

REPORT ON BOILERS.

No. 48258

Received at London Office OCT -7 1937.

Date of writing Report 4.10.1937. When handed in at Local Office 6 OCT 1937. Port of HULL

No. in Survey held at Hull Reg. Book. 17708 on the Steam Trawler "BARNETT"

Date, First Survey 29th April, 1937. Last Survey 29th Sept. 1937.

(Number of Visits ✓) Tons { Gross 481.59 Net 202.15.

Master ✓ Built at Beverley By whom built Cook, Waller & Jemmett Ltd Yard No. 641. When built 1937.

Engines made at Hull By whom made Ames & Smith Ltd Engine No. 660 When made 1937

Boilers made at Hull By whom made Ames & Smith Ltd Boiler No. 660 When made 1937

Nominal Horse Power 132. Owners Crampin Steam Fishing Co., Ltd Port belonging to Grimsby.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby-Frodingham Steel Co., Ltd (Letter for Record "S")

Total Heating Surface of Boilers 2337 square feet Is forced draught fitted No Coal or Oil fired Coal.

No. and Description of Boilers One Single Ended Return Tube Working Pressure 210 Lbs/sq

Tested by hydraulic pressure to 365 Lbs/sq Date of test 2.9.37. No. of Certificate 3983. Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 57.5 sq ft No. and Description of safety valves to each boiler Two spring loaded 3" diameter.

Area of each set of valves per boiler { per Rule 13.65 sq in as fitted 14.2 sq in Pressure to which they are adjusted 210 Lbs/sq 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 12" Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 15'6" Length 11'0" Shell plates: Material Steel Tensile strength 29.33 Tons/sq

Thickness 1 7/16" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double riveted inter. 4 3/8" }
Long. seams Triple riveted D.B.S. Diameter of rivet holes in { circ. seams 1 13/32" long. seams 1 15/32" Pitch of rivets 10"

Percentage of strength of circ. end seams { plate 66.5 rivets 42.6 Percentage of strength of circ. intermediate seam { plate 85.3 rivets 87.5 }
Percentage of strength of longitudinal joint { plate 85.3 rivets 87.5 combined 88.1 Working pressure of shell by Rules 213 Lbs/sq

Thickness of butt straps { outer 1 3/32" inner 1 1/32" No. and Description of Furnaces in each Boiler Three Lighter Corrugated

Material Steel Tensile strength 26-30 Tons/sq Smallest outside diameter 3'-11 7/16"

Length of plain part { top 27 3/32" bottom 29 3/32" Thickness of plates { crown 27 3/32" bottom 29 3/32" Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 223 Lbs/sq

End plates in steam space: Material Steel Tensile strength 26-30 Tons/sq Thickness 1 1/4" Pitch of stays 18" x 18"

How are stays secured Double nuts & washers. Working pressure by Rules 273 Lbs/sq

Tube plates: Material { front Steel back Steel Tensile strength { 26-30 Tons/sq Thickness { 3/32" 7/8" }
Lean pitch of stay tubes in nests 10.7" Pitch across wide water spaces 14 1/4" Working pressure { front 221 Lbs/sq back 242 Lbs/sq }

Orders to combustion chamber tops: Material Steel Tensile strength 29.33 Tons/sq Depth and thickness of girder

centre 2 x 7/8" x 10" CENTRE 9 3/4" Wings Length as per Rule 2'-10" Distance apart 11" CENTRE 9" Wings. No. and pitch of stays each 3 at 8" Working pressure by Rules 221 Lbs/sq (CENTRE) Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons/sq Thickness: Sides 3/4" Back 1 1/16" Top 3/4" CENTRE 13/16" Bottom 1 1/16"

Pitch of stays to ditto: Sides 9" x 8" Back 9" x 8" Wings Top 9" x 8" Wings Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 215 Lbs/sq Front plate at bottom: Material Steel Tensile strength 26-30 Tons/sq

Thickness 3/32" Lower back plate: Material Steel Tensile strength 26-30 Tons/sq Thickness 7/8"

Pitch of stays at wide water space 15" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 211 Lbs/sq Main stays: Material Steel Tensile strength 28-32 Tons/sq

Diameter { At body of stay, 3 1/4" x 3" No. of threads per inch 6 Area supported by each stay 324 square inches

Working pressure by Rules 218 Lbs/sq Screw stays: Material Steel Tensile strength 26-30 Tons/sq

Diameter { At turned off part, 1 3/4", 1 7/8" x 2" No. of threads per inch 9 Area supported by each stay 77 square inches

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Working pressure by Rules 233 lbs/p Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 7/8" x 2" or Over threads. 1 7/8" x 2"
No. of threads per inch 9 Area supported by each stay 105 square inches Working pressure by Rules 226 lbs/p
Tubes: Material Iron External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 8 w. 8, 3/8" No. of threads per inch 9
Pitch of tubes 4 3/4" x 4 3/4" Working pressure by Rules 215 lbs/p Manhole compensation: Size of opening in
shell plate 16" x 12" Section of compensating ring 4' 6 1/2" dia x 1 1/8" No. of rivets and diameter of rivet holes 34 at 1 7/8" & 44 at 1"
Outer row rivet pitch at ends 10 1/4" Depth of flange if manhole flanged ✓ Steam Dome: Material Steel
Tensile strength 26-30 Tens/p Thickness of shell 3/4" Description of longitudinal joint Single riveted lap.
Diameter of rivet holes 1 1/32" Pitch of rivets 2 1/4" Percentage of strength of joint { Plate 54 Rivets 43.9
Internal diameter 3'-0" Working pressure by Rules 212 lbs/p Thickness of crown 1" No. and diameter of
stays 2 at 2 1/2" Inner radius of crown ✓ Working pressure by Rules ✓
How connected to shell Single riveted Size of doubling plate under dome 4' 6 1/2" dia x 1 1/8" Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 1 7/8" x 10 1/4"

Type of Superheater Smoke Tube Type. Manufacturers of { Tubes Please see Manchester
Steel forgings rept N° F6107.
Steel castings Boyle & Co Ltd
Number of elements 50 Material of tubes Solid drawn steel Internal diameter and thickness of tubes 20 m/m 2 1/2 m/m.
Material of headers Forged steel. Tensile strength 26-30 Tens/p Thickness 1" 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 3.14 square inches Are the safety valves fitted with easing gear Yes. Working pressure as per
Rules Approved for 210 lbs/p Pressure to which the safety valves are adjusted 210 lbs/p Hydraulic test pressure:
tubes 1000 lbs/p forgings and castings 630 lbs/p and after assembly in place 420 lbs/p 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 Yes.

The foregoing is a correct description,
FOR AMOS & SMITH LTD.
H. E. Brown. Manufacturer.

Dates { During progress of work in shops -- } Are the approved plans of boiler and superheater forwarded herewith Yes.
of Survey { while building } { During erection on board vessel -- }
Please see McKay Rpt. Here with
Total No. of visits ✓

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. "BRADMAN" 47508

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boiler has been constructed under special survey and in accordance with the approved plan. It has been satisfactorily fitted on board examined under steam & found good

Charged on machinery report herewith.

Survey Fee £ ✓ : : } When applied for, 19
Travelling Expenses (if any) £ ✓ : : } When received, 19

J. A. Ord
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 8 OCT 1937
Assigned See Incl. 48258