

Rpt. 5a.

REPORT ON BOILERS.

No. 8495.

Received at London Office **JUN. 20. 1914**

Date of writing Report **19.6.14** When handed in at Local Office **19.6.14** Port of **Middleborough**

No. in Survey held at **Stockton-on-Tees** Date, First Survey **April. 21st** Last Survey **June 8th** 1914.

Reg. Book. **11** on the **S.S. "Brook"** (Number of Visits **11**) } Gross Tons } Net

Master Built at **South Bank** By whom built **Smith's Dock & Fin^y** When built

Engines made at By whom made When made

Boilers made at **Stockton** By whom made **Messrs Blair & Co. Ltd (No. J. 245)** When made **1914**

Registered Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY. Manufacturers of Steel **John Spencer & Sons**

Letter for record **(5)** Total Heating Surface of Boilers **1820 sq ft** Is forced draft fitted **no** No. and Description of Boilers **One single ended** Working Pressure **180** Tested by hydraulic pressure to **360** Date of test **8.6.14**

No. of Certificate **5319** Can each boiler be worked separately Area of fire grate in each boiler **53 sq ft** No. and Description of safety valves to each boiler **two direct spring** Area of each valve **5.9 sq in** Pressure to which they are adjusted **185 lbs**

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

Smallest distance between boilers or uptakes and bunkers or woodwork **9"** Inside Manilla. of boilers **13'-9"** Length **11'-1 1/2"**

Material of shell plates **steel** Thickness **1 1/8"** Range of tensile strength **28-32** Are the shell plates welded or flanged **no**

Descrip. of riveting: cir. seams **2-R. lap** Long. seams **2 B - 3 Riv** Diameter of rivet holes in long. seams **1 3/8"** Pitch of rivets **8 3/8"**

Gap of plates or width of butt straps **17 3/4 x 1 1/8"** Per centages of strength of longitudinal joint rivets **88.6** Working pressure of shell by plate **85.67**

Rules **183** Size of manhole in shell **16" x 12"** Size of compensating ring **7 1/2 x 1 1/8"** No. and Description of Furnaces in each boiler **3 plain** Material **steel** Outside diameter **42"** Length of plain part top **80"** Thickness of plates crown **5/16"** bottom **113"** bottom **3/16"** mean

Description of longitudinal joint **Weld** No. of strengthening rings **none** Working pressure of furnace by the rules **185** Combustion chamber plates: Material **steel** Thickness: Sides **1/8"** Back **1/8"** Top **1/8"** Bottom **1 3/8"** Pitch of stays to ditto: Sides **9 1/4 x 8 1/2"** Back **9 1/4 x 8 1/2"**

Top **9 1/4 x 9 1/4"** stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **197** Material of stays **steel** Diameter at smallest part **1.99** Area supported by each stay **81.6** Working pressure by rules **220** End plates in steam space: Material **steel** Thickness **1 1/8"**

Pitch of stays **19 1/2 x 18 1/2"** How are stays secured **nuts & washers** Working pressure by rules **195** Material of stays **steel** Diameter at smallest part **6.1**

Area supported by each stay **333** Working pressure by rules **191** Material of Front plates at bottom **steel** Thickness **1 1/8"** Material of lower back plate **steel** Thickness **1 1/8"** Greatest pitch of stays **14 1/4 x 8 1/2"** Working pressure of plate by rules **222** Diameter of tubes **3 1/2"**

Pitch of tubes **4 1/4 x 4 1/4"** Material of tube plates **steel** Thickness: Front **1 1/8"** Back **1 1/8"** Mean pitch of stays **11"** Pitch across wide water spaces **14 1/2"** Working pressures by rules **192** Girders to Chamber tops: Material **steel** Depth and thickness of girder at centre **8 1/4 x 1 3/8"** Length as per rule **33** Distance apart **9 1/4"** Number and pitch of Stays in each **3 @ 9"**

Working pressure by rules **185** Superheater or Steam chest: ~~how connected to boiler~~ **none** 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

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

SURVEY REQUEST NO. 563 ATTACHED.

The foregoing is a correct description, **22.6.14**
Geo. W. Atkinson Manufacturer.

Dates of Survey } During progress of work in shops - - } 1914. **Apr. 21. May 7. 11. 13. 19. 21. 25. 28. Jun 3. 5. 8** Is the approved plan of boiler forwarded herewith **yes**
while building } During erection on board vessel - - - } Total No. of visits **11**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under special survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results. The boiler is to be fitted on board at this port. This boiler has now been satisfactorily fitted & secured on board the vessel.**

Survey Fee £ **6-1-0** When applied for, 191...
Travelling Expenses (if any) £ :) When received, 191...

Shipping. **Wm Morrison & Co**
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute **TUE. AUG. 11. 1914**
Assigned **See minute on 78 attached**
Send Mot Rpt Mtd. 27.6.14

