

Rpt. 5a.

## REPORT ON BOILERS.

No. 71698

10 MAY 1947

8 - MAY 1947

Received at London Office

Date of writing Report 25-10-47 When handed in at Local Office 5-5-47 Port of **GLASGOW.**

No. in Survey held at **DUMBARTON.** Date, First Survey 27.3.46 Last Survey 25.10.46

Reg. Book. on the trawler "Egill Raudi" (Number of Visits 22) Gross Tons 648 Net Tons 217.31

Master Built at **ABERDEEN** By whom built **A. HALL & CO. LTD.** Yard No. 716 When built 1944

Engines made at **aberdeen** By whom made **A. Hall & Co. Ltd.** Engine No. 427 When made 1944

Boilers made at **DUMBARTON** By whom made **WM. DENNY & BROS. LTD.** Boiler No. S.O. 5402/1 When made 1946.

Nominal Horse Power 248 Owners **Icelandic Government** Port belonging to **Neskaupstadur**

MULTITUBULAR BOILERS—MAIN, ~~XXXXXXXXXXXXXXXXXXXX~~Manufacturers of Steel **Colvilles, Ltd., & Steel Company of Scotland Ltd.**(Letter for Record **S.**)Total Heating Surface of Boilers **2,800 sq.ft.**Is forced draught fitted **Yes**Coal or Oil fired **Oil Fired**No. and Description of Boilers **One single ended return tube**Working Pressure **225 lbs/sq.in.**Tested by hydraulic pressure to **388 lbs/sq.in.** Date of test **25.10.46** No. of Certificate **22288**Can each boiler be worked separately **-**Area of Firegrate in each Boiler **-**No. and Description of safety valves to each boiler **One double spring**Area of each set of valves per boiler {per Rule **14.6 sq.ins.** as fitted **7.96 sq.ins.**Pressure to which they are adjusted **225 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 **Improved High Lift**Smallest distance between boilers or uptakes and bunkers or woodwork **4'-3"**Is oil fuel carried in the double bottom under boilers **open floor**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'-9.1/16"** Length **11'-1"**Shell plates: Material **Steel**Tensile strength **31/35 tons**Thickness **1.15/32"**Are the shell plates welded or flanged **No**Description of riveting: circ. seams {end **D.R.** inter. **None**long. seams **T.R.D.B.S. Zig Zag**Diameter of rivet holes in {circ. seams **1.15/32"** long. seams **1.1/2"**Pitch of rivets { **3.875"** **9.5625"**Percentage of strength of circ. end seams {plate **62.1** rivets **44.2**Percentage of strength of circ. intermediate seam {plate **-** rivets **-**Percentage of strength of longitudinal joint {plate **84.3** rivets **87.6** combined **88.1**Working pressure of shell by Rules **226 lbs/sq.in.**Thickness of butt straps {outer **1.5/32"** inner **1.9/32"**No. and Description of Furnaces in each Boiler **3 - Deighton Type**Material **Steel**Tensile strength **26/30 tons**Smallest outside diameter **47.03"**Length of plain part {top **-** bottom **-**Thickness of plates {crown **47/64"** bottom **-**Description of longitudinal joint **Welded**Dimensions of stiffening rings on furnace or c.c. bottom **None**Working pressure of furnace by Rules **229 lbs/sq.in.**End plates in steam space: Material **Steel**Tensile strength **26/30 tons**Thickness **1.11/32"**Pitch of stays **18" x 20"**How are stays secured **Double nuts**Working pressure by Rules **234 lbs/sq.in.**Tube plates: Material {front **Steel** back **Steel**Tensile strength { **26/30 tons.**Thickness { **1"** **7/8"**Mean pitch of stay tubes in nests **10.125"**Pitch across wide water spaces **14 1/4" x 9"**Working pressure {front **243 lbs/sq.in.** back **270 lbs/sq.in.**Girders to combustion chamber tops: Material **Steel**Tensile strength **29/33 tons**Depth and thickness of girder **in nest**at centre **9 1/2"**Length as per Rule **32.5"**Distance apart **9" centre.**No. and pitch of stays **9 3/4" wide.**in each **3 @ 8"**Working pressure by Rules **250 lbs/sq.in.**Combustion chamber plates: Material **Steel**Tensile strength **26/30 tons**Thickness: Sides **23/32"**Back **23/32"**Top **23/32"**Bottom **7/8"**Pitch of stays to ditto: Sides **8 1/2" x 9"**Back **8 1/4" x 9 1/2"**Top **8" x 9 3/4"**Are stays fitted with nuts or riveted over **nuts**Working pressure by Rules **228 lbs/sq.in.**Front plate at bottom: Material **Steel**Tensile strength **26/30 tons**Thickness **1"**Lower back plate: Material **Steel**Tensile strength **26/30 tons**Thickness **29/32"**Pitch of stays at wide water space **9.5/8" x 14 1/2"**Are stays fitted with nuts or riveted over **nuts**Working Pressure **225 lbs/sq.in.**Main stays: Material **Steel**Tensile strength **28/32 tons**Diameter {At body of stay, or Over threads **3.3/8"**No. of threads per inch **9**Area supported by each stay **20" x 18"**Working pressure by Rules **278 lbs/sq.in.**Screw stays: Material **Steel**Tensile strength **26/30 tons.**Diameter {At turned off part, or Over threads **1.3/4"**No. of threads per inch **9"**Area supported by each stay **9 3/4" x 8"**

