

## REPORT ON BOILERS.

No. 930-31-32

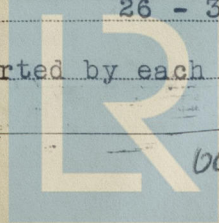
Received at London Office

19 JUL 1943

Date of writing Report 7th. June 43 10th. June 43 Port of TORONTO, CANADA  
 3rd Feb. 19 43 When handed in at London Office  
 No. in Reg. Book Survey held at TORONTO, CANADA Date, First Survey Oct. 21/42 Last Survey 4th. June 43  
Dec. 15, 1942 Jan. 30, 19 43  
 on the 10,000 ton Cargo Vessel "FORT ALBANY" (Number of Visits 30 & 38) Gross 7131  
 Tons Net 4243  
 Built at Lanzon Levis, Que. By whom built Davie Shipbuilding & Repairing Co. Ltd. Yard No. 544 When built 1943  
 Engines made at Lachine, P.Q. By whom made Dominion Engineering Works Ltd. Engine No. 82 - When made 1943  
37-4410  
 Boilers made at Toronto, Ontario By whom made John Inglis Co. Ltd. Boiler No. 38-4411 When made 1943  
36-4409  
 Nominal Horse Power 504 Owners Wartime Merchant Shipping Ltd. Port belonging to Montreal P.Q.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Heads, Lukens Steel Co. Shell, Bethlehem Steel Co. C.C. plates, Steel Co. of Canada Ltd.  
 Total Heating Surface of Boilers 7140 Sq. Ft. Is forced draught fitted Yes Coal or Oil fired Coal  
 No. and Description of Boilers Three 14' 9" ext. dia. x 11' 9" long Scotch Marine Working Pressure 220 lbs. per sq. in.  
 Tested by hydraulic pressure to 380 lbs. Date of test 27.1.43 No. of Certificate 931 Can each boiler be worked separately Yes  
30.1.43 932  
 Area of Firegrate in each boiler 45 sq. ft. No. and Description of Safety valves to each boiler One Cockburn Morrison twin valve High Lift  
 Area of each set of valves per boiler { per Rule 6.33 Sq. in. Pressure to which they are adjusted 220 lbs. Are they fitted with easing gear Yes  
 { as fitted 7.95 Sq. in.  
 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 6'-0" Is oil fuel carried in the double bottom under boilers No  
 Smallest distance between shell of boiler and tank top plating 2'-0" Is the bottom of the boiler insulated Yes  
 Largest internal diameter of boilers 14' 6-3/16" Length 11' 9" over Shell plates: Material O H Steel Tensile strength 29 - 33 tons  
 Thickness 1-13/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end double rivetted  
 { inter. 4.275"  
 Long. seams Triple Rivetted Butt Diameter of rivet holes in { circ. seams 1-1/2" Pitch of rivets { 10-1/16"  
 { long. seams 1-1/2"  
 Percentage of strength of circ. end seams { plate 64.6 Percentage of strength of circ. intermediate seam { plate 85  
 { rivets 46.8 { rivets 93.4  
 Percentage of strength of longitudinal joint { plate 85 Working pressure of shell by rules - 221.2 lbs. per  
 { rivets 93.4 sq. in.  
 { combined 88.68  
 Thickness of butt straps { outer 1-3/32 No. and Description of Furnaces in each Boiler Three Morrison, 3' 4-1/4" dia. x  
 { inner 1-7/32 7' 7-11/16" long  
 Material O H Steel Tensile strength 26 - 30 tons Smallest outside diameter 3' 5-9/16"  
 Length of plain part { top 21/32" Thickness of plates { crown 21/32" Description of longitudinal joint Welded and rolled  
 { bottom 21/32"  
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by rules 230.9 lbs. per sq. in.  
 End plates in steam space: Material O H Steel Tensile strength 26 - 30 tons Thickness 1-1/32 end plate Pitch of stays 21" x 21"  
 How are stays secured Nuts, outside and inside, Spigotted washers. Working pressure by rules 221 lbs. per sq. in.  
 Tube plates: Material { front O H Steel Tensile strength { 26 - 30 tons Thickness { 1-1/32  
 { back O H Steel { 26 - 30 tons { 13/16  
 Mean pitch of stay tubes in nests 9.8" Pitch across wide water spaces 14-1/2" x 8-1/4" Working pressure by rules Front 265 lbs. Back 252 lbs.  
 Girders to combustion chamber tops: Material O H Steel Tensile strength 26 - 30 tons Depth and Thickness of girder  
 at centre 10-1/4" x 2-7/8" plts. length as per Rule 34" Distance apart 11" No. and pitch of stays  
 in each Three 7-5/8 Working pressure by rule 229.3 lbs. Combustion chamber plates: Material O H Steel  
 Tensile strength 26 - 30 tons Thickness: Sides 25/32" Back 23/32" Top 25/32" Bottom 25/32"  
 Pitch of stays to ditto: Sides 9 x 10-3/16 Back 9" x 9" Top 7-5/8 x 11" Are stays fitted with nuts or riveted over Fitted with nuts  
 Working pressure by rules 224 lbs. Front plate at bottom: Material O H Steel Tensile strength 26 - 30 tons  
 Thickness 1-1/32" Lower back plate: Material O H Steel Tensile strength 26 - 30 tons Thickness 1-1/32"  
 Pitch of stays at wide water space 14-1/2" x 9" Are stays fitted with nuts or riveted over Fitted with nuts  
 Working pressure by rules 302 lbs.  
 Main stays: Material O H Steel Tensile strength 28 - 32 tons  
 Diameter { At body of stay 3-3/4" No. of threads per inch 6 Area supported by each stay 441 sq. in.  
 { Over threads 3-3/4" Working pressure by rules 244 lbs. Tensile strength 26 - 30 tons  
 Screw stays: Material O H Steel Tensile strength 26 - 30 tons Back 81 sq. in.  
 Diameter { At turned off part Back 1-3/4" No. of threads per inch 9 Area supported by each stay CC Sides 91.68  
 { Over threads CC Sides 1-7/8" sq. in.


