

REPORT ON BOILERS.

No. 61274

See Lith. p. 70

Received at London Office JUN 28 1939

Date of writing Report 19 *31* When handed in at London Office 19 *31* Port of *Glasgow*

No. in Reg. Book. *248* Survey held at *Glasgow* Date, First Survey *26th Jan. 39* Last Survey *13-6-1939*
 on the *new* S/S "CEFN-Y-BRYN" (Number of Visits *35*) Tons {Gross Net

Master *Burntisland* Built at *Burntisland* By whom built *Burntisland SBCo Ltd* Yard No. *224* When built *1939*

Engines made at *Glasgow* By whom made *David Rowan & Co Ltd* Engine No. *1031* When made *1939*

Boilers made at *Glasgow* By whom made *David Rowan & Co Ltd* Boiler No. *1031* When made *1939*

Nominal Horse Power _____ Owners _____ Port belonging to _____

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Steel Company of Scotland Ltd* (Letter for Record *S*)

Total Heating Surface of Boilers *5322* Is forced draught fitted *yes* Coal or Oil fired *coal*

No. and Description of Boilers *Two single ended* Working Pressure *220*

Tested by hydraulic pressure to *380* Date of test *21-5-39* No. of Certificate *20386* Can each boiler be worked separately *yes*

Area of Firegrate in each Boiler *63.25* No. and Description of safety valves to each boiler *2 spring loaded (ordinary)*

Area of each set of valves per boiler {per Rule *14.152* as fitted *16.58*} Pressure to which they are adjusted *220 lbs/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 *no*

Smallest distance between boilers or uptakes and bunkers or woodwork *10"* DISTANCE FRONT OF BOILERS TO BULKHEAD = *9'-9"* Is oil fuel carried in the double bottom under boilers *No.*

Smallest distance between shell of boiler and tank top plating *2'-5"* Is the bottom of the boiler insulated *yes*

Largest internal dia. of boilers *16'-0"* Length *11'-6"* Shell plates: Material *S* Tensile strength *29-33 tons*

Thickness *1 33/64"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams {end *WR* inter. *-*}
 long. seams *WBS, TR* Diameter of rivet holes in {circ. seams *F 1 7/16" B 1 9/16"* Pitch of rivets {*F 3-78" B 4-4"* long. seams *1 9/16"* *10 1/2"*}

Percentage of strength of circ. end seams {plate *F 61.9 B 60* rivets *F 45.2 B 45.8*} Percentage of strength of circ. intermediate seam {plate *85.1* rivets *89.86*}

Percentage of strength of longitudinal joint {plate *85.1* rivets *89.86* combined *88*} Working pressure of shell by Rules *221*

Thickness of butt straps {outer *1 9/64"* inner *1 17/64"*} No. and Description of Furnaces in each Boiler *Three Deighton*

Material *S* Tensile strength *26-30 tons* Smallest outside diameter *3-11 15/32"*

Length of plain part {top *-* bottom *-*} Thickness of plates {crown *4 1/64"* bottom *4 1/64"*} Description of longitudinal joint *welded*

Dimensions of stiffening rings on furnace or c.c. bottom *-* Working pressure of furnace by Rules *227*

End plates in steam space: Material *S* Tensile strength *26-30 tons* Thickness *1 7/16"* Pitch of stays *2 15/8" = 20 3/8"*

How are stays secured *WN* Working pressure by Rules *220*

Tube plates: Material {front *S* back *S*} Tensile strength {*26-30 tons*} Thickness {*15/16"*} Working pressure {front *229* back *232*}

Mean pitch of stay tubes in nests *9.7"* Pitch across wide water spaces *14"*

Girders to combustion chamber tops: Material *S* Tensile strength *28-32 tons* Depth and thickness of girder at centre *2 @ 9" x 7/8"* Length as per Rule *34 1/2"* Distance apart *8 1/4"* No. and pitch of stays in each *3 @ 8 1/4"* Working pressure by Rules *224* Combustion chamber plates: Material *S*

Tensile strength *26-30 tons* Thickness: Sides *2 1/32"* Back *2 3/32"* Top *2 1/32"* Bottom *2 7/32"*

Pitch of stays to ditto: Sides *8 1/4" x 8 1/4"* Back *10" x 8"* Top *8 1/4" x 8 1/4"* Are stays fitted with nuts or riveted over *nuts*

Working pressure by Rules *220* Front plate at bottom: Material *S* Tensile strength *26-30 tons*

Thickness *15/16"* Lower back plate: Material *S* Tensile strength *26-30 tons* Thickness *53/64"*

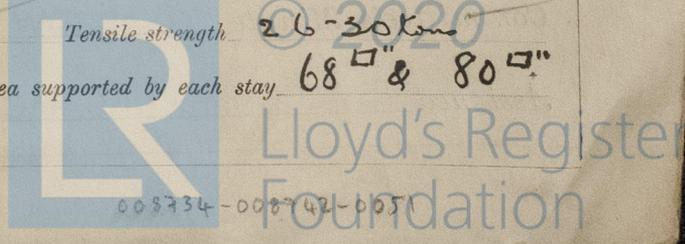
Pitch of stays at wide water space *13 1/2"* Are stays fitted with nuts or riveted over *nuts*

Working Pressure *227* Main stays: Material *steel* Tensile strength *28-32 tons*

Diameter {At body of stay, or Over threads} *3 1/4" & 3 1/2"* No. of threads per inch *6* Area supported by each stay *408" & 460"*

Working pressure by Rules *228 & 236* Screw stays: Material *steel* Tensile strength *26-30 tons*

Diameter {At turned off part, or Over threads} *1 7/8" & 1 3/4"* No. of threads per inch *9* Area supported by each stay *68" & 80"*



Working pressure by Rules 223.226 Are the stays drilled at the outer ends no Margin stays: Diameter 1 7/8" At turned off part, or Over threads
 No. of threads per inch 9 Area supported by each stay 940" Working pressure by Rules 228
 Tubes: Material Iron External diameter Plain 3" Stay 3" Thickness 8 w.s. No. of threads per inch 9
 Pitch of tubes 4 3/16" x 4 1/8" Working pressure by Rules 250 Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" Section of compensating ring 11" x 1 33/64" No. of rivets and diameter of rivet holes 34 @ 1 9/16"
 Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 3" 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 Smoke tube Manufacturers of For particulars see Nwe Rpt. No. 8635
Steel forgings copy herewith
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 no 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 1.760" Are the safety valves fitted with easing gear yes Working pressure as per Rules _____ Pressure to which the safety valves are adjusted 220 lbs/0" Hydraulic test pressure: tubes _____ forgings and castings _____ and after assembly in place 440 lbs/0" Are drain cocks or valves fitted to free the superheater from water where necessary yes
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____

The foregoing is a correct description,
 For David Rowan & Co. L^{td} Manufacturer.
 Arch^d H. Grierson

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 yes
(If not state date of approval.)
 Total No. of visits _____

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.)
The materials and workmanship are good.
The boilers have been constructed under special survey and have been sent to Burntisland to be fitted in the vessel.
These boilers have been efficiently fitted onboard and the safety valves adjusted to 220 lbs/0".
Erb
26/6/39
J. I. Campbell.

Survey Fee £ See Michy Rpt
 Travelling Expenses (if any) £ _____
 When applied for, 19 _____
 When received, 19 _____

Sh. Davis.
 Engineer Surveyor to Lloyd's Register of Shipping.
 TUE 29 AUG 1939

Committee's Minute GLASGOW 27 JUN 1939
 Assigned SEE ACCOMPANYING MACHINERY REPORT.

