

REPORT ON BOILERS.

No. 10, 192

Received at London Office 17 JUN 1929

Date of writing Report

192

When handed in at Local Office 15-6-1929 Port of Belfast

No. in Reg. Book Survey held at Belfast

Date, First Survey 31st Oct 1928 Last Survey 4th June 1929

89854 on the Steel hull Steamer

DEEBANK

(Number of Visits 22)

Tons { Gross
Net

Master Built at Belfast By whom built James Workman Clark (1928) Ltd. Yard No. 506 When built 1929

Engines made at Belfast By whom made James Workman Clark (1928) Ltd. Engine No. 506 When made 1929

Boilers made at Belfast By whom made James Workman Clark (1928) Ltd. Boiler No. 506 When made 1929

Nominal Horse Power 565 Owners The Bank Line, Ltd. Port belonging to Belfast

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel James David Colville & Sons, Ltd. at S. Dunlop & Co. (Letter for Record S)

Total Heating Surface of Boilers 8112 sq ft Is forced draught fitted yes Coal or Oil fired oil

No. and Description of Boilers 3 S.E. Cylindrical 358 Working Pressure 260 lbs.

Tested by hydraulic pressure to 440 lbs. Date of test 28-3-29 No. of Certificate 929 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 71.5 sq ft No. and Description of safety valves to each boiler 2-2 1/4" C. Steel Improved High Lift

Area of each set of valves per boiler { per Rule 1/2 of 14.74
as fitted 7.952 Pressure to which they are adjusted 260 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 18" at corner Is oil fuel carried in the double bottom under boilers yes

Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 15'-6" Length 11'-9" Shell plates: Material Steel Tensile strength 31-35 tons

Thickness 1 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams { end DR
inter. ✓long. seams T.R. Diameter of rivet holes in { circ. seams 1 1/16"
long. seams 1 1/16" Pitch of rivets { 4'-0 3/4"
10 7/8"Percentage of strength of circ. end seams { plate 58.7
rivets 48.4 Percentage of strength of circ. intermediate seam { plate ✓
rivets ✓Percentage of strength of longitudinal joint { plate 54.48
rivets 85.69 Working pressure of shell by Rules 263.68 lbs.
combined 86.1Thickness of butt straps { outer 1 7/32"
inner 1 13/32" No. and Description of Furnaces in each Boiler Four Righton

Material Steel Tensile strength 26-30 tons Smallest outside diameter 39 13/32"

Length of plain part { top ✓
bottom ✓ Thickness of plates { crown 4 5/16"
bottom 4 5/16" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 261.8

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/8" Pitch of stays 21 3/4" x 16 1/2"

How are stays secured D.N.W. Working pressure by Rules 270.9 lbs.

Tube plates: Material { front Steel
back } Tensile strength { 26-30 tons Thickness { 1 1/16"
1 3/16"Mean pitch of stay tubes in nests 9 1/4" Pitch across wide water spaces 13 1/2" Working pressure { front 294.5 lbs.
back 277 lbs.

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 10 3/4" - 1 1/2" Length as per Rule 34 13/32" Distance apart 8 1/4" No. and pitch of stays

in each 3-8" Working pressure by Rules 273.6 lbs. Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 7/8"

Pitch of stays to ditto: Sides 8 1/4" x 8 3/8" Back 8 1/4" x 8 1/4" Top 8 1/4" x 8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 263 lbs. Front plate at bottom: Material Steel Tensile strength 26-30

Thickness 1" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 3/32"

Pitch of stays at wide water space 14" x 8 1/4" to 14 3/4" x 8 1/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 279 lbs. Main stays: Material Steel Tensile strength 28-32 tons

Diameter { At body of stay,
or Over threads 3 1/2" No. of threads per inch six Area supported by each stay 358.8750"

Working pressure by Rules 263.7 lbs. Screw stays: Material Steel Tensile strength 26-30 tons

Diameter { At turned off part,
or Over threads 1 3/4" 1 5/8" No. of threads per inch nine Area supported by each stay 69.090 - 51.560"

Working pressure by Rules 266 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 2" 17/8"
No. of threads per inch nine Area supported by each stay 98.24 sq" Working pressure by Rules 260.7
Tubes: Material Am External diameter { Plain 2 1/2" Thickness { 11/8" No. of threads per inch nine
Pitch of tubes 3 3/4" - 3 3/8" Working pressure by Rules Plan 300 May 302.3 Manhole compensation: Size of opening in
shell plate 15 1/4" x 19 1/4" Section of compensating ring 36 x 37 1/16 x 1 3/8" No. of rivets and diameter of rivet holes 36 x 1 1/16"
Outer row rivet pitch at ends 10 7/8" Depth of flange if manhole flanged 3 1/4" 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 Single drum upright Manufacturers of { Tubes Steel castings
Number of elements 60 each boiler Material of tubes Solid Brown Steel Internal diameter and thickness of tubes 1 1/4" Outside 10 WG
Material of headers Mild Steel Tensile strength Thickness 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 Are the safety valves fitted with easing gear yes Working pressure as per
Rules 260 Pressure to which the safety valves are adjusted 260 lb Hydraulic test pressure:
tubes, castings and after assembly in place 780 lb sq" Are drain cocks or valves fitted
to free the superheater from water where necessary Valves

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
PRO WORKMAN CLARK (1928) LIMITED. Manufacturer.
F. Cunningham

Dates of Survey { During progress of work in shops - Oct 31 Nov 2.6.21.30 Dec 17
while building { During erection on board vessel - Jan 13.19 Mar 5.12.13.18.24
Apr 26 May 2.6.8.13.14.23.30
June 4 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 5.10.28
Total No. of visits 22

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

These boilers were constructed under special survey to an approved design. The materials and workmanship are good. They were subjected to hydraulic test in accordance with the rules, and were apparently faultless on board the vessel. The safety valves were adjusted to 260 lb sq" under steam.

Survey Fee £
Travelling Expenses (if any) £

When applied for, 192
When received, 192

See Index Rep't

A. J. Morrison
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 21 JUN 1929

Assigned

See P. 6 rpt. attached



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Foundation