

REPORT ON BOILERS.

No. 397/95.

Received at London Office 23 APR 1929

Date of writing report 19.4.1929 When handed in at Local Office 19.4.1929 Port of HULL.

No. in Surrey held at Hull. Date, First Survey 25 Oct 1928 Last Survey 12 April 1929.

61616 on the Steam Trawler "LARWOOD" (Number of Visits 22) Gross 31898 Tons Net 14586.

Master Built at Selby. By whom built Cochrane & Sons Ltd Yard No. 1042 When built 1929

Engines made at Hull By whom made Amos & Smith Ltd Engine No. 545 When made 1929

Boilers made at Hull By whom made do Boiler No. 545 When made 1929

Nominal Horse Power 91 Owners The Campion S. Fishing Co Ltd Port belonging to Grimsby.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Iron & Steel Co Ltd. (Letter for Record 5)

Total Heating Surface of Boilers 1546 Sq. feet. Is forced draught fitted No. Coal or Oil fired Coal

No. and Description of Boilers One single ended return tube Working Pressure 200 lbs.

Tested by hydraulic pressure to 350 lbs. Date of test 14.3.29 No. of Certificate 3699. Can each boiler be worked separately

Area of Firegrate in each Boiler 45 sq. ft. No. and Description of safety valves to each boiler Two spring loaded.

Area of each set of valves per boiler per Rule 9.0 sq. as fitted 9.8 sq. Pressure to which they are adjusted 200 lbs. 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 4" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 14'-0" Length 10'-9" Shell plates: Material Steel Tensile strength 29/33 Tons.

Thickness 1 1/4" Are the shell plates welded or flanged Description of riveting: circ. seams end D.R. inter. Pitch of rivets 3 7/8"

long. seams T.R. S.B.S. Diameter of rivet holes in circ. seams 19/32" long. seams 32" Pitch of rivets 8 1/2"

Percentage of strength of circ. end seams plate 66.9 rivets 42.2 Percentage of strength of circ. intermediate seam plate 84.9 rivets 90.3

Percentage of strength of longitudinal joint plate 84.9 rivets 90.3 combined Working pressure of shell by Rules 201 lbs.

Thickness of butt straps outer 1 1/4" inner 1 1/6" No. and Description of Furnaces in each Boiler Three, plain.

Material Steel Tensile strength 26/30 Tons. Smallest outside diameter 41 7/8"

Length of plain part top 80" bottom 84" Thickness of plates crown 13/16" bottom 1 1/6" Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom 3 1/2" x 3 1/2" x 1 3/8" Working pressure of furnace by Rules 208 lbs.

End plates in steam space: Material Steel Tensile strength 26/30 Tons. Thickness 1 3/16" Pitch of stays 21" x 16"

How are stays secured Double nuts & washers. Working pressure by Rules 200 lbs.

Tube plates: Material front Steel back Tensile strength 26/30 Tons. Thickness 15/16" 7/8"

Mean pitch of stay tubes in nests 10.1" Pitch across wide water spaces 14" Working pressure front 208 lbs. back 220

Girders to combustion chamber tops: Material Steel Tensile strength 29/33 Tons. Depth and thickness of girder at centre 9 1/4" x 1 3/4" Length as per Rule 36" Distance apart 9" No. and pitch of stays in each 3 @ 8" Working pressure by Rules 204 lbs. Combustion chamber plates: Material Steel Tensile strength 26/30 Tons. Thickness: Sides 1 1/6" Back 1 1/6" Top 1 1/6" Bottom 1 1/6" Pitch of stays to ditto: Sides 10" x 8" Back 9 7/8" x 8 1/2" Top 9" x 8" Are stays fitted with nuts or riveted over nuts Working pressure by Rules 205 lbs. Front plate at bottom: Material Steel Tensile strength 26/30 Tons. Thickness 15/16" Lower back plate: Material Steel Tensile strength 26/30 Tons. Thickness 7/8" Pitch of stays at wide water space 14" x 9" Are stays fitted with nuts or riveted over nuts Working Pressure 250 lbs. Main stays: Material Steel Tensile strength 28/32 Tons. Diameter At body of stay, 3 1/4" or Over threads No. of threads per inch 6 Area supported by each stay 336 sq. inches Working pressure by Rules 240 lbs. Screw stays: Material Steel Tensile strength 26/30 Tons. Diameter At turned off part, 1 7/8" or Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 81.75 sq. inches

Working pressure by Rules 222 lbs. Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part,} 2" and 1 7/8"
 No. of threads per inch 9 Area supported by each stay 101.25 Working pressure by Rules 200 lbs.
 Tubes: Material Iron External diameter ^{Plain} 3 1/2" Thickness ^{Stay} 3/8" - 5/16" No. of threads per inch 9
 Pitch of tubes 5 1/2" x 5" Working pressure by Rules 215 lbs. Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 56 7/8" dia. No. of rivets and diameter of rivet holes
 Outer row rivet pitch at ends _____ Depth of flange if manhole flanged _____ Steam Dome: Material Steel
 Tensile strength 26/30 Tons. Thickness of shell 3/4" Description of longitudinal joint S.R. Lap
 Diameter of rivet holes 1" Pitch of rivets 2 1/4" Percentage of strength of joint ^{Plate} 54.
 Internal diameter 36" Working pressure by Rules _____ Thickness of crown 15 1/16" Rivets 43.6
 stays Two @ 2 1/2" Inner radius of crown _____ Working pressure by Rules _____
 How connected to shell Riveted Size of doubling plate under dome 56 7/8" dia. Diameter of rivet holes and pitch
 of rivets in outer row in dome connection to shell 1 1/4" @ 10 1/4"

Type of Superheater _____ Manufacturers of ^{Tubes} _____
 Number of elements _____ Material of tubes _____ ^{Steel castings} _____
 Material of headers _____ Tensile strength _____ Internal diameter and thickness of tubes _____
 the boiler be worked separately _____ Thickness _____ Can the superheater be shut off and
 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 23 inclusive for boilers been complied with
 For AMOS & SMITH LTD.

The foregoing is a correct description,

 MANAGER
 Manufacturer.

Dates of Survey ^{During progress of work in shops --} See attached report Are the approved plans of boiler and superheater forwarded herewith
 while building ^{During erection on board vessel --} on Machy. (If not state date of approval.)
 Total No. of visits ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey & in accordance with the approved plan & the materials & workmanship are sound & good. It has been satisfactorily fitted on board, tried under working conditions, & its safety valves adjusted as above.

Survey Fee £192 When applied for, ✓ 192
 Travelling Expenses (if any) £ _____ When received, ✓ 192

John Mackinlay
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 26 APR 1929
 Assigned See report attached

