

RECEIVED

6 JUN 1946

REPORT ON BOILERS.

No. 70758

IN D.O.

Date of writing Report

21-5-1946

When handed in at Local Office

1-6-1946

Received at London Office

5 JUN 1946

No. in
Reg. Book.

Survey held at Paisley.

Date, First Survey

28-7-44

Last Survey

14-5-1946

on the

Sing Se

BEAVERLAKE

(Number of Visits

8

Tons

Gross 9824

Net 5818

Master

Built at Port Glasgow

By whom built Messrs Littlewood & Co Ltd

Yard No. 1003

When built 1946

Engines made at

Newcastle

By whom made

Messrs C. A. Parsons & Co Ltd

Engine No.

When made

Boilers made at

Paisley

By whom made

Messrs A. Frig & Co Ltd

Boiler No. 853

When made 1946

Nominal Horse Power

Owners CANADIAN PACIFIC RAILWAY

Port belonging to

London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

For heating purposes and
make up feed.

Manufacturers of Steel

Boliville & Co Ltd

Total Heating Surface of Boilers

1224 ft²

INDUCED

Is forced draught fitted

Yes

(Letter for Record S ✓)

No. and Description of Boilers

1- Howden Johnson

Coal or Oil fired oil ✓

Working Pressure 100 lbs/sq in

Tested by hydraulic pressure to

200 lbs

Date of test

29-12-45

No. of Certificate

22093

Can each boiler be worked separately ✓

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 1/4" Cast iron I.H.L. double ✓

Area of each set of valves per boiler

per Rule

6.66" ✓

as fitted

7.96" ✓

Pressure to which they are adjusted

100 lbs ✓

Are they fitted with easing gear

Yes ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No

Smallest distance between boilers or uptakes and bunkers or woodwork

No woodwork

Is oil fuel carried in the double bottom under boilers

Yes ✓

Smallest distance between shell of boiler and tank top plating

2' 11"

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

10' 6"

Length

Int 6' 6"

Shell plates: Material

Steel ✓

Tensile strength

28-32 tons ✓

Thickness

17/32" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

and DR ✓

long, seams

T.R. & B.S.

Diameter of rivet holes in

circ. seams

13/16" ✓

long, seams

3/4" ✓

Pitch of rivets

2.761" ✓

4 5/8" ✓

Percentage of strength of circ. end seams

plate 70.5 ✓

rivets 57.8 ✓

Percentage of strength of circ. intermediate seam

plate 84.0 ✓

rivets 138.0 ✓

Percentage of strength of longitudinal joint

plate 84.0 ✓

rivets 138.0 ✓

combined 95.3 ✓

Working pressure of shell by Rules -

Thickness of butt straps

outer 17/32" ✓

inner 17/32" ✓

No. and Description of Furnaces in each Boiler

1 Deighton

Material

Steel ✓

Tensile strength

26-30 tons ✓

Smallest outside diameter

4' 0" ✓

Length of plain part

top ✓

bottom ✓

Thickness of plates

crown 1/2" ✓

bottom 1/2" ✓

Description of longitudinal joint

Weld ✓

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

7/8" ✓

Pitch of stays

1'-4" x 1'-3 1/4" ✓

How are stays secured

Nuts ✓

Working pressure by Rules -

Tube plates: Material

front Steel ✓

back Steel ✓

Tensile strength

26-30 tons ✓

Thickness

7/8" ✓

7/8" ✓

Mean pitch of stay tubes in nests

9 1/8" ✓

Pitch across wide water spaces

11-14" ✓

Working pressure

front -

back -

Girders to combustion chamber tops: Material

Tensile strength -

Depth and thickness of girder -

at centre -

Length as per Rule -

Distance apart -

No. and pitch of stays

in each -

Working pressure by Rules -

Combustion chamber plates: Material -

Tensile strength -

Thickness: Sides -

Back -

Top -

Bottom -

Pitch of stays to ditto: Sides -

Back -

Top -

Are stays fitted with nuts or riveted over -

Working pressure by Rules -

TUBE

Front plate at bottom: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

7/8" ✓

TUBE

Lower back plate: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

7/8" ✓

Pitch of stays at wide water space -

Are stays fitted with nuts or riveted over

Working Pressure -

Main stays: Material

Steel ✓

Tensile strength

28-32 tons ✓

Diameter

At body of stay, or

2 1/2" ✓

No. of threads per inch

6 ✓

Area supported by each stay -

Working pressure by Rules -

Screw stays: Material -

Tensile strength -

Diameter

At turned off part, or

Over threads -

No. of threads per inch -

Area supported by each stay -

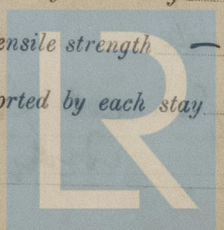
Diameter

At turned off part, or

Over threads -

No. of threads per inch -

Area supported by each stay -



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Foundation

01273-011274-0150

Working pressure by Rules - Are the stays drilled at the outer ends - Margin stays: Diameter { At turned off part, ☒ or Over threads ☒ No. of threads per inch - Working pressure by Rules -

Tubes: Material *Steel & L.W. Iron* External diameter { Plain } *2 1/2"* Thickness { *10 S.W.S. 1/4" 5/16"* } No. of threads per inch *4*

Pitch of tubes *3 1/2" x 3 3/4"* Working pressure by Rules - Manhole compensation: Size of opening in shell plate *16" x 20"* Section of compensating ring *Flanged plate 3/4" thick* No. of rivets and diameter of rivet holes *52 - 13/16"*

Outer row rivet pitch at ends *4 5/8"* Depth of flange if manhole flanged - Steam Dome: Material *NONE*

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 - 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 - 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 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*

The foregoing is a correct description,
F. CRAIG & CO. LTD Manufacturer.

Dates of Survey { During progress of work in shops - - - *1904 July 28 1905 Apr 26 Nov 28 Dec 21, 24, 29* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *Dec 10 - 11 - 43*

while building { During erection on board vessel - - - *1906 Feb 8 Aug 17* Total No. of visits *8*

Is this Boiler a duplicate of a previous case *Yes*. If so, state Vessel's name and Report No. *S.S. "BEAVERDELL"*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been constructed under Special Survey, in accordance with the Rule Requirements and approved plans. The materials and workmanship are good. This boiler has been dispatched to Greenock, for installation in Messrs Lithgows Ltd (Port Glasgow) Yard No. 1003.*

This boiler has been satisfactorily installed in the vessel & its safety valves adjusted under steam to a safe working pressure

Please see Greenock FE report for recommendations *GRK N° 23407*

Charles J. Hunter
Greenock

Survey Fee ... £ *12: 5: -* When applied for, *4 JUN 1946*

Travelling Expenses (if any) £ : : When received, *19*

Committee's Minute *GLASGOW 4 JUN 1946*

Assigned *Refered for Amendment* *VRD*