

## REPORT ON BOILERS.

No. 76000

Received at London Office

AUG 1950

Date of writing Report

19

When handed in at Local Office

29. 8.

19 50

Port of Glasgow.

No. in Reg. Book.

Survey held at

Glydebank

Date, First Survey

Eumachy opt

Last Survey

19

95005 on the

"OTTAWA"

(Number of Visits)

Gross 11575  
Tons Net 7569.

Master

Built at Glydebank

By whom built John Brown &amp; Co. Ltd.

Yard No. 654

When built 1950-8.

Engines made at

Glydebank

By whom made

John Brown &amp; Co. Ltd.

Engine No. 654

When made 1950.

Boilers made at

Glydebank

By whom made

John Brown &amp; Co. Ltd.

Boiler No. 654

When made 1950.

Nominal Horse Power

448.

Owners

Unites, Inc..

Port belonging to Panama City.

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~

Manufacturers of Steel

Colvilles Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

5380 sq. ft. = 2640

Is forced draught fitted

yes

Coal or Oil fired

Oil fired.

No. and Description of Boilers

Two cylindrical Multitubular.

Working Pressure 180 lb/sq. in.

Tested by hydraulic pressure to

320 lb/sq. in.

Date of test

19.5.50.

No. of Certificate

23141

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

18.70 sq. ft.

No. and Description of safety valves to each boiler

2 @ 2 1/2" I.H.L.

Area of each set of valves per boiler

19.70 sq. ft.

Pressure to which they are adjusted

185 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

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Ample

Is oil fuel carried in the double bottom under boilers

no.

Smallest distance between shell of boiler and tank top plating

yes

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-0"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

28/32 tons/sq. in.

Thickness

1 15/16"

Are the shell plates welded or flanged

no.

Description of riveting: circ. seams

end DR.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 1/4"

long. seams 1 1/4"

Pitch of rivets

3.849"

8.13"

Percentage of strength of circ. end seams

plate 62.6

rivets 48.7

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.8

rivets 87.2

combined 89.0

Working pressure of shell by Rules

181 lb/sq. in.

Thickness of butt straps

outer 1 5/16"

inner 1 1/16"

No. and Description of Furnaces in each Boiler

Three "Morrison" Corrugated

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

44 1/8"

Length of plain part

top

bottom

Thickness of plates

crown 1 9/16"

bottom 1 1/16"

Description of longitudinal joint

welded.

Dimensions of stiffening rings on furnace or c.c. bottom

yes

Working pressure of furnace by Rules

approved.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 3/16"

Pitch of stays 18" x 19 3/4"

How are stays secured

Double nuts.

Working pressure by Rules

approved.

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30 tons

Thickness

2 7/32"

2 5/32"

Mean pitch of stay tubes in nests

9.875"

Pitch across wide water spaces

14"

Working pressure

front approved

back

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

11 1/2"

Length as per Rule

33.53"

Distance apart

8 1/2" 8" 7 1/2"

No. and pitch of stays

in each

c.c. top plating

Working pressure by Rules

approved.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

2 7/32"

Back

1 1/16"

Top

2 7/32"

Bottom

2 7/32"

Pitch of stays to ditto: Sides

9 1/4" x 9"

Back

9 3/32" x 8 1/2"

Top

none

Are stays fitted with nuts or riveted over

welded at boiler back, riveted in chamber

Working pressure by Rules

approved.

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

2 7/32"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

2 7/32"

Pitch of stays at wide water space

14" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

approved.

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

At body of stay, 2 7/8"

or

Over threads, 3 1/8"

No. of threads per inch

6.

Area supported by each stay

Working pressure by Rules

approved.

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

At turned off part, 2"

or

Over threads, 2", 1 7/8", 1 3/4", 1 5/8"

No. of threads per inch

9

Area supported by each stay

003687-003697-0186

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Working pressure by Rules *Approved*. Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, or Over threads *1 3/4"* ✓  
No. of threads per inch *9* ✓ Area supported by each stay *✓* Working pressure by Rules *approved*.  
Tubes: Material *Steel* External diameter { Plain *2 3/4"* ✓ Stay *2 3/4"* ✓ Thickness { *9 w.g.* ✓ No. of threads per inch *9*.  
Pitch of tubes *(12" x 7 3/4") 4" x 3 7/8"* Working pressure by Rules *approved*. Manhole compensation: Size of opening in shell plate *20 1/2" x 16 1/2"* ✓ Section of compensating ring *1 3/16" x 18 7/8" + flanging* No. of rivets and diameter of rivet holes *42 @ 1 1/4"*  
Outer row rivet pitch at ends *8 1/16"* ✓ Depth of flange if manhole flanged *Top 4" Bottom 3 3/8"* 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 \_\_\_\_\_  
How connected to shell \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
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 and the boiler be worked separately \_\_\_\_\_  
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 \_\_\_\_\_ forgings and 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 22 inclusive for boilers been complied with *yes* ✓

*John Brown & Company, Limited.*  
The foregoing is a correct description,

*Secretary.* Manufacturer.

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

Is this Boiler a duplicate of a previous case *yes*. If so, state Vessel's name and Report No. *"Vikfoss" Gls Rept No 75347.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been constructed under special survey in accordance with the requirements of the Rules & the approved plan. The materials & workmanship are good.*

*The boilers have been efficiently installed on board the vessel & tried under working conditions. The safety valves have been adjusted under steam as above & a satisfactory accumulation test carried out.*

Survey Fee ... *See Machy report* } When applied for, 19  
Travelling Expenses (if any) £ : : } When received, 19

*J. D. Dilliston*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 30 AUG 1950*

Assigned *SEE ACCOMPANYING MACHINERY REPORT*



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