Rpt. 5a.

REPORT ON BOILERS.

No. 63454

Received at London Office Newcastle-on-Tyne ~~MIDDLESBROUGH-ON-TEES.~~

Date of writing Report 18th Decr 1912 When handed in at Local Office 21st Decr 1912 Port of

No. in Reg. Book. Survey held at South Shields Date, First Survey 20th Jun. 1912 Last Survey 18th Decr 1912. (Number of Visits)

38 Sufs. on the S.S. "TREVAYLOR" Tons Gross 4249 Net 2717.

Master F. Robins Built at South Shields By whom built John Readhead & Sons Ltd When built 1912

Engines made at South Shields By whom made John Readhead & Sons Ltd. when made 1912

Boilers made at South Shields By whom made John Readhead & Sons Ltd when made 1912

Registered Horse Power ✓ Owners Hain S.S. Co Ld (E. Hain & Sons Mgrs) Port belonging to St Ives.

MULTITUBULAR BOILERS ~~MAIN~~, ~~AUXILIARY OR~~ DONKEY.—Manufacturers of Steel John Spencer & Sons Ld. ✓ (Letter for record + ✓) **Total Heating Surface of Boilers** 899 ft ✓ Is forced draft fitted No ✓ **No. and Description of Boilers** one single-ended multr ✓ **Working Pressure** 90 lbs ✓ Tested by hydraulic pressure to 180 lbs ✓ Date of test 6-11-12 No. of Certificate 8407 Can each boiler be worked separately ✓ **Area of fire grate in each boiler** 30 ft ✓ No. and Description of safety valves to each boiler Two - Spring loaded ✓ Area of each valve 7.07 □" ✓ Pressure to which they are adjusted 90 lbs ✓ Are they fitted with easing gear Yes ✓ In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No ✓ Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6" ✓ Mean dia. of boilers 10'-0 5/8" ✓ Length 10'-1" ✓ Material of shell plates Steel ✓ Thickness 5/8" ✓ Range of tensile strength 28/32 tons ✓ Are the shell plates welded or flanged No ✓ Descrip. of riveting: cir. seams D.R. Lap ✓ long. seams D.R. Lap ✓ Diameter of rivet holes in long. seams 1 3/16" ✓ Pitch of rivets 4 1/4" ✓ Lap of plates or width of butt straps 5 1/2" ✓ Per centages of strength of longitudinal joint rivets 70.8% plate 72% Working pressure of shell by rules 97 lbs Size of manhole in shell 16" x 12" ✓ Size of compensating ring 8" x 5/8" ✓ **No. and Description of Furnaces in each boiler** Two - plain ✓ Material Steel ✓ Outside diameter 36" ✓ Length of plain part top 6'-0" bottom 8'-9" Thickness of plates crown 1/2" ✓ bottom 5/8" ✓ Description of longitudinal joint S.R. Lap ✓ No. of strengthening rings ✓ Working pressure of furnace by the rules 90 lbs Combustion chamber plates: Material Steel ✓ Thickness: Sides 34/64" ✓ Back 9/16" ✓ Top 34/64" ✓ Bottom 5/8" ✓ Pitch of stays to ditto: Sides 11" x 10" ✓ Back 11" x 11" ✓ Top 10" x 10" ✓ If stays are fitted with nuts or riveted heads Nuts ✓ Working pressure by rules 90 lbs Material of stays Iron ✓ ~~Diameter~~ Area at smallest part 1.99 □" ✓ Area supported by each stay 121 □" ✓ Working pressure by rules 123 lbs ✓ End plates in steam space: Material Steel ✓ Thickness 3/4" ✓ Pitch of stays 18" x 19" ✓ How are stays secured D.N. & Doubling ✓ Working pressure by rules 93 lbs Material of stays Steel ✓ ~~Diameter~~ Area at smallest part 4.11 □" ✓ Area supported by each stay 342 □" ✓ Working pressure by rules 125 lbs Material of Front plates at bottom Steel ✓ Thickness 11/16" ✓ Material of Lower back plate Steel ✓ Thickness 11/16" ✓ Greatest pitch of stays 12" x 11" ✓ Working pressure of plate by rules 118 lbs Diameter of tubes 3 1/4" ✓ Pitch of tubes 4 1/2" ✓ Material of tube plates Steel Thickness: Front 11/16" ✓ Back 11/16" ✓ Mean pitch of stays 13 1/2" Pitch across wide water spaces 13 3/4" ✓ Working pressures by rules 90 lbs Girders to Chamber tops: Material Steel ✓ Depth and thickness of girder at centre 6 3/4" x 1 1/2" ✓ Length as per rule 26" ✓ Distance apart 10" ✓ Number and pitch of Stays in each 2-10" ✓ Working pressure by rules 117 lbs 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 ✓ 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 ✓

The foregoing is a correct description,
for John Readhead & Sons
John Readhead Junr Manufacturer.

Dates of Survey while building: During progress of work in shops - - See Machy Report; During erection on board vessel - - -

Is the approved plan of boiler forwarded herewith Yes. ✓

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under special survey, & the materials & workmanship are sound & good. It has been tested by hydraulic pressure, & the safety valves have been adjusted under steam to their working pressure. ✓

Survey Fee ... ... £ See Mach's. report.

Travelling Expenses (if any)) £

When applied for 19

When received 19

John Houston
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute TUE. DEC. 31. 1912

Assigned Ill Minute on Rwc Rpt 63454

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