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Working pressure by rules Back 224 lbs.,

CC Sides 232 lbs.

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 75 sq. in. Working pressure by rules 232 lbs.

Tubes: Material O H Steel External diameter { Plain 3" Stay 3" Thickness { No. 8 L.S.G. (160") 3/8" & 5/16" No. of threads per inch 9

Pitch of tubes 4-1/4" x 4-1/8" Working pressure by rules 231 lbs. Manhole compensation: Size of opening in Backhead 12" x 16" Section of compensating ring 1-1/4" x 1/2" No. of rivets and diameter of rivet holes 3-3/4" Steam Dome: Material None

Outer row rivet pitch at ends - Depth of flange if manhole flanged - Description of longitudinal joint -

Tensile strength - Thickness of shell - Percentage of strength of joint { Plate Rivets -

Diameter of rivet holes - Pitch of rivets - No. and diameter of Internal diameter - Thickness of crown -

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 Smoke tube Made by others Manufacturers of { Tubes National Tube Co. Penna. Steel forgings The Superheater Co., Sherbrooke PQ Steel castings " " " " "

Number of elements 58 Material of tubes S.D. Steel Internal diameter and thickness of tubes .69" & .095"

Material of headers O.H. Steel Tensile strength 33.5 tons Thickness 1 1/8" min. 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 1.76 sq. ins. Are the safety valves fitted with easing gear -

Pressure to which the safety valves are adjusted 220 lbs. per sq. in. Hydraulic test pressure: tubes 1500 lbs./0" forgings and castings 700 lbs./0" and after assembly in place 400 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 Yes

The foregoing is a correct description,

The John Inglis Company Limited

Manufacturer.

Dates of Survey { During progress of work in shops - - Dec. 15.16.17.18.19.21.23.24. 28.29.30 The approved plans of boiler and superheater forwarded herewith 6.10.41 N.Y. 29.4.42 N.Y. while building { During erection only Jan. 2.3.4.6.8.10.12.14.18 Total No. of visits 30 & All in shop 21st Oct./42 to 4th June, 1943

board vessel - - - 19.20.21.22.23.26.27.28.29.30 35 = 65

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Inglis S. Marine (NEM Type) 29/4/42 N.Y. app.

Combustion Chambers Welded

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers were built under the Special Survey of the Society's Surveyors to the Rules & Requirements and in accordance with the approved plan. The materials were made at an approved works and were satisfactorily tested by the Society's Surveyors. The workmanship was good and in my opinion the boilers are eligible to be classed in this Society when they have been satisfactorily installed, seen under steam and their safety valves adjusted. Note: All combustion chambers had welded seams as plan 168-66 approved N.Y. 29.4.42.

The boilers were tested to a hydrostatic pressure of 380 lbs. and were approved and stamped -

Boiler No. 4409  
Lloyd's Test  
930  
T.P. 380 lbs.  
W.P. 220 lbs.  
J.B.F. 23.1.42

Boiler No. 4410  
Lloyd's Test  
931  
T.P. 380 lbs.  
W.P. 220 lbs.  
J.B.F. 27.1.43

Boiler No. 4411  
Lloyd's Test  
932  
T.P. 380 lbs.  
W.P. 220 lbs.  
J.B.F. 30.1.43

Spares (1-Set of 3 boilers) 1 Main check valve lid, 184 Firebars, 1 doz. water gauge glasses 2 dozen washers for glasses, 2 spare seats and spindles for water gauges, 15 plain tubes, 3 stay tubes for each size fitted, 9 manhole gaskets, 1 spanner for manhole doors, 2 each right & left side bars, 2 each right, left & centre deadplates, 2 each right and left back bearer plates, 2 bridge plates, 2 bottom plates. Metal patterns for the following 3 fire bars, 1 right dead plate, 1 left dead plate, 1 centre, 1 bridge plate, 1 bridge bottom plate, 1 right back bearer plate, 1 left back bearer plate, 1 right side bar, 1 left side bar.

Survey Fee ... £ \$150.00 :

When applied for, June 21 1943

Travelling Expenses (if any) £ 10.00 :

When received, 19

D. Halkett & Jas B. Sanders  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 10 AUG 1943

Assigned

see minute on  
mtd J.E. Rpt.



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Foundation