

REPORT ON BOILERS.

No. 18570

Received at London Office 11 JUL 1936

Date of writing Report 9th July 1936 When handed in at Local Office 9th July 1936 Port of Aberdeen.

No. in Reg. Book. Surrey held at Aberdeen.

Date, First Survey

See machine notes 192

on the Trawler "MOUNT KEEN"

(Number of Visits)

Gross 258.27
Net 112.83

Master Built at Aberdeen By whom built John Lewis & Sons Ltd Yard No. 134 When built 1936.

Engines made at Aberdeen By whom made John Lewis & Sons Ltd Engine No. 216 When made 1936

Boilers made at " By whom made " " " Boiler No. 180 When made 1936.

Nominal Horse Power 88.5 Owners Dodds Steam Tug Co Ltd Port belonging to Aberdeen

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. T. Shillies Ltd. (Letter for Record S. ✓)

Total Heating Surface of Boilers 1615 Square feet Is forced draught fitted No ✓ Coal or Oil fired Coal ✓

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

Tested by hydraulic pressure to 350 lbs. Date of test 11/6/36. No. of Certificate 1124 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 44.5 sq. ft. No. and Description of safety valves to each boiler 2 Direct Spring loaded ✓

Area of each set of valves per boiler {per Rule 9.38 as fitted 9.82 Pressure to which they are adjusted 205 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 well clear. Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating No tank Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 12'-9 3/4" Length 10'-6" Shell plates: Material Steel Tensile strength 29/33 tons ✓

Thickness 1 1/8" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end D.R.L. ✓

long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 3/16" Pitch of rivets {3 1/2" ✓

Percentage of strength of circ. end seams {plate 66.0% rivets 44.5% Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 85.8% rivets 87.3% combined 89.2% Working pressure of shell by Rules 200.5 lbs. ✓

Thickness of butt straps {outer 27/32" ✓ inner 1 1/32" ✓ No. and Description of Furnaces in each Boiler 3 Plain ✓

Material Steel Tensile strength 26 to 30 tons ✓ Smallest outside diameter 3'-0" ✓

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 3/4" ✓ bottom 3/4" ✓ Description of longitudinal joint Weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 206.6 lbs. ✓

End plates in steam space: Material Steel Tensile strength 26/30 tons ✓ Thickness 1 1/16" Pitch of stays 14" x 14 1/2" ✓

How are stays secured Double nuts. Working pressure by Rules 201.5 lbs. ✓

Tube plates: Material {front Steel ✓ back Steel ✓ Tensile strength {26/30 tons ✓ Thickness {1 5/16" ✓ 1 3/16" ✓

Mean pitch of stay tubes in nests 10.684" Pitch across wide water spaces 14 1/2" Working pressure {front 202 lbs. ✓ back 208.5 lbs. ✓

Girders to combustion chamber tops: Material Steel Tensile strength 29/33 tons ✓ Depth and thickness of girder

at centre 2-4 1/2" x 1/16" Length as per Rule 2'-6" Distance apart 4 1/2" No. and pitch of stays

in each 2-9 3/8" Working pressure by Rules 205.5 lbs. ✓ Combustion chamber plates: Material Steel ✓

Tensile strength 26/30 tons ✓ Thickness: Sides 2 1/32" Back 1/16" Top 2 1/32" Bottom 2 1/32" ✓

Pitch of stays to ditto: Sides 9 3/8" x 7 7/8" Back 8" x 9 1/2" Top 9 3/8" x 7 1/2" Are stays fitted with nuts or riveted over nuts. ✓

Working pressure by Rules 200 lbs. ✓ Front plate at bottom: Material Steel Tensile strength 26/30 tons ✓

Thickness 1 5/16" ✓ Lower back plate: Material Steel Tensile strength 26/30 tons ✓ Thickness 1 3/16" ✓

Pitch of stays at wide water space 14" x 8 1/4" Are stays fitted with nuts or riveted over nuts. ✓

Working Pressure 203.9 lbs. ✓ Main stays: Material Steel Tensile strength 28/32 tons ✓

Diameter {At body of stay, or Over threads 2 3/4" x 2 5/8" ✓ No. of threads per inch 6 Area supported by each stay 246.5 ✓

Working pressure by Rules 201.5 lbs. ✓ Screw stays: Material Steel Tensile strength 26/30 ✓

Diameter {At turned off part, or Over threads 1 5/8" ✓ No. of threads per inch 9 Area supported by each stay 46 ✓

Working pressure by Rules 200.3 lbs^2 Are the stays drilled at the outer ends *No* ✓ Margin stays: Diameter { At turned off part, $1\frac{3}{4}$ " ✓
 No. of threads per inch 9 ✓ Area supported by each stay 90.75 in^2 ✓ Working pressure by Rules 200 lbs^2 ✓
 Tubes: Material *L.W.W.I.* ✓ External diameter { Plain $3\frac{1}{2}$ " ✓
 Stay $3\frac{1}{2}$ " ✓ Thickness { $\frac{1}{4}$ " & $\frac{5}{16}$ " ✓ No. of threads per inch 9 ✓
 Pitch of tubes $4\frac{3}{4} \times 4\frac{3}{4}$ ✓ Working pressure by Rules 207 ✓ Manhole compensation: Size of opening in
 shell plate $19\frac{1}{2} \times 15\frac{1}{2}$ ✓ Section of compensating ring $4" \times 1\frac{1}{16}"$ ✓ No. of rivets and diameter of rivet holes $40 - 1\frac{3}{16}"$ ✓
 Outer row rivet pitch at ends $8\frac{3}{8}$ ✓ Depth of flange if manhole flanged ✓ 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
 Number of elements Material of tubes Manufacturers of { Tubes
 Steel castings
 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 23 inclusive for boilers been complied with *Yes*

For JOHN LEWIS & SONS LTD.
The foregoing is a correct description,
 J. G. G. Secretary Manufacturer.

Dates of Survey { During progress of work in shops - - }
 while building { During erection on board vessel - - }
 Please see mach. rkt.
 Are the approved plans of boiler and superheater forwarded herewith *Yes*
 (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 constructed under special survey in accordance with the Rules and approved plan.*
The materials & workmanship are good.
This boiler has been securely fitted on board the vessel, examined under working conditions found good.
The safety valves have been adjusted under steam & stand & satisfactorily tested for accumulation.

Survey Fee ... £ *See mach. rkt.* When applied for, 192
 Travelling Expenses (if any) £ : : When received, 192

J. A. survey & Blunders
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 14 JUL 1936
 Assigned *See Abn. 26 18570*