

REPORT ON BOILERS.

No. 53488.

Received at London Office 30 MAY 1946

Date of writing Report 19 When handed in at Local Office 19 Port of Hull

No. in Reg. Book. Surrey held at Selby & Hull Date, First Survey 3. 9. 45. Last Survey 9. 4. 19 46.

on the Steam Trawler 'NORTHELLA' (Number of Visits 33.) Gross Tons 579 Net Tons 216.

Built at Selby By whom built Buchanan Sons Ltd. Yard No. 1311 When built 1946

Engines made at Hull By whom made Ames Smith Ltd. Engine No. 774 When made 4

Boilers made at Hull By whom made Ames Smith Ltd. Boiler No. 774 When made 4

Nominal/Horse Power Owners J. Mann & Son Ltd. Port belonging to Hull.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Apply Frodingham (Letter for Record S ✓)

Total Heating Surface of Boilers 2,555 FT² } 3,590 FT² Is forced draught fitted YES ✓ Coal or Oil fired COAL ✓

No. and Description of Boilers ONE SINGLE END CYLINDRICAL MULTITUBULAR Working Pressure 225 lb. ✓

Tested by hydraulic pressure to 388 lb. Date of test 23.2.46. No. of Certificate 4262 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 67.5 FT² No. and Description of safety valves to each boiler 3 1/2" D.S. ORG ✓

Area of each set of valves per boiler { per Rule 18.8 IN² ✓ as fitted 19.24 IN² ✓ Pressure to which they are adjusted 230 lb. ✓ 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 15" ✓ Is oil fuel carried in the double bottom under boilers NONE

Smallest distance between shell of boiler and tank top plating NONE Is the bottom of the boiler insulated NO

Largest internal dia. of boilers 15' 9 1/16" ✓ Length 11' 0" ✓ Shell plates: Material STL ✓ Tensile strength 31-35 TONS IN² ✓

Thickness 1 5/32" ✓ Are the shell plates welded or flanged NO ✓ Description of riveting: circ. seams { end D.R. LAP ✓ inter. ✓

long. seams T.R. D.B.S. ✓ Diameter of rivet holes in { circ. seams 1 15/32" ✓ long. seams 1 1/2" ✓ Pitch of rivets { 3 7/8" ✓ 9 9/16" ✓

Percentage of strength of circ. end seams { plate 65 ✓ rivets 45 ✓ Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 84.3 ✓ rivets 86.9 ✓ combined 86 ✓

Thickness of butt straps { outer 1 5/32" ✓ inner 1 9/32" ✓ No. and Description of Furnaces in each Boiler THREE DEIGHTEN TYPE CORRUGATION ✓

Material STL Tensile strength 26-30 TONS IN² ✓ Smallest outside diameter 3' - 11 1/32" ✓

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 1 47/64" ✓ bottom 1 64/64" ✓ Description of longitudinal joint WELDED ✓

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

End plates in steam space: Material STL Tensile strength 26-30 TONS IN² ✓ Thickness 1 1/4" ✓ Pitch of stays 19 1/4" x 18 5/8" ✓

How are stays secured DOUBLE NUTS & WASHERS

Tube plates: Material { front STL Tensile strength 26-30 TONS IN² ✓ back " Thickness { 3 1/32" ✓ 29/32" ✓

Mean pitch of stay tubes in nests 9 1/2" x 9 1/2" ✓ Pitch across wide water spaces 14 1/4" ✓

Girders to combustion chamber tops: Material STL Tensile strength 29-33 TONS IN² ✓ Depth and thickness of girder at centre 9' Two 7/8" ✓ Length as per Rule 2' 8 1/4" ✓ Distance apart 9 1/4" ✓ No. and pitch of stays in each THREE 7 1/2" ✓

Tensile strength 26-30 TONS IN² ✓ Thickness: Sides 23/32" ✓ Back 23/32" ✓ Top 11/16" ✓ Bottom 15/16" ✓

Pitch of stays to ditto: Sides 9 3/4" x 8" ✓ Back 9 1/2" x 8 1/4" ✓ Top 9 1/4" x 7 1/2" ✓ Are stays fitted with nuts or riveted over NUTS BOTH ENDS. ✓

