

REPORT ON BOILERS.

No. 18346

Received at London Office

30 OCT 1942

Date of writing Report 27/10/1942 When handed in at Local Office 27/10/1942 Port of W. Hartlepool

No. in Survey held at Reg. Book.

Hartlepool

Date, First Survey 23rd AprilLast Survey 24th October, 1942

on the

S.S. "EMPIRE NUGGET"

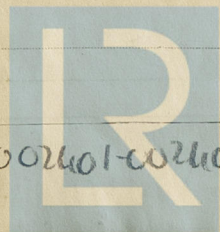
(Number of Visits 81)

Gross
Tons
Net

Built at Hawerton, Me By whom built Furness Shipbuilding Co. Ltd. Yard No. 349 When built 1942
 Engines made at Hartlepool By whom made Rickman, Westgate Co. Engine No. 2729 When made ""
 Boilers made at "" By whom made "" " "" Boiler No. "" When made ""
 Nominal Horse Power 674 Owners MINISTRY OF WAR TRANSPORT Port belonging to LONDON.
Messrs ANGLO SAXON PETROLEUM CO. LD

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co. of Scotland (Letter for Record S)
 Total Heating Surface of Boilers 10020 Sq. ft. Is forced draught fitted Yes Coal or Oil fired oil
 No. and Description of Boilers 3 S.E. Multitubular Working Pressure 220 LBS/sq. in.
 Tested by hydraulic pressure to 380 LBS/sq. in. Date of test 12/9 No. of Certificate 3979 Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2-2½" Spring loaded high lift
 Area of each set of valves per boiler {per Rule 8.65 0" 8.88 as fitted 9.8 0" 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 ✓
 Smallest distance between boilers or uptakes and bunkers or woodwork 3'-9" Is oil fuel carried in the double bottom under boilers Yes
 Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated ✓
 Largest internal dia. of boilers 16'-2 31/32" Length 12'-6" Shell plates: Material Steel Tensile strength 30/34
 Thickness 1 33/64" Are the shell plates welded or flanged No Description of riveting: circ. seams {end DRL inter. none
 long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1½" long. seams 1 9/16" Pitch of rivets {4" plate ✓ rivets ✓
 Percentage of strength of circ. end seams {plate 62.5 rivets 44.7 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓
 Percentage of strength of longitudinal joint {plate 85.1 rivets 86.7 combined 87.5
 Thickness of butt straps {outer 15/32" inner 1 9/32" No. and Description of Furnaces in each Boiler 3 Dighton (grainy necks)
 Material Steel Tensile strength 26/30 Smallest outside diameter 3'-11 23/32"
 Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 4 7/16" bottom 6 1/4" Description of longitudinal joint welded
 Dimensions of stiffening rings on furnace or c.c. bottom ✓
 End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 13/32" Pitch of stays 22 1/4" x 18 1/2"
 How are stays secured double nuts
 Tube plates: Material {front Steel back Steel Tensile strength 26/30 Thickness {15/16" 1 1/8"
 Mean pitch of stay tubes in nests 9 5/8" Pitch across wide water spaces 14 1/2" x 7 1/4"
 Girders to combustion chamber tops: Material Steel Tensile strength 29/33 Depth and thickness of girder
 at centre 2-11 3/4" x 1" Length as per Rule 3'-10 1/2" Distance apart 9" No. and pitch of stays
 in each 3 @ 11 1/8" Combustion chamber plates: Material Steel
 Tensile strength 26/30 Thickness: Sides 13/16" Back 23/32" Top 13/16" Bottom 29/32"
 Pitch of stays to ditto: Sides 9" x 11 1/8" Back 9" x 8" Top 9" x 11 1/8" Are stays fitted with nuts or riveted over nuts
 Front plate at bottom: Material Steel Tensile strength 26/30
 Thickness 15/16" Lower back plate: Material Steel Tensile strength 26/30 Thickness 15/16"
 Pitch of stays at wide water space 15 3/8" x 8" Are stays fitted with nuts or riveted over nuts
 Main stays: Material Steel Tensile strength 28/32
 Diameter {At body of stay, 3 1/2" No. of threads per inch 6
 {Over threads 3 1/2"
 Screw stays: Material Steel Tensile strength 26/30
 Diameter {At turned off part, 2 1/4" 13/4" No. of threads per inch 9
 {Over threads 2 1/4" 13/4"



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Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 2 1/4"
Over threads

No. of threads per inch 9 ✓

Tubes: Material Steel ✓ External diameter { Plain } 2 1/2" ✓ Thickness { 8/16" } No. of threads per inch 9 ✓
{ Stay } 2 1/2" ✓

Pitch of tubes 4" + 35/8" ✓ Manhole compensation: Size of opening in
shell plate 16 1/2" + 20 1/2" ✓ Section of compensating ring 18 3/8" x 1 3/8" ✓ No. of rivets and diameter of rivet holes 34 - 1 7/8" ✓

Outer row rivet pitch at ends 10 1/2" ✓ Depth of flange if manhole flanged 3 1/4" ✓ Steam Dome: Material ✓

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 C.C. Type Saturated by N.E. Harmer Ltd ✓ Manufacturers of { Tubes Stewart & Lloyd ✓
Steel forgings " ✓
Steel castings " ✓

Number of elements 36 ✓ Material of tubes S.D. Steel ✓ Internal diameter and thickness of tubes 1.243" x 7/8" ✓

Material of headers S.D. Steel ✓ Tensile strength 26/28 ✓ 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 3.1416 sq" ✓ Are the safety valves fitted with easing gear Yes ✓

Pressure to which the safety valves are adjusted 220 lb. 0" ✓ Hydraulic test pressure:
tubes 1500 lb/17" ✓ forgings and castings 660 lb/10" ✓ and after assembly in place 660 lb/10" ✓ 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 RICHARDSON, WESTGARTH & Co. LIMITED. Manufacturer.
W.E. Mearns DIRECTOR

Dates { During progress of } ✓ Are the approved plans of boiler and superheater forwarded herewith
of Survey { work in shops - - } (If not state date of approval.)
while { During erection on } ✓
building { board vessel - - } ✓

Total No. of visits ✓

Is this Boiler a duplicate of a previous case Yes ✓ If so, state Vessel's name and Report No. 27/16 Report No. 18314

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

The boilers have been constructed under Special Survey
& in accordance with the Specification & approved plan for a working
pressure of 220 lb/10".

The materials & workmanship have been found good.
Upon completion the boilers were tested with a
hydraulic pressure of 380 lb/10" & found sound & tight.

These boilers have been forwarded to Haverford Hill.

The Boilers securely fitted on board, examined under working condition.
& found satisfactory. Safety valves adjusted under steam to 220 lb 0"
on completion.

Survey Fee ... £ See Rpt 4 } When applied for, 19
Travelling Expenses (if any) £ ✓ } When received, 19

Clive Bell & S.W. Boyd
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRL 27 NOV 1942

Assigned

See Mdb. 26 17375



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