

REPORT ON BOILERS.

No. 70588

Received at London Office SAT. 12 JAN. 1918

pt. 5a.

of writing Report 24 Dec 1917 When handed in at Local Office 1917 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at **Newcastle-on-Tyne** Date, First Survey **15 Oct. 1917** Last Survey **4 Jan 1918**

Reg. Book. on the Screw Steamer **"WULSTY CASTLE"** (J. Hunter & Co. 240 H.P. S. No. 12. No. 644 Boilers.) Tons } Gross **3566**
Net **2184**

Master **E.R. Howl** Built at **Sunderland** By whom built **J. Hunter & Co.** When built **1918**

Engines made at **Loughborough** By whom made **W. & A. Electrical Engineering Coy.** When made **1917**

Boilers made at **Newcastle-on-Tyne** By whom made **Swan Hunter Wigham Richardson** When made **1914**

Registered Horse Power Owners **Lancashire Shipping Co. Ltd.** Port belonging to **Liverpool**

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel **J. Hunter & Co.**

Letter for record **S.** Total Heating Surface of Boilers **3551 sq. ft.** Is forced draft fitted **Yes** No. and Description of Boilers **Two cylindrical shell single Working Pressure 220 lb. Tested by hydraulic pressure to 440 lb. Date of test 22/12/17.**

No. of Certificate **9034** Can each boiler be worked separately **Yes** Area of fire grate in each boiler **41.7 sq. ft.** No. and Description of Safety valves to each boiler **2: one on Spring** Area of each valve **7.07 sq. in.** Pressure to which they are adjusted **Yes**

Are they fitted with easing gear **Yes** In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler **Yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **12 in.** Mean dia. of boilers **13' 0"** Length **11' 0"**

Material of shell plates **Steel** Thickness **1 1/4"** Range of tensile strength **29 to 32 tons** Are the shell plates welded or flanged **no.**

Descrip. of riveting: cir. seams **Lap double** long. seams **S.S. Triple** Diameter of rivet holes in long. seams **1 1/4"** Pitch of rivets **8 1/2"** 4 1/2"

Gap of plates or width of butt straps **18"** Per centages of strength of longitudinal joint rivets **85.8** Working pressure of shell by plate **85.2**

Boiler No. **2: Dighton's** Material **Steel** Outside diameter **47 1/2"** Length of plain part **7' 0 3/4"** Thickness of plates crown **2 3/8"** bottom **3 1/2"**

Description of longitudinal joint **weld.** No. of strengthening rings **none** Working pressure of furnace by the rules **250 lb.** Combustion chamber

Plates: Material **Steel** Thickness: Sides **5 1/8"** Back **5 1/8"** Top **5 1/8"** Bottom **5 1/8"** Pitch of stays to ditto: Sides **7 1/2 x 8"** Back **8 1/2 x 7 1/4"**

Top **8 1/2 x 7 1/2"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **242 lb.** Material of stays **Steel** Diameter at smallest part **1.76 in.** Area supported by each stay **60.4 sq. in.** Working pressure by rules **232 lb.** End plates in steam space: Material **Steel** Thickness **1 3/8 x 1 1/2"**

Pitch of stays **16 1/2 x 16 1/2"** Are stays secured **by nuts** Working pressure by rules **220 lb.** Material of stays **Steel** Diameter at smallest part **6.1 in.**

Area supported by each stay **287 sq. in.** Working pressure by rules **224 lb.** Material of Front plates at bottom **Steel** Thickness **3 1/2"** Material of lower back plate **Steel** Thickness **3 1/8"** Greatest pitch of stays **13"** Working pressure of plate by rules **220 lb.** Diameter of tubes **5"**

Pitch of tubes **4 1/8 x 4 1/8"** Material of tube plates **Steel** Thickness: Front **3 1/2"** Back **3 1/2"** Mean pitch of stays **10.6"** Pitch across wide

Header spaces **14"** Working pressures by rules **248 lb.** **228 lb.** Girders to Chamber tops: Material **Steel** Depth and thickness of

Header at centre **8 1/2 x 1 1/2"** Length as per rule **32 5/8"** Distance apart **8 1/2"** Number and pitch of Stays in each **3: 7 1/2"**

Working pressure by rules **221 lb.** Superheater **on Steam chest**: how connected to boiler **by pipes** Can the superheater be shut off and the boiler worked

separately **no.** Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Boilers 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 **1.77 sq. ft.** Are they fitted with easing gear **yes**

J. J. Hunter
DIRECTOR

The foregoing is a correct description,
Manufacturer.

Is the approved plan of boiler forwarded herewith **Yes**

During progress of work in shops -- **1917 Oct. 15, 18, 24, 30, Nov. 5, 7, 8, 22, 27, 30, Dec. 5, 7, 10, 11, 18, 20, 1918 Jan. 9**

During erection on board vessel --- **All Machinery Report**

Total No. of visits **17.**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **Said Boilers satisfactorily fitted in the vessel 22-5-18 J. J. Hunter.**

These Boilers were built under special survey and the materials and workmanship are good. On completion they were tested as required by the Rules and found tight and sound. On a hydraulic test of the Superheater when fitted in place, three elements were found leaky at the nipple which connects the element to the Header there are to be re-expanded and should be again examined under steam.

Survey Fee ... £ 11:12:00 When applied for, **1918 Jan 25**

Travelling Expenses (if any) £ : : When received, **1918 Jan 25**

Wm. R. Austin
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute **FRI. 2-AUG. 1918**

Signed **J. J. Hunter** **27274**



See Sld. Re rpt No 27274