

REPORT ON BOILERS.

No. 28857.

Received at London Office **WED. JUL 9 1924**

Date of writing Report **19** When handed in at Local Office **30 June 1924** Port of **Sunderland**

No. in Survey held at **Sunderland** Date, First Survey **June 20 1924** Last Survey **June 20 1924**

Reg. Book. on the **new steel S/S "THISTLEBEN"** (Number of Visits) Gross **4589** Tons Net **2688**

Master Built at **Sunderland** By whom built **W. Pickering & Sons Ltd (S/S No 210)** When built **1924**

Engines made at **Sunderland** By whom made **Richardson Westgarth & Co. Ltd (No 2643)** When made **1924**

Boilers made at **Sunderland** By whom made **Richardson Westgarth & Co. Ltd (No 2643B)** When made **1924**

Registered Horse Power Owners **Alan Black & Co.** Port belonging to **Sunderland**

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.

Manufacturers of Steel **John Spence & Sons Ltd**

(Letter for record **(S)**) Total Heating Surface of Boilers **1362 sq ft** Is forced draft fitted **no** No. and Description of Boilers **One single ended marine** Working Pressure **180** Tested by hydraulic pressure to **320** Date of test **12-11-23**

No. of Certificate **3858** Can each boiler be worked separately **yes** Area of fire grate in each boiler **38 sq ft** No. and Description of safety valves to each boiler **two direct spring** Area of each valve **4.908 sq in** Pressure to which they are adjusted **185**

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** **24"** Mean dia. of boilers **12'-0"** Length **11'-0"**

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

Descrip. of riveting: cir. seams **DR** long. seams **DRS. TR** Diameter of rivet holes in long. seams **1 1/16"** Pitch of rivets **7 1/2"**

Lap of plates or width of butt straps **16"** Per centages of strength of longitudinal joint rivets **91** plate **85.8** Working pressure of shell by rules **182** Size of manhole in shell **16" x 12"** Size of compensating ring **32" x 28" x 1"** No. and Description of Furnaces in each boiler **2 Morrison** Material **steel** Outside diameter **3' 6 1/4"** Length of plain part **top** **bottom** Thickness of plates **crown** **3' 9 1/16"** **bottom** **3' 9 1/16"**

Description of longitudinal joint **welded** No. of strengthening rings **—** Working pressure of furnace by the rules **193** Combustion chamber plates: Material **steel** Thickness: Sides **1 1/16"** Back **2 1/32"** Top **1 1/16"** Bottom **3/4"** Pitch of stays to ditto: Sides **9 3/4" x 9 3/4"** Back **9 1/2" x 8 1/2"** Top **9 3/4" x 8 1/2"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **183** Material of stays **steel** Area at smallest part **1' 3/4" x 1' 3/4"** Area supported by each stay **80-60"** Working pressure by rules **189** End plates in steam space: Material **steel** Thickness **1 1/2"**

Pitch of stays **17" x 16"** How are stays secured **DNW** Working pressure by rules **180** Material of stays **steel** Area at smallest part **5' 0 1/2" x 5' 0 1/2"**

Area supported by each stay **2' 2" x 2' 2"** Working pressure by rules **196** Material of Front plates at bottom **steel** Thickness **1 3/16"** Material of Lower back plate **steel** Thickness **2 5/32"** Greatest pitch of stays **14"** Working pressure of plate by rules **184** Diameter of tubes **3 3/4"**

Pitch of tubes **4 1/2" x 4 3/8"** Material of tube plates **steel** Thickness: Front **1 3/16"** Back **2 5/32"** Mean pitch of stays **10' 7"** Pitch across wide water spaces **14 1/2" (13" DP)** Working pressures by rules **185** Girders to Chamber tops: Material **steel** Depth and thickness of girder at centre **2 @ 7 1/2" x 3 1/2"** Length as per rule **30 1/2"** Distance apart **8 1/2"** Number and pitch of Stays in each **2 @ 9 3/4"**

Working pressure by rules **191** Steam dome: description of joint to shell **none** % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

For RICHARDSONS, WESTGARTH & Co. LIMITED

The foregoing is a correct description,

Hedley St. Russell

Manufacturer.

MANAGER, SUNDERLAND WORKS.

Dates of Survey During progress of work in shops - - - Please see Machinery report Is the approved plan of boiler forwarded herewith

while building During erection on board vessel - - - Total No. of visits

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

The workmanship and materials are good

The boiler has been constructed under special survey

Survey Fee ... Included in charges: When applied for, 19

Travelling Expenses (if any) £ fee: When received, 19

S. C. Davis.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUES. 15 JUL 1924

See other rpt Std 28857



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Foundation