

REPORT ON BOILERS.

No. 98787

Received at London Office

SEP 16 1940

Date of writing Report 19 *10/8/40* When handed in at Local Office *10/8/40* Port of *NEWCASTLE-on-TYNE*

No. in Survey held at *Newcastle on Tyne* Date, First Survey *19 Jan 1940* Last Survey *6 Aug 1940*

Reg. Book. *691* (Number of Visits *—*) Tons *691*

on the *S/S ERDEK.* Tons *265*

Built at *Newcastle* By whom built *James Dunn, Hunter & Wigham Richardson Ltd* Yard No. *1664* When built *1940-*

Engines made at *ditto* By whom made *ditto* Engine No. *1664* When made *1940*

Boilers made at *ditto* By whom made *ditto* Boiler No. *1664* When made *1940*

Nominal Horse Power *—* Owners *—* Port belonging to *—*

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

Manufacturers of Steel *The Steel Coy. of Scotland, and Appleby & Frodingham Steel Co.* (Letter for Record *S.*)

Total Heating Surface of Boilers *2554 sq ft* Is forced draught fitted *Yes* Coal or Oil fired *Coal*

No. and Description of Boilers *Two Single ended "Scotch"* Working Pressure *180 lbs*

Tested by hydraulic pressure to *320* Date of test *24-5-40* No. of Certificate *851* Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler *34.5 sq ft* No. and Description of safety valves to each boiler *Two 2" Cockburn's Improved High Lift*

Area of each set of valves per boiler *4.09 sq in* Pressure to which they are adjusted *180 lb* 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 *3'-0"* Is oil fuel carried in the double bottom under boilers *No*

Smallest distance between shell of boiler and tank top plating *No tank under Boilers* Is the bottom of the boiler insulated *No*

Largest internal dia. of boilers *11'-1 1/4"* Length *11'-0"* Shell plates: Material *Steel* Tensile strength *30 to 34 tons*

Thickness *7/8"* Are the shell plates welded or flanged *No* Description of riveting: circ. seams *end D.R overlap*

long. seams *T.R. Dble butt straps* Diameter of rivet holes in *1"* Pitch of rivets *3'-24"*

Percentage of strength of circ. end seams *69.13* Percentage of strength of circ. intermediate seam *None*

Percentage of strength of longitudinal joint *42.47* *85.84* *85.55* *88.8*

Thickness of butt straps *21/32"* No. and Description of Furnaces in each Boiler *Two Deighton "Corrugated"*

Material *Steel* Tensile strength *26 to 30 tons* Smallest outside diameter *3'-0 15/16"*

Length of plain part *5 1/4"* Thickness of plates *15/32"* Description of longitudinal joint *Fire welded*

Dimensions of stiffening rings on furnace or c.c. bottom *None*

End plates in steam space: Material *Steel* Tensile strength *26 to 30 tons* Thickness *29/32"* Pitch of stays *13 3/4" x 14 7/8" max.*

How are stays secured *Nuts inside & outside* Stays Secured thro front end plate

Tube plates: Material *Steel* Tensile strength *26 to 30 tons* Thickness *29/32"*

Mean pitch of stay tubes in nests *9 3/8"* Pitch across wide water spaces *13 1/2"*

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

at centre *8 3/8" x 5 1/8" x two* Length as per Rule *30 9/16"* Distance apart *9"* No. and pitch of stays

in each *Two @ 9 3/4"* Combustion chamber plates: Material *Steel*

Tensile strength *26 to 30 tons* Thickness: Sides *11/16"* Back *11/16"* Top *11/16"* Bottom *11/16"*

Pitch of stays to ditto: Sides *9 1/2" x 9 1/2"* Back *9" x 9 3/4"* Top *9" x 9 3/4"* Are stays fitted with nuts or riveted over *with nuts*

Front plate at bottom: Material *Steel* Tensile strength *26 to 30 tons*

Thickness *29/32"* Lower back plate: Material *Steel* Tensile strength *26 to 30 tons* Thickness *29/32"*

Pitch of stays at wide water space *13 1/2" x 9 3/4"* (max at lower end) *14 1/4" x 9 3/4"* Are stays fitted with nuts or riveted over *with nuts*

Main stays: Material *Steel* Tensile strength *28 to 32 tons*

Diameter *2 3/8"* No. of threads per inch *6*

Screw stays: Material *Steel* Tensile strength *26 to 30 tons*

Diameter *1 3/4"* No. of threads per inch *9*

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Are the stays drilled at the outer ends No. ✓
Margin stays: Diameter { 1 3/4" & 1 7/8" }
No. of threads per inch 9. ✓
Tubes: Material Steel ✓ External diameter { 2 1/2" }
Pitch of tubes 3 3/4" x 3 3/4" ✓ Thickness { 9 W.G. } No. of threads per inch 9. ✓
shell plate 16" x 20" ✓ Section of compensating ring 19 1/8" x 7/8" ✓ No. of rivets and diameter of rivet holes 32 @ 1 5/16" ✓
Outer row rivet pitch at ends 9 1/8" ✓ Depth of flange if manhole/flanged 2 1/2" ✓ Steam Dome: 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 _____ 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 None

Manufacturers of

Number of elements _____ Material 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 _____
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,
FOR SWAN, HORTON & WIGHAM, LTD.

Manufacturer.

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - - }
See Machy Report

Are the approved plans of boiler and superheater forwarded herewith 15/12/39
(If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. 1662. ECEBAT. No. Rpt 40

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

The Boilers of this Vessel have been built under Special Survey in accordance with the Society's Rules and approved plans, satisfactorily fitted on board and tested under steam under working conditions. The materials and workmanship are good.

See also Machy Rpt 40.

Survey Fee £

Travelling Expenses (if any) £

When applied for, 19

When received, 19

A. Watt

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 20 SEP 1940

Assigned

See minute on Machining F.E. report.



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