SAT. FEB 23 1907

Rpt. 4.

REPORT ON MACHINERY.

No. 24815

Port of Glasgow Received at London Office TUES. JAN 22 1907

No. in Reg. Book. 98244 Survey held at Coatbridge Date, first Survey 6th Nov. (Nov.) 1907 Jan. Last Survey 28th Dec. 1906 " " Number of Visits 20, Feb. 1907

on the S.S. "Dalia" Tons Gross 207 Net 59

Master Built at Goole By whom built Goole Ship & Repairing Co (No 94) When built 1907

Engines made at Coatbridge By whom made W. V. V. Lidgerwood (No 251) when made 1906

Boilers made at Middlesborough By whom made Richardson Westgarth (No 2615) when made 1906

Registered Horse Power Owners The Pembrokeshire S. T. Co Ltd Port belonging to Milford Haven

Nom. Horse Power as per Section 28 70 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 12", 20", 33" Length of Stroke 24" Revs. per minute Dia. of Screw shaft as per rule 7.28" as fitted 7 3/4" Material of screw shaft iron

Is the 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 in the propeller boss ✓ 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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ ✓ Length of stern bush 2'-9"

Dia. of Tunnel shaft as per rule 6.199 as fitted 6 3/4" Dia. of Crank shaft journals as per rule 6.508" as fitted 6 3/4" Dia. of Crank pin 6 3/4" Size of Crank webs 12½" × 4¼" Dia. of thrust shaft under collars 6 3/4" Dia. of screw 8'-6" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable Fixed Total surface 31 ☐ft

No. of Feed pumps 1 ✓ Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work ✓

No. of Bilge pumps 1 ✓ Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work ✓

No. of Donkey Engines Two Sizes of Pumps 5" × 3½" × 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two. ✓ 2" & 6 feeder to all tanks ✓ In Holds, &c. Two - 2" ✓

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump CP. Is a separate Donkey Suction fitted in Engine room & size Yes. 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 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 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 28 Jany 07 of Stern Tube 25 Jany 07 Screw shaft and Propeller 25 Jany 07

Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers 1240 ☐ft Is Forced Draft fitted No No. and Description of Boilers

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 15.12.06 No. of Certificate 3824.

Can each boiler be worked separately ✓ (two Valves) Area of fire grate in each boiler 37 1/4 ☐ft No. and Description of Safety Valves to each boiler one double spring loaded Area of each valve 4.9☐" Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets plate Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top bottom Thickness of plates crown bottom Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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 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 :—* 2 connecting rod top end bolts and nuts, 2 connecting rod bottom end bolts and nuts, 2 main bearing bolts and nuts, 1 set of coupling bolts, 1 set of feed and bilge pump valves, 2 dozen bolts & nuts assorted, iron of various sizes etc.

The foregoing is a correct description,

For W. V. V. Ridgewood Richardson. *Manufacturer.*

Dates of Survey while building — *During progress of work in shops-* 1906: Nov. 6. 21. 30. Dec. 5. 15. 20. 28. 7 visits. Glo.
During erection on board vessel 1907: Jan. 22. 25. 28. 4 Feb. 1. 4 Hull = 1906 Dec 17. 1907:- Feb 7. 9. 11. 13 = 5
Total No. of visits 20

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " .....

Dates of Examination of principal parts — *Cylinders* 15. 12 *Slides* 15. 12 *Covers* 15. 12 *Pistons* 15. 12 *Rods* 20. 12
Connecting rods 15. 12 *Crank shaft* 20. 12 *Thrust shaft* 20. 12 *Tunnel shafts* 20. 12 *Screw shaft* 20. 12 *Propeller* 5. 12
Stern tube 5. 12 *Steam pipes tested* 1. 2. 07 *Engine and boiler seatings* 28. Jany 07 *Engines holding down bolts* 28 Jany 07
Completion of pumping arrangements 4 Feby 07 *Boilers fixed* 4 Feby 07 *Engines tried under steam* 4. Feby 07.
Main boiler safety valves adjusted 4. Feby 07 *Thickness of adjusting washers* PVR 11/32. SVR 9/32.
Material of Crank shaft steel *Identification Mark on Do.* 69 *Material of Thrust shaft* steel *Identification Mark on Do.* 251
Material of Tunnel shafts ..... *Identification Marks on Do.* ..... *Material of Screw shafts* iron *Identification Marks on Do.* 251
Material of Steam Pipes Copper *Test pressure* 360 lbs.

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

The machinery has been built under special survey; the material and workmanship being good; the engines being forwarded to be fitted aboard at Middlesborough

The fitting out of the machinery completed at North Shields, The engines tried under Steam and found Satisfactory—

In our opinion this Vessel is worthy of the notification of ✠ LMC. 2. 07

Certificate (if required) to be sent to .....

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

It is submitted that this vessel is eligible for THE RECORD ✠ LMC. 2. 07.

G.S. 23. 2. 07 G.S. 23. 2. 07

The amount of Entry Fee..	£ 1	: 0	0:	When applied for,
Due Glasgow Special	£ 3	: 10	0:	21. JAN. 1907 19.....
Due Middlesborough Donkey Boiler Fee	£ 7	: 0	0:	When received,
Travelling Expenses (if any)	£	:	:	18/2/07 19.....

23/2/07

A. S. Thomas & Leonard G. Shallcross.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute Glasgow 21 JAN 1907 James Barclay

Assigned Deferred for completion. LMC

For Mdb.

TUES. FEB 26 1907

+ L.M.C. 2. 07

MACHINERY CERTIFICATE WRITTEN.