

REPORT ON BOILERS.

No. 94780

Received at London Office 6 MAR 7

Date of writing Report 19 When handed in at Local Office 5/3/1037 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle on Tyne Date, First Survey 16 July Last Survey 4/3/1937

Reg. Book. on the Steel S. Motor Tanker ABBEYDALE. (Number of Visits) Gross 8299 Net 4936 Tons

Master Built at Newcastle on Tyne By whom built Swan, Hunter & Wigham Richardson & Co. Yard No. 1506 When built 1937

Engines made at Sunderland By whom made W. Dorriford & Sons Ltd Engine No. When made 1937

Boilers made at Newcastle on Tyne By whom made Swan Hunter & Wigham Richardson & Co. Boiler No. 1506 When made 1937

Donkey Boiler Nominal Horse Power 173. Owners The Admiralty Port belonging to LONDON

WASTE HEAT ⁸/₁₀ OIL FIRED

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Coy of Scotland Furnaces by Parkgate St & S. C. Rotherham (Letter for Record S.)

Total Heating Surface of Boilers 2595 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil fired & / or Waste Exh Gas.

No. and Description of Boilers One S. ended Cylindrical Multitubular "Scotch" Working Pressure 150 lb/sq. in.

Tested by hydraulic pressure to 275 lb Date of test 27/11/36 No. of Certificate 693. Can each boiler be worked separately Yes

Area of Firegrate in each Boiler Oil fired No. and Description of safety valves to each boiler 2-2 3/4" Cockburn Improved High lift Spring loaded.

Area of each set of valves per boiler per Rule 9.85 as fitted 11.84 Pressure to which they are adjusted 150 lb Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No Main Boilers are fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork 16" Is oil fuel carried in the ^{bunker} double bottom under boilers Yes

Smallest distance between shell of boiler and ^{OF Bunker} tank top plating 16" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 13'-4 1/2" Length 11'-6" Shell plates: Material Steel Tensile strength 30/34 tons

Thickness 7/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end DR lap. inter. none

long. seams T.R. Dble Butt Strap Diameter of rivet holes in circ. seams 1" long. seams 15/16" Pitch of rivets 3.24" 6.625"

Percentage of strength of circ. end seams plate 69.18 rivets 42.41 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.84 rivets 85.55 combined 88.80 Working pressure of shell by Rules 151.

Thickness of butt straps outer 21/32 inner 25/32 No. and Description of Furnaces in each Boiler Two at Wings - Deighton Corrugated. Plain tube at Centre back for access.

Material Steel Tensile strength 26/30 Smallest outside diameter 37 1/16"

Length of plain part top 2'-4" bottom 2'-4" C.C. bott. Thickness of plates crown 13/32 bottom 7/8" C.C. bott. Description of longitudinal joint furnace fire welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 155 lb.

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 1/2" Pitch of stays 18" x 18"

How are stays secured Dble nuts & washers Working pressure by Rules 151.5 lb.

Tube plates: Material front Steel back Steel Tensile strength 26/30 tons Thickness 7/8" 5/8"

Mean pitch of stay tubes in nests 9.375" Pitch across wide water spaces 13 1/2" x 7 3/8" Working pressure front 159 lb back 156 lb

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 lb. Depth and thickness of girder

at centre 7 5/8" x 1 1/4" Length as per Rule 30 2 1/32" Distance apart 8 3/4" (max at cr.) No. and pitch of stays

in each 2 7 9 3/8" Working pressure by Rules 151 lb Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 5/8" Back 3/4" Top 5/8" Bottom 5/8" C.C. mang & side stays

Pitch of stays to ditto: Sides 9 1/2" x 9 3/8" Back 9 x 9 C.C. Top 9 3/8" x 8 3/4" Are stays fitted with nuts or riveted over are riveted both ends.

Working pressure by Rules 152 lb. Front plate at bottom: Material Steel Tensile strength 26/30 tons Thickness 3/4"

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 3/4"

Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over Nuts

Working Pressure 172 lb. Main stays: Material Steel Tensile strength 28/32 tons

Diameter At body of stay, 2 3/4" No. of threads per inch 6 Area supported by each stay (18 x 18) - 4.57 sq. in.

Over threads, others 2 5/8" Working pressure by Rules 155 lb. Screw stays: Material Steel Tensile strength 26/30 tons

Diameter At turned off part, 1 1/2" + 1 5/8" No. of threads per inch 9. Area supported by each stay (9 3/8" x 8 3/8") - 1.45 sq. in. C.C. tops.

Working pressure by Rules 155 lb. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part. 1 5/8" or Over threads 1 5/8"

No. of threads per inch 9 Area supported by each stay (11 1/2 x 9) - 1.73 sq Working pressure by Rules 152 lb.

Tubes: Material IRON External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 10 W.G. 3/8" x 5/16" No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 229 lb. min. at side Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 8" x 7/8" x 2" No. of rivets and diameter of rivet holes 32 of 1 1/4"

Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged 2 1/2" Steam Dome: Material _____

Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____

Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint { Plate _____ Rivets _____

Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of engines made _____

stays _____ Inner radius of crown _____ Working pressure by Rules _____ Boilers made _____

How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and pitch _____

of rivets in outer row in dome connection to shell _____

Type of Superheater None

Manufacturers of { Tubes _____ Steel castings _____

Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____

Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately _____

Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____

Area of each safety valve _____ Are the safety valves fitted with easing gear _____ Working pressure as per _____

Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____

tubes _____, castings _____ and after assembly in place _____ Are drain cocks or valves fitted _____

to free the superheater from water where necessary _____

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

G. J. Swady

Manufacturer

Dates of Survey { During progress of work in shops - - } while building { During erection on board vessel - - }

See Mchly Report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

DIRECTOR 23/11/35

Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. British Fame Nov Rpt 94124. British Endurance " " 94275.

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

This Donkey Boiler has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. The Boiler is fitted on top of the oil fuel bunker in the Boiler Space forward of Engine Room, having access from the top platform of the Engine Room.

The Boiler is fitted for burning oil fuel 3.37, flash point above 150°F. under forced draft, and also for waste exhaust gases from the Main Engines.

The Safety Valves have been adjusted under steam to 150 lbs/sq and the accumulation test was satisfactory.

Survey Fee ... £ 17.6 When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

A. Watt
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 12 MAR 1937
Assigned See Nov. S.E. 94780