Front plate at bottom: Material STL Tensile strength 26-30 TONS IN² ✓ Thickness 3 1/32" ✓ Lower back plate: Material STL Tensile strength 26-30 TONS IN² ✓ Thickness 29/32" ✓

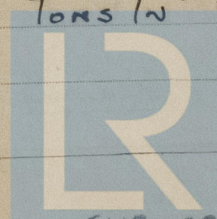
Pitch of stays at wide water space 14 1/2" ✓ Are stays fitted with nuts or riveted over NUTS BOTH ENDS ✓

Main stays: Material STL Tensile strength 28-32 TONS IN² ✓

Diameter { At body of stay, or Over threads } 3 3/8" ✓ No. of threads per inch 6 ✓

Screw stays: Material STL Tensile strength 26-30 TONS IN² ✓

Diameter { At turned off part, or Over threads } 1 3/4", 1 7/8", 2", 2 1/8" ✓ No. of threads per inch 9 ✓



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NORTHELLA

Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, ✓
or
Over threads 2", 2 1/8" ✓

No. of threads per inch 9 ✓

Tubes: Material SAFETY STEEL External diameter { Plain 3 1/2" O.D.
Stay 3 1/2" O.D. ✓ Thickness { 7 W.G.
5/16" 3/8" 7/16" No. of threads per inch 9 ✓

Pitch of tubes 4 3/4" x 4 3/4" ✓ Manhole compensation: Size of opening in
shell plate 16" x 12" Section of compensating ring 4'-11 1/4" DIA x 1 1/2" THK No. of rivets and diameter of rivet holes 118. 1 1/2"

Outer row rivet pitch at ends 4'-6 3/4" P.C.D. Depth of flange if manhole flanged 3 1/2" BOT 3 1/4" TOP Steam Dome: Material STL. ✓

Tensile strength 26-30 TONS IN Thickness of shell 3/4" ✓ Description of longitudinal joint S.R. LAP ✓

Diameter of rivet holes 1 1/32" ✓ Pitch of rivets 2 1/4" ✓ Percentage of strength of joint { Plate 54
Rivets 43.8

Internal diameter 2'-9" ✓ Thickness of crown 15/16" 7/8" ✓ No. and diameter of
stays Two 2 3/8" Inner radius of crown Flat ✓

How connected to shell D.R. ✓ Size of doubling plate under dome 4'-11 1/4" DIA x 1 1/2" THK ✓ Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 1 1/2". 4'-6 3/4" P.C.D.

Type of Superheater ME-LE-SCO R.B. Manufacturers of Steel forgings
Superheater Co. Steel castings

Number of elements 60 ^vMaterial of tubes Solid drawn (cold) M.S. Internal diameter and thickness of tubes

Material of headers Forged steel ✓ Tensile strength _____ Thickness _____ 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 IN² Are the safety valves fitted with easing gear Yes

Pressure to which the safety valves are adjusted 230 lb. ✓ Hydraulic test pressure: _____

tubes 675 #. / forgings and castings 675 # / and after assembly in place 675 # / Are drain cocks or

valves fitted to free the superheater from water where necessary. 4/10

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
W. E. Brown Manufacturer.

1943. Sept. 3, 21. Oct 5, 15, Nov. 21, Dec. 7, 18.
 Dates of Survey while building { During progress of work in shops - - } 1944 Jan. 3, 9, 25. Feb. 7, 11, 12, 19, 23, Nov. 2. Are the approved plans of boiler and superheater forwarded herewith 23.5.45.
 (If not state date of approval.)
 { During erection on board vessel - - - } See machinery report. Total No. of visits 33.

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

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

This boiler has been constructed under Special Survey in accordance with the Rules, approved plans and the Secretary's letters. The workmanship and materials are good. The boiler has been installed in steam trawler "NORTHELLA", tried under working conditions, safety valves adjusted under steam and accumulation test held. On completion of all tests the boiler was found satisfactory in every respect.

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

W. Shields.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See F. E. machy. rpt.