

Rpt. 5a.

REPORT ON BOILERS.

No. 8102.
THU. SEP. 18. 1913

Lab Rpt. 8211

Received at London Office

Date of writing Report 101 When handed in at Local Office 101 Port of **MIDDLESBRO'**
No. in Survey held at **Stockton-on-Tees** Date, First Survey **17th April/13** Last Survey **6th Sept 1913**
Reg. Book. on the **Steel screw steamer "Penistone"** (Number of Visits **9**) Gross Tons **159** Net Tons
Master **Thornaby** Built at **Thornaby** By whom built **Craig Taylor & Co** When built **1913**
Engines made at **Stockton** By whom made **Thornaby & Co** When made **1913**
Boilers made at **Stockton** By whom made **Riley Bros Ltd (No. 4458)** When made **1913**
Registered Horse Power Owners Port belonging to

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

(Letter for record **(S)**) Total Heating Surface of Boilers **863 sq. ft.** Is forced draft fitted **no** No. and Description of Boilers **One S.E. cyl. mult.** Working Pressure **120 lbs** Tested by hydraulic pressure to **240** Date of test **6.9.13**

No. of Certificate **5147** Can each boiler be worked separately **✓** Area of fire grate in each boiler **29 sq. ft.** No. and Description of safety valves to each boiler **2 direct spring** Area of each valve **4.91 sq. in.** Pressure to which they are adjusted **125**

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 **14"** Int. Mean dia. of boilers **10'-0"** Length **10'-0"**

Material of shell plates **Steel** Thickness **5/8"** Range of tensile strength **28-32** Are the shell plates welded or flanged **no**

Descrip. of riveting: cir. seams **BR Lap** long. seams **BR 3 rivets** Diameter of rivet holes in long. seams **15/16"** Pitch of rivets **5 1/2"**

Top of plates or width of butt straps **9 1/2" x 8"** Per centages of strength of longitudinal joint rivets **90** Working pressure of shell by rules **122 lbs** Size of manhole in shell **19" x 15"** Size of compensating ring **7" x 1"** No. and Description of Furnaces in each boiler **Two plain** Material **Steel** Outside diameter **36"** Length of plain part **77"** Thickness of plates **5/8"** crown **7/8"** bottom **7/8"** mean

Description of longitudinal joint **Weld** No. of strengthening rings **None** Working pressure of furnace by the rules **151** Combustion chamber plates: Material **Steel** Thickness: Sides **7/8"** Back **5/8"** Top **9/16"** Bottom **13/16"** Pitch of stays to ditto: Sides **9 1/4" x 8"** Back **10" x 9"**

Top **9" x 8"** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **146** Material of stays **Steel** Area at smallest part **1.45** Area supported by each stay **90** Working pressure by rules **129** End plates in steam space: Material **Steel** Thickness **7/8"**

Pitch of stays **16" x 17"** How are stays secured **Nuts & 7 x 2 washers** Working pressure by rules **120** Material of stays **Steel** Area at smallest part **4.11**

Area supported by each stay **255** Working pressure by rules **168** Material of Front plates at bottom **Steel** Thickness **7/8"** Material of Lower back plate **Steel** Thickness **7/8"** Greatest pitch of stays **13" x 9"** Working pressure of plate by rules **212** Diameter of tubes **3 1/2"**

Pitch of tubes **4 5/8" x 4 1/2"** Material of tube plates **Steel** Thickness: Front **7/8"** Back **5/8"** Mean pitch of stays **10 7/16"** Pitch across wide water spaces **14 1/2"** Working pressures by rules **121 lbs** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **6 1/2" x 1 1/4"** Length as per rule **27"** Distance apart **9"** Number and pitch of Stays in each **2 @ 8"**

Working pressure by rules **121 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 **✓**

SURVEY REQUEST NO. **664** ATTACHED

FOR THE FOREGOING IS A CORRECT DESCRIPTION, RILEY BROS. (BOILERMAKERS) LIMITED, 189-13

Wm Morrison & Sons, DIRECTOR, Manufacturer.

Dates of Survey During progress of work in shops -- **1913. April 17. June 14. July 23. 25. 31.** Is the approved plan of boiler forwarded herewith **yes**
while building During erection on board vessel -- **Aug. 9. 12. 26. Sep. 2. 6.** Total No. of visits **10.**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

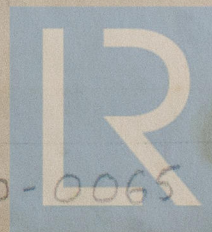
This boiler has been constructed under Special Survey, is of good material and workmanship, and has been tested by hydraulic pressure with satisfactory results. It is to be fitted on board the vessel at this port.

Survey Fee ... £ **2 : 18** : When applied for. **Monthly a/c**
Travelling Expenses (if any) £ : : When received, **191**

This boiler has now been satisfactorily secured on board, examined under steam & safety valves adjusted
Wm Morrison & Sons
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute TUE. DEC. 2-1913

Assigned **Ed Minute on**
Lab Rpt 8211



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