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Working pressure by Rules **233 lbs/sq.in.** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, " or Over threads **2"** ✓  
No. of threads per inch **9** ✓ Area supported by each stay **9 3/4" x 11 1/2"** Working pressure by Rules **228 lbs/sq.in.** ✓  
Tubes: Material **Steel** ✓ External diameter { Plain **3 1/4"** ✓ Thickness **8 S.W.G.** ✓ No. of threads per inch **9** ✓  
Pitch of tubes **4 1/2" x 4 1/2"** ✓ Working pressure by Rules **271 lbs/sq.in. & 238 lbs/sq.in.** ✓ Manhole compensation: Size of opening in shell plate **16" x 12"** ✓ Section of compensating ring **As under** ✓ No. of rivets and diameter of rivet holes **as under** ✓  
Outer row rivet pitch at ends **11 1/32"** ✓ Depth of flange if manhole flanged **-** ✓ Steam Dome: Material **Steel** ✓  
Tensile strength **26/30 tons** ✓ Thickness of shell **13/16"** ✓ Description of longitudinal joint **Class I fusion welded.** ✓  
Diameter of rivet holes **-** ✓ Pitch of rivets **-** ✓ Percentage of strength of joint { Plate **-** ✓ Rivets **-** ✓  
Internal diameter **36"** ✓ Working pressure by Rules **508 lbs/sq.in.** ✓ Thickness of crown **1"** ✓ No. and diameter of stays **3 @ 2 1/2"** ✓ Inner radius of crown **flat** ✓ Working pressure by Rules **as approved** ✓  
How connected to shell **riveted** ✓ Size of doubling plate under dome **5'-2 1/4" dia. x 1 1/4"** ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell **1.15/32" x 11 1/32"** ✓

Type of Superheater **Smoke Tube Type** ✓ Manufacturers of { Tubes **Messrs. Tubes, Ltd., Birmingham.** ✓ Steel forgings **Steel, Pease & Tozer, & Eng. Steel Co. Ltd.** ✓ Steel castings **Messrs. Renton & Fisher, Ltd.,** ✓  
Number of elements **55** ✓ Material of tubes **S.D. Steel** ✓ Internal diameter and thickness of tubes **20 m.m. - 2.5 m.m.** ✓  
Material of headers **Mild Steel** ✓ Tensile strength **28/32 tons** ✓ Thickness **1/2"** ✓ Can the superheater be shut off and the boiler be worked separately **Yes** ✓ 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 **one 3.14 sq. in.** ✓ Are the safety valves fitted with easing gear **Yes** ✓ Working pressure as per Rules **as app.** ✓ Pressure to which the safety valves are adjusted **225 sq. in.** ✓ Hydraulic test pressure: tubes **1000 lbs/sq.in.** ✓ forgings and castings **675 lbs/sq.in.** ✓ and after assembly in place **675 lbs/sq.in.** ✓ 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,

WILLIAM DENNY & BROS. LTD.  
*William Denny* DIRECTOR, Manufacturer.

Dates of Survey { During progress of work in shops - **19th Jan 27 May 9. 28. 29 Jun 4. 11. 19. 26** ✓  
while building { During erection on board vessel - **Jan 3. 28. 29 Aug 1. 27. Sep 3. 12. 20. 21 Oct 10. 14. 21. 25** ✓  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
Total No. of visits **22**

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.)

Heating surface of superheaters **1,235 sq.ft.**

The boiler has been built under Special Survey in accordance with the Rules and approved plans.

The material and workmanship are good.

The boiler has now been despatch to Aberdeen for installation on board the vessel.

*This boiler has now been securely fitted on board the vessel.  
The safety valves have been adjusted under steam, tried for accumulation & found satisfactory. Oil fuel arrangements found satisfactory.*

*Clive Bell  
Aberdeen.*

Survey Fee ... £ **38 : 18 : 6** When applied for, **6 MAY 1947**  
Travelling Expenses (if any) £ : : When received, **19**

*W. H. Riddell & P. Weston*  
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW**

**6 MAY 1947**

**FRI. 1 AUG 1947**

Assigned *Required for completion*

*See F.E. ncky. rpt.*

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