaft Tunnel watertight None — Is it fitted with a watertight door ✓ — worked from ✓

LERS, &c.—(Letter for record S) — Manufacturers of Steel The Weardale Iron Coal Co Ltd.

Heating Surface of Boilers 877 ϕ — Is Forced Draft fitted No — No. and Description of Boilers One Cyl. Mult. Single End.

cing Pressure 180 lbs — Tested by hydraulic pressure to 360 lbs — Date of test 14.12.05 — No. of Certificate 1436

~~each boiler be worked separately~~ — Area of fire grate in ~~each~~ boiler 30 ϕ — No. and Description of Safety Valves to

oiler Two Spring — Area of each valve 3.9 □" — Pressure to which they are adjusted 185 lbs — Are they fitted with easing gear Yes

est distance between boilers or uptakes and bunkers or woodwork 9" — Mean dia. of boilers 11'-0" — Length 10'-0" — Material of shell plates Steel

ness 1" — Range of tensile strength 27/32 tons — Are the shell plates welded or flanged No — Descrip. of riveting: cir. seams L. D.

seams D.B.S. T.R — Diameter of rivet holes in long. seams 1 1/16" — Pitch of rivets 7⅝" — ~~Lap of plates~~ or width of butt straps 16"

ntages of strength of longitudinal joint rivets 88.8 / plate 86. — Working pressure of shell by rules 182 lbs — Size of manhole in shell 16" × 12"

f compensating ring 28" × 24" × 1" — No. and Description of Furnaces in each boiler Two Morrisons. — Material Steel — Outside diameter 44½"

of plain part top / bottom ✓ — Thickness of plates crown 17/32" / bottom 17/32" — Description of longitudinal joint Welded — No. of strengthening rings ✓

ng pressure of furnace by the rules 184 lbs — Combustion chamber plates: Material Steel — Thickness: Sides 9/16" — Back 9/16" — Top 9/16" — Bottom 13/16"

f stays to ditto: Sides 7½" ~ 7½" — Back 7½" ~ 7½" — Top 7½" ~ 7" — If stays are fitted with nuts or riveted heads Nuts — Working pressure by rules 194 lbs

ial of stays Steel — Diameter at smallest part 1 3/8" — Area supported by each stay 56 □" — Working pressure by rules 211 lbs — End plates in steam space:

ial Steel — Thickness 15/16" — Pitch of stays 14½" × 14" — How are stays secured D. Nuts — Working pressure by rules 208 lbs — Material of stays Steel

ter at smallest part 2 3/16" — Area supported by each stay 203 □" — Working pressure by rules 218 lbs — Material of Front plates at bottom Steel

ess 13/16" — Material of Lower back plate Steel — Thickness 13/16" × 1 1/16" — Greatest pitch of stays 12" — Working pressure of plate by rules 200 lbs

er of tubes 3½" — Pitch of tubes 5" × 4 7/8" — Material of tube plates Steel — Thickness: Front 13/16" — Back ¾" — Mean pitch of stays 10" × 9¾"

across wide water spaces 13½" — Working pressures by rules 180 lbs — Girders to Chamber tops: Material Iron — Depth and

ss of girder at centre 6½" × 2" — Length as per rule 29" — Distance apart 7" — Number and pitch of stays in each 3 @ 7½"

g pressure by rules 189 lbs — Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked

ly — 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

ed with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed

g 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 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 & bottom end connecting rod bolts and nuts, two main bearing bolts and nuts. One set coupling bolts nuts, one set feed bilge pump valves, and a quantity of assorted bolts nuts etc.

FOR BAILEY & LEETHAM,
HUMBER IRON WORKS.

The foregoing is a correct description,

Manufacturer. MANAGER.

Dates of Survey while building

During progress of work in shops — 1898:- Oct. 31. Dec. 1. 8. 1899:- Jan. 5. Mar. 17. 22. Apr. 7. 13. 18. 21. 25. 30. Jun. 5. 13. 14. 20. Jul. 3. 11. 28. 31. Aug. 14. 17. 28.

During erection on board vessel — Sep. 5. 7. 12. 19. 25. Oct. 18. 27. Nov. 6. 13. 22. 30. 1900:- May 30. Jun. 23. Oct. 18. 23. 25. 1905:- Mar. 21. Sep. 13. 26. 28. Nov. 9. Dec. 7. 14. 1906:- Mar. 8. Apr. 4. 5. 9. 11. 12. 24. 27. May 3. 7. 10. Jun. 11. 14. 15. 20. 26. Jul. 4. Aug. 8. 18. Sep. 4. 6.:-

Total No. of visits 67

Is the approved plan of main boiler forwarded herewith Yes

" " " *donkey* " " " None

Dates of Examination of principal parts—*Cylinders* ..... *Slides* ..... *Covers* ..... *Pistons* ..... *Rods* .....

Connecting rods ..... *Crank shaft* ..... *Thrust shaft* 10.4.06 *Tunnel shafts* 10.4.06 *Screw shaft* 10.4.06 *Propeller* 10.4.06

Stern tube 10.4.06 *Steam pipes tested* 15.6.06 *Engine and boiler seatings* 24.4.06 *Engines holding down bolts* 4.7.06

Completion of pumping arrangements 8.8.06 *Boilers fixed* 4.7.06 *Engines tried under steam* 8.8.06

Main boiler safety valves adjusted 4.7.06 *Thickness of adjusting washers* 5/16"

Material of Crank shaft Iron *Identification Mark on Do.* 251 *Material of Thrust shaft* Iron *Identification Mark on Do.* 251

Material of Tunnel shafts Iron *Identification Marks on Do.* 251 *Material of Screw shafts* Iron *Identification Marks on Do.* 251

Material of Steam Pipes Solid drawn Copper *Test pressure* 360 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, fitted on board and tested under steam they are now in good order and safe working condition and respectfully submitted as being eligible in our opinion to be classed with the notation of ✠ L. M. C. 9. 06 in the Register Book.

The engines boiler of this vessel are similar to those fitted on the Douglas. Hull Report N° 16642.

It is submitted that
this vessel is eligible for
THE RECORD ✠ L. M. C. 9. 06

The amount of Entry Fee..	£ 1	:	.	:	.
Special	£ 8	. 5	:	-	
Donkey Boiler Fee	£ -	:	-	:	-
Travelling Expenses (if any)	£ -	:	-	:	-

When applied for. 20/9/1906

When received. 21/9/1906

9.10.06 9.10.06

James Barclay

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

12.9.06

Committee's Minute FRI. 12 OCT 1906

Assigned ✠ L. M. C. 9. 06

MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to Hull

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