

REPORT ON BOILERS.

No. 122077

Received at London Office.

Date of writing Report... 1944... When handed in at Local Office... 19... Port of...
 No. in Reg. Book... Survey held at... Lytham & Preston... Date, First Survey... 1/10/43... Last Survey... 21/12/1944
 on the... Steel screw "FRESH TARN"
 (Number of Visits... 51...)
 Tons { Gross... 888.91
 Net... 92.82
 Master... Built at... Lytham... By whom built... Lytham & Preston... Yard No... 875... When built... 1944.
 Engines made at... Lytham... By whom made... Lytham & Preston... Engine No... 555... When made... 1944.
 Boilers made at... - do -... By whom made... - do -... Boiler No... 554... When made... 1944.
 Nominal Horse Power... 90... Owners... The Admiralty... Port belonging to... London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel... Shew & Co. of Scotland, ENDS. Calcutta & Internals... Bonsett Iron Co. (Letter for Record... 30/3)
 Total Heating Surface of Boilers... 1600 sq ft... Is forced draught fitted... yes... Coal or Oil fired... coal...
 No. and Description of Boilers... One single ended multitubular cylindrical (heated) type... Working Pressure... 180 lb/sq in.
 Tested by hydraulic pressure to... 320 lb/sq in... Date of test... 31-8-44... No. of Certificate... 2655... Can each boiler be worked separately...
 Area of Firegrate in each Boiler... 46.5 sq ft... No. and Description of safety valves to each boiler... Two 2 3/4" dia. Spring Loaded...
 Area of each set of valves per boiler... 10.25 sq ft... Pressure to which they are adjusted... 180 lb/sq in... 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... 8 1/2" Is oil fuel carried in the double bottom under boilers...
 Smallest distance between shell of boiler and tank top plating... Is the bottom of the boiler insulated...
 Largest internal dia. of boilers... 12' 9 1/2" Length... 10' 6" Shell plates: Material... Steel... Tensile strength... 29-32 Tons/sq in.
 Thickness... 1 1/32" Are the shell plates welded or flanged... Description of riveting: circ. seams { end... D.P.
 long. seams... T.R. D.R.S. Diameter of rivet holes in { circ. seams... 1 3/32"
 long. seams... 1 3/32" Pitch of rivets { 3 3/8"
 Percentage of strength of circ. end seams { plate... 67%
 rivets... 48.8% Percentage of strength of circ. intermediate seam { plate...
 rivets... 85.8%
 Percentage of strength of longitudinal joint { plate...
 rivets... 84% Working pressure of shell by Rules... 182.2
 combined... 89%
 Thickness of butt straps { outer... 25/32"
 inner... 29/32" No. and Description of Furnaces in each Boiler... Dargitons Type 3 Stiller Burner...
 Material... Steel... Tensile strength... 26-30 Tons... Smallest outside diameter... 33 5/8"
 Length of plain part { top...
 bottom... Thickness of plates { crown... 7/16"
 bottom... 7/16" Description of longitudinal joint... Welded...
 Dimensions of stiffening rings on furnace or c.c. bottom... Working pressure of furnace by Rules...
 End plates in steam space: Material... Steel... Tensile strength... 26-30 Tons... Thickness... 1 3/32" Pitch of stays... 1 7/8" x 1 7/8"
 How are stays secured... Double Nuts... Working pressure by Rules... Allowed...
 Tube plates: Material { front... Steel... Tensile strength... 26-30 Tons/sq in... Thickness... 7/8"
 back... " " " " " " Working pressure { front... Allowed
 back... - do -
 Mean pitch of stay tubes in nests... 9 x 11 3/32" Pitch across wide water spaces... 14 1/2" Working pressure { front... Allowed
 back... - do -
 Ribs to combustion chamber tops: Material... Steel... Tensile strength... 28-32 Tons/sq in... Depth and thickness of girder
 centre... 8 3/8" x 1 5/16" (Double Plates) Length as per Rule... 31 1/2" Distance apart... 11" No. and pitch of stays
 each... Two at 9 7/8" Working pressure by Rules... Allowed... Combustion chamber plates: Material... Steel...
 Tensile strength... 26-30 Tons/sq in... Thickness: Sides... 3/4" Back... 3/4" Top... 3/4" Bottom... 3/4"
 Pitch of stays to ditto: Sides... 10 3/4" x 9 7/8" Back... 10 x 9 7/8" Top... 11 x 9 7/8" Are stays fitted with nuts or riveted over... Nuts...
 Working pressure by Rules... Allowed... Front plate at bottom: Material... Steel... Tensile strength... 26-30 Tons/sq in...
 Thickness... 7/8" Lower back plate: Material... Steel... Tensile strength... 26-30 Tons/sq in... Thickness... 7/8"
 Pitch of stays at wide water space... 14 3/4" x 10" Are stays fitted with nuts or riveted over... Nuts...
 Working pressure... Allowed... Main stays: Material... Steel... Tensile strength... 28-32 Tons/sq in...
 Diameter { At body of stay... 2 5/8"
 Over threads... 3" No. of threads per inch... 6... Area supported by each stay... 289 sq in.
 Working pressure by Rules... Allowed... Screw stays: Material... Steel... Tensile strength... 26-30 Tons/sq in...
 Diameter { At turned off part... 1 7/8"
 Over threads... 1 3/8" No. of threads per inch... 9... Area supported by each stay... 1048, 1065.

Working pressure by Rules. *Approved*. Are the stays drilled at the outer ends. *No*. Margin stays: Diameter { At turned off part. *1.86* " or Over threads. *2* " No. of threads per inch. *9* Area supported by each stay. *128.75* "² Working pressure by Rules. *Approved*. Tubes: Material. *Seamless Steel* External diameter { Plain. *3 1/4* " Stay. *3 1/4* " Thickness { *8* WG. *1/4* " *3/16* " No. of threads per inch. *9* Pitch of tubes. *4 1/2* " x *4 9/16* " x *1/16* " Working pressure by Rules. *Approved* Manhole compensation: Size of opening shell plate. *20* " x *16* " Section of compensating ring. *2 1/2* " x *2 1/2* " x *1/16* " No. of rivets and diameter of rivet holes. *32* @ *1 1/4* " Outer row rivet pitch at ends. *9* " Depth of flange if manhole flanged. *3 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 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. *✓* Manufacturers of { Tubes. *✓* Steel forgings. *✓* 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 from 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 Rules. *✓* Pressure to which the safety valves are adjusted. *✓* Hydraulic test pressure tubes. *✓* forgings and castings. *✓* and after assembly in place. *✓* Are drain cock 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,
ENGINEERING COMPANY, LIMITED
R. Friedenthal

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

Is this Boiler a duplicate of a previous case. *yes*. If so, state Vessel's name and Report No. *"Greenford" Ser. Rpt. No. 121446.*

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

This boiler has been constructed under special survey and in accordance with the approved plan & the Society's Rules. The materials & workmanship are sound and good.

The boiler has been satisfactorily fitted on board, examined under steam and the safety valves adjusted under steam to the approved working pressure.

It is eligible in my opinion to be classed in the Register Book with notation:-

ISR. FR. - 30P - 180 LB/IN²

Survey Fee *Included on* : When applied for. *19*.....
Travelling Expenses (if any) £ *Machinery Report.* : When received. *19*.....

J.R. Lindley

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned

Transmit to L.R.

FRI. 19 JAN 1945

See F.E. machy. rpt.

Lloyd's Register
Foundation