

REPORT ON BOILERS.

No. 133944

Received at London Office

27 OCT 1951

of writing Report.....19..... When handed in at Local Office.....19..... Port of LIVERPOOL

Survey held at Birkenhead Date, First Survey 25/10/50 Last Survey 26/6/51

326 on the "BENIN PALM" (Number of Visits 42) Tons { Gross 5424 Net 3203

at Wesvina G By whom built Deutsche Sch-u-Masch AG Sack. Yard No. When built 1936-9.

ines made at " By whom made " Engine No. When made "

ers made at Birkenhead By whom made Cammell, Laird & Co. Ltd. Boiler No. 2361 When made 1951

MN 832 Owners Palm Line Ltd. Port belonging to Liverpool

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles, Ltd. and Firdingham Iron & Steel Co. (Letter for Record S)

Heating Surface of Boilers 7060 sq ft = 3640 Of Superheaters 2940 sq ft

for Register Book 9990 sq ft Is forced draught fitted yes Coal or Oil fired Oil

and Description of Boilers 3 S.E. Cylindrical Return Tube Working Pressure 220 lb/sq in

by hydraulic pressure to 380 lb Date of test 17.5.51 No. of Certificate 2800 P. Can each boiler be worked separately yes

of Firegrate in each Boiler — No. and Description of safety valves to each boiler one double 3" ordinary lift

of each set of valves per boiler { per Rule 12.5 0" Pressure to which they are adjusted 220 lb/sq in Are they fitted with easing gear yes

se of donkey boilers, state whether steam from main boilers can enter the donkey boiler —

test distance between boilers or uptakes and bunkers or well clear Is oil fuel carried in the double bottom under boilers No (dry tank)

test distance between shell of boiler and tank top plating 31" Is the bottom of the boiler insulated yes

test internal dia. of boilers 14'-3 5/16" Length 11'-7 3/4" Shell plates: Material Steel Tensile strength 29-33 T/0

sion welded, state name of welding Firm — Have all the requirements of the Rules for Class I vessels —

omplied with — Thickness 1 1/32" Are the shell plates welded or flanged to Description of riveting: circ. seams { end DR lap

seams T.R. Double Butt Straps Diameter of rivet holes in { circ. seams 1 7/16" Pitch of rivets { 3.768"

ntage of strength of circ. end seams { plate 61.8 Percentage of strength of circ. intermediate seam { plate —

ntage of strength of longitudinal joint { rivets 48.6 { rivets —

ntage of strength of longitudinal joint { plate 85.6 { rivets —

ntage of strength of longitudinal joint { rivets 85.76 { rivets —

ntage of strength of longitudinal joint { combined 88.42 { rivets —

ness of butt straps { outer 1 1/16" No. and Description of Furnaces in each Boiler 3 Deighlin

ness of butt straps { inner 1 3/16" Tensile strength 26-30 T/0 Smallest outside diameter 40 3/4"

ial Steel Thickness of plates 5/8" Description of longitudinal joint weld

of plain part { top 5/8" { bottom 5/8"

sions of stiffening rings on furnace or c.c. bottom —

lates in steam space: Material Steel Tensile strength 26-30 T/0 Thickness 1 5/16" Pitch of stay (19 1/2 + 22) x 19"

re stays secured Welded Large Washers

plates: Material { front Steel Tensile strength { 26-30 T/0 Thickness { 1"

plates: Material { back Steel Tensile strength { 26-30 T/0 Thickness { 7/8"

pitch of stay tubes in nests 10 5/8" Pitch across wide water spaces 14" x 8 1/2"

s to combustion chamber tops: Material Steel Tensile strength 28-32 T/0 Depth and thickness of girder

re 12' x 1 3/8" Length as per Rule 33.4" Distance apart 9 1/8" No. and pitch of stays

Welded to cc top Combustion chamber plates: Material Steel

strength 26-30 T/0 Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"

f stays to ditto: Sides 8 1/4" x 8" Back 8 1/2" x 8 1/2" Top — Are stays fitted with nuts or riveted over Welded

plate at bottom: Material Steel Tensile strength 26-30 T/0

ess 1" Lower/back plate: Material Steel Tensile strength 26-30 T/0 Thickness 15/16"

f stays at wide water space 14 3/4" x 8 1/2" Are stays fitted with nuts or riveted over Welded

tays: Material Steel Tensile strength 28-32 T/0

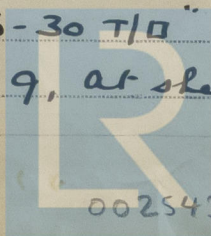
er { At body of stay 3 1/4" No. of threads per inch Welded

er { Over threads —

stays: Material Steel Tensile strength 26-30 T/0

er { At turned off part 1 1/2" No. of threads per inch 9, at shell only.

er { Over threads —



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Are the stays drilled at the outer ends. to ✓ Margin stays: Diameter 1 7/8"
 No. of threads per inch 9. at shell only ✓
 Tubes: Material Steel External diameter 3" ✓ Thickness 8 w.g. No. of threads per inch 9 ✓
 Pitch of tubes 4 1/4" x 4 1/4" ✓ Manhole compensation: Size of opening in
 shell plate 2 1/4" x 1 1/4" Section of compensating ring 2 1" x 1 1/2" ✓ No. of rivets and diameter of rivet holes 44, 1 7/16" ✓
 Outer row rivet pitch at ends 10" ✓ 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 - ✓
 Internal diameter - ✓ Thickness of crown - ✓ No. and diameter of
 stays - ✓ Inner radius of crown - ✓
 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 MELESCO Green Print Manufacturers of Tubes, Ltd. Birmingham
Steel forgings, Steel, Poulton & Toner, Sheffield
Steel castings, Crumplach, Ltd. Denby, Scotland.
 Number of elements 53 end tubes Material of tubes Steel Internal diameter and thickness of tubes 17 1/2"/in. 2.5 1/2"/in.
 Material of headers Steel Tensile strength 28-32 T/0" Thickness 7/8" 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 3.14 sq" ✓ Are the safety valves fitted with easing gear yes ✓
 Pressure to which the safety valves are adjusted 225 lbs ✓ Hydraulic test pressure
 tubes 1000 lb forgings and castings 660 lb and after assembly in place 220 lb Are drain cocks
 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 foreman DANIEL LAIRD AND COMPANY LIMITED
E. Stewart Manufacturer

Dates of Survey During progress of work in shops - - Are the approved plans of boiler and superheater forwarded herewith 29/1/58
while building During erection on board vessel - - (If not state date of approval.)
 Total No. of visits -

Is this Boiler a duplicate of a previous case to ✓ If so, state Vessel's name and Report No. - ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed
under Special Survey in accordance with the Approved Plans, the Society's Rules
and the Secretary's letters. The materials and workmanship are good.

Afterwards satisfactorily fitted on board, examined under steam,
safety valves adjusted and an accumulation test held.

See report 9 attached

C. W. Reed

Survey Fee ... £ 108 : 4 : 0 } When applied for 11 OCT 1951
 Travelling Expenses (if any) £ - : : } When received - : :

E. Stewart
 Engineer Surveyor to Lloyd's Register

Committee's Minute LIVERPOOL 16 OCT 1951
 Assigned See Minutes on Machinery Report