

REPORT ON BOILERS.

No. 96820

Received at London Office 001 27 1938

Date of writing Report 10 When handed in at Local Office 25/10/38 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Newcastle on Tyne Date, First Survey 13 May Last Survey 19/10/38

on the S/S "LIDA" (Number of Visits —) Tons {Gross 1387 Net 771}

Master Built at Newcastle By whom built Swan, Hunter & Wigham Richardson Yard No. 1602 When built 1938-

Engines made at Newcastle By whom made ditto Engine No. 1602 When made 1938

Boilers made at ditto By whom made ditto Boiler No. 1602 When made 1938

Nominal Horse Power Owners Polish-British S/S Co Ltd Port belonging to DANZIG

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Coy of Scotland (Letter for Record 5. ✓)

Total Heating Surface of Boilers 1925 sq. ft. Is forced draught fitted Yes ✓ Coal or Oil fired Coal fired.

No. and Description of Boilers Two. Single ended multitubular Working Pressure 210 lb. ✓

Tested by hydraulic pressure to 365 lb. Date of test 19/8/38 No. of Certificate 792. Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler 30 sq. ft. No. and Description of safety valves to each boiler Two 1½" dia. Cockburn Improved High Lift. ✓

Area of each set of valves per boiler {per Rule 2.7 sq. in. as fitted 3.52"} Pressure to which they are adjusted 210 lb. Are they fitted with easing gear Yes ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler None

Smallest distance between boilers or uptakes and bunkers or woodwork 10½" Is oil fuel carried in the double bottom under boilers No ✓

Smallest distance between shell of boiler and tank top plating 18" Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 9'10½" Length 11'6" Shell plates: Material M. Steel Tensile strength 29-33 tons/sq. in. ✓

Thickness 15/16" Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams {end D.R. lap. inter. ✓}

long. seams T.R. Dbl butt straps Diameter of rivet holes in {circ. seams 1" long. seams 15/16"} Pitch of rivets {3.117" 6 3/8" ✓}

Percentage of strength of circ. end seams {plate 67.9 rivets 42.6} Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓}

Percentage of strength of longitudinal joint {plate 85.29 rivets 85.8 combined 87.7} Working pressure of shell by Rules 213 lb. ✓

Thickness of butt straps {outer 23/32" inner 27/32"} No. and Description of Furnaces in each Boiler Two, Doughton Corrugated. ✓

Material Steel Tensile strength 26-30 tons Smallest outside diameter 2'9½" ✓

Length of plain part {top ✓ bottom ✓} Thickness of plates {crown ½" bottom ½" ✓} Description of longitudinal joint Fire weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 217 lb. ✓

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1½" Pitch of stays 12x17 5/8" ✓

How are stays secured dble nuts Working pressure by Rules 216 lb. ✓

Tube plates: Material {front } Steel Tensile strength {26-30 tons Thickness {1½" 3/4" ✓}

Mean pitch of stay tubes in nests 9 7/16" Pitch across wide water spaces 14" Working pressure {front 274 lb back 218 lb ✓}

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder at centre 9"x1 3/8" Length as per Rule 2'8 17/32" Distance apart 8½" No. and pitch of stays in each 2 at 10" Working pressure by Rules 212 lb. ✓

Tensile strength 26-30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32" ✓

Pitch of stays to ditto: Sides 8½"x10" Back 8 3/4"x9 7/8" Top 8½"x10" Are stays fitted with nuts or riveted over Nuts ✓

Working pressure by Rules 210 lb. Front plate at bottom: Material Steel Tensile strength 26-30 tons ✓

Thickness 1½" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 1½" ✓

Pitch of stays at wide water space 8 3/4"x14" Are stays fitted with nuts or riveted over Nuts ✓

Working Pressure 320 lb. Main stays: Material Steel Tensile strength 28-32 tons (12x19 1/4")-4.5. = 231 sq. in. ✓

Diameter {At body of stay, or Over threads 2 5/8" No. of threads per inch 6. Area supported by each stay 26-30 tons ✓}

Working pressure by Rules 218 lb. Screw stays: Material Steel Tensile strength (8 1/2"x10)-1.75 = 83.3 sq. in. ✓

Diameter {At turned off part, or Over threads 1 3/4" No. of threads per inch 9. Area supported by each stay 26-30 tons ✓}

Working pressure by Rules 218 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 1/8" or Over threads 1 1/8"
No. of threads per inch 9 Area supported by each stay (11 7/8 x 8 3/4) - 2 = 99.7 Working pressure by Rules 214 lbs
Tubes: Material Steel External diameter { Plain 3" Stay 3" Thickness { 8.44 No. of threads per inch 9
Pitch of tubes 4 1/4 x 4 1/4" Working pressure by Rules 215 lbs Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 15 1/6" x 18 1/2" No. of rivets and diameter of rivet holes 32 x 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 stays _____
Inner radius of crown _____ Working pressure by Rules _____
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 Superheater Co. Manchester Manufacturers of { Tubes Tubes Ltd, Aston, Birmingham Steel forgings Superheater Co. Manchester Steel castings See Manchester Certificate F6198
Number of elements 24 each boiler Material of tubes S. D. Steel Internal diameter and thickness of tubes 17 mm, 2.5 mm
Material of headers Forged Steel Tensile strength 26-30 tons Thickness 3/4" Can the superheater be shut off and the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes
Area of each safety valve 1.767 Are the safety valves fitted with easing gear Yes Working pressure as per Rules 210 lbs Pressure to which the safety valves are adjusted 210 lbs Hydraulic test pressure: tubes 1000 lbs forgings and castings 630 lbs and after assembly in place 420 lbs Are drain cocks or valves fitted to free the superheater from water where necessary Yes
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. Sturdy Manufacturer.

Dates of Survey { During progress of work in shops - - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - - } See Machinery Report Dec. 10/1/38
Total No. of visits Super 21/4/38

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. PUCK Twe. No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
These Boilers have been constructed under special survey in accordance with the Rules & approved plans. The materials & workmanship are good.
The Boilers have been fitted on board the Vessel, tried under working conditions and found satisfactory

Survey Fee ... £ See Rpt H. When applied for, 10
Travelling Expenses (if any) £ on Receipt When received, 10

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

Committee's Minute _____
Assigned See F. C. Rpt.

TUE 1 NOV 1938