

REPORT ON BOILERS.

No. 87060

22 APR 1931

Received at London Office

Date of writing Report

19

When handed in at Local Office

21 APR 1931

Port of

Newcastle-on-Tyne.

No. in
Reg. Book.

Survey held at

Wallsend-on-Tyne.

Date, First Survey

11 Dec 1930

Last Survey

9 April 1931

on the

marine boiler for the dredger "CYCLOPE."

(Number of Visits 31)

Gross 635

Tons Net

Master

Built at

Newcastle

By whom built

Hawthorne Leslie & Co. Ltd.

Yard No. 581

When built

1931

Engines made at

By whom made

Engine No.

When made

Boilers made at

Wallsend.

By whom made

North Eastern Marine & Co. Ltd.

Boiler No. 2498

When made 1931

Nominal Horse Power

Owners

Entreprise de Travaux
d'excavation

Port belonging to

Le Havre.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appell & Co. Ltd. The Steel Company of Scotland Ltd.

(Letter for Record 5)

Total Heating Surface of Boilers

2368

Is forced draught fitted

no.

Coal or Oil fired

coal

No. and Description of Boilers

one single ended.

Working Pressure

160 lbs

Tested by hydraulic pressure to

290

Date of test

11-2-31

No. of Certificate

541.

Can each boiler be worked separately

Area of Firegrate in each Boiler

624

No. and Description of safety valves to each boiler

Two spring loaded.

Area of each set of valves per boiler

per Rule

13.0

as fitted

19.25

Pressure to which they are adjusted

160 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

5.0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

14'-9 1/8"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29 to 33 tons

Thickness

1 1/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/8"

long. seams

1 1/8"

Pitch of rivets

3 1/4"

8"

Percentage of strength of circ. end seams

plate

65.5

rivets

45.5

Percentage of strength of circ. intermediate seam

plate

85.9

rivets

86.9

Percentage of strength of longitudinal joint

plate

85.9

rivets

89

combined

Working pressure of shell by Rules

163 lbs

Thickness of butt straps

outer

13/16"

inner

15/16"

No. and Description of Furnaces in each Boiler

Three corrugated (Deighton)

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-9 13/16"

Length of plain part

top

bottom

Thickness of plates

crown

1 1/4"

bottom

3/8"

Description of longitudinal joint

weld

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

none

Working pressure of furnace by Rules

167.5 lbs

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/32"

Pitch of stays

1 1/4" x 2'-0"

How are stays secured

double nuts

Working pressure by Rules

160.5 lbs

Tube plates: Material

front

back

Steel

Tensile strength

26 to 30 tons

Thickness

7/8"

3/4"

Mean pitch of stay tubes in nests

11 1/16"

Pitch across wide water spaces

14 1/2" x 8 3/4"

Working pressure

front

back

160.1 lbs

164 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 34" x 4 1/2"

Length as per Rule

2'-4"

Distance apart

11"

No. and pitch of stays

in each

2 @ 8 1/4"

Working pressure by Rules

170 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

11 1/2" x 8 1/4"

Back

10 1/2" x 9 3/4"

Top

11" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

161 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

13/16"

Pitch of stays at wide water space

14 1/2" x 10 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

167.5 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay

3"

No. of threads per inch

6

Area supported by each stay

468 sq"

Working pressure by Rules

167.5 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part

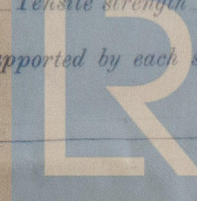
1 3/4"

No. of threads per inch

9

Area supported by each stay

102.4 sq"

Lloyd's Register
Foundation

Working pressure by Rules 174 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 1/8" or Over threads 1 1/8"
No. of threads per inch 9 Area supported by each stay 126 sq" Working pressure by Rules 169 lbs
Tubes: Material S.D. Steel External diameter { Plain 3 1/4" Thickness { 9 L.S.G. No. of threads per inch 9
Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 180 lbs Manhole compensation: Size of opening in
shell plate 16" x 12" Section of compensating ring none No. of rivets and diameter of rivet holes ✓
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 1/4" Steam Dome: Material See separate report
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 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, 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.
THE NORTH EASTERN MARINE ENGINEERING CO., LTD.
Secretary/Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1930	1931	Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)	Total No. of visits
		Dec. 11, 16	Jan. 5, 13, 19, 22, 28, 30	Feb. 4, 5	31
		6, 9, 10, 11, 12, 19, 23, 24, 27	Mar. 5, 6		
		10, 12, 17, 18, 20, 25, 27, 30	Apr. 1, 9		

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This Boiler has been built under Special Survey. Materials & Workmanship good. Hydraulic test satisfactory.
The Boiler has been securely fitted on board the vessel & its safety valves cranked under steam to working pressure.
This boiler is eligible, in an opinion to have notation + N.D.B 4, 31.

Survey Fee £ 15 : 16 : 0 .
Travelling Expenses (if any) £ : ✓ :

When applied for, 13.4.1931
When received, 2.5.1931
W. R. Pitter
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 24 APR 1931 FRI, 29 MAY 1931

Assigned + N.B. 4.31
MS-125K