

## REPORT ON BOILERS.

No. 13983.

Received at London Office

20 JUN 1930

Date of writing Report 18-6-1930 When handed in at Local Office 19-6-1930 Port of SOUTHAMPTON.

No. in Reg. Book. Survey held at Southampton Date, First Survey 2-5-30 Last Survey 13-6-1930

on the Steel Barge JAMES ROCKBREAKER (Number of Visits 5) Gross Tons Net

Master Built at Leeuwarden By whom built J. Meyer's SB Co Yard No. 562 When built 1930.

Engines made at Cyone By whom made Engine No. When made

Boilers made at Harlepool By whom made Richardson Blackthorn &amp; Co. Boiler No. D173 When made 1927.

Nominal Horse Power Owners James Dredging Tugs &amp; Transport Co Ltd Port belonging to London.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Dalgell Steel &amp; Iron Works &amp; Lucas Forge Co Ltd (Letter for Record S)

Total Heating Surface of Boilers 1264 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One Single ended (S.B.) Working Pressure 100 lbs/sq in

Tested by hydraulic pressure to 200 lbs/sq in Date of test 26-5-30 No. of Certificate None Can each boiler be worked separately

Area of Firegrate in each Boiler 33 sq ft No. and Description of safety valves to each boiler 2 - Spring loaded High Lift 2 1/2" dia

Area of each set of valves per boiler (per Rule 1374 x 3 = 9.163) as fitted 9.85 Pressure to which they are adjusted 100 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 No Main Boilers

Smallest distance between boilers or uptakes and bunkers or woodwork Over 2 feet Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating No Tank top plating Is the bottom of the boiler insulated No

Largest internal dia. of boilers 11'-4" (136") Length 10'-0" (mean) Shell plates: Material Steel Tensile strength 28/32 tons/sq in

Thickness 30/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R. lap inter. None

long. seams D.R. Butt straps Diameter of rivet holes in (one rivet omitted in the Outer rows) circ. seams 1 3/32" long. seams 1 1/32" Pitch of rivets 3 1/2" 5 1/8"

Percentage of strength of circ. end seams (plate 68.8% rivets 47.1%) Percentage of strength of circ. intermediate seam (plate 81.5% rivets 78.8%)

Percentage of strength of longitudinal joint (plate 89.1% rivets 89.1%) Working pressure of shell by Rules 165 lbs/sq in

Thickness of butt straps (outer 28/32" inner 28/32") No. and Description of Furnaces in each Boiler 2 - Morrison Suspension

Material Steel Tensile strength 26/30 tons/sq in Smallest outside diameter 38 1/2"

Length of plain part (top bottom Corrugated) Thickness of plates (crown 16/32 bottom 3/32) Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 187 lbs/sq in

End plates in steam space: Material Steel Tensile strength 26/30 tons/sq in Thickness 33/32" Pitch of stays Van der Laan

How are stays secured Double nuts &amp; washers Working pressure by Rules 148 lbs/sq in

Tube plates: Material (front back Steel) Tensile strength (26/30 tons/sq in) Thickness (26/32" 25/32")

Mean pitch of stay tubes in nests 10 1/16" Pitch across wide water spaces 13 1/4" x 8 1/2" Working pressure (front 182 lbs/sq in back 187 lbs/sq in)

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons/sq in Depth and thickness of girder

at centre 7 1/4" x (3 1/2" x 2) Length as per Rule 29 3/2" Distance apart 9 1/4" No. and pitch of stays

in each 3 - 6 3/4" Working pressure by Rules 169 lbs/sq in Combustion chamber plates: Material Steel

Tensile strength 26/30 tons/sq in Thickness: Sides 8/32" Back 9/32" Top 18/32" Bottom 18/32"

Pitch of stays to ditto: Sides 7" x 9" Back 8" x 8 1/2" Top 6 3/4" x 9 1/4" Are stays fitted with nuts or riveted over No

Working pressure by Rules 177 lbs/sq in Front plate at bottom: Material Steel Tensile strength 26/30 tons/sq in

Thickness 26/32" Lower back plate: Material Steel Tensile strength 26/30 tons/sq in Thickness 25/32"

Pitch of stays at wide water space 13 1/4" x 8" Are stays fitted with nuts or riveted over No

Working Pressure 203 lbs/sq in Main stays: Material Steel Tensile strength 28/32 tons/sq in

Diameter (At body of stay, or Over threads 2 3/4" x 2 1/2") No. of threads per inch 6 Area supported by each stay 3220 sq in 2620 sq in

Working pressure by Rules 169 lbs/sq in Screw stays: Material Steel Tensile strength 26/30 tons/sq in

Diameter (At turned off part, or Over threads 1 1/2") No. of threads per inch 9 Area supported by each stay 6850 sq in



Working pressure by Rules  $183\frac{1}{2}$  Are the stays drilled at the outer ends *80%* Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 1\frac{5}{8}$

No. of threads per inch *9* Area supported by each stay  $89\frac{1}{2}$  Working pressure by Rules  $171\frac{1}{2}$

Tubes: Material *Steel* External diameter  $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 3\frac{1}{4}$  Thickness  $\left\{ \begin{array}{l} 9.456 \\ 7, 7\frac{1}{2}, 7\frac{3}{8} \end{array} \right.$  No. of threads per inch *9*

Pitch of tubes  $4\frac{1}{4} \times 4\frac{3}{8}$  Working pressure by Rules  $180\frac{1}{2}$  Manhole compensation: Size of opening in shell plate  $12 \times 16$  Section of compensating ring  $7\frac{1}{8} \times 11\frac{5}{16}$  No. of rivets and diameter of rivet holes  $(3 \times 2) - 1\frac{1}{2}$  holes

Outer row rivet pitch at ends *6"* Depth of flange if manhole flanged  $3\frac{1}{8}$  Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown Working pressure by Rules

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 Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off and the boiler be worked separately

Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per Rules

Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes, castings and after assembly in place Are drain cocks or valves fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with

*Yes*

The foregoing is a correct description,

Manufacturer.

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops - -} \\ \text{while} \\ \text{building} \end{array} \right. \left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel - -} \end{array} \right.$

*May. 2-20-26-30 June 13*

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits *5*

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

*This Boiler ex. the steam hopper "Cargo Fleet 0401" has been examined internally & externally together with its Safety Valves & mountings & found in good condition & its scantlings in accordance with the approved plan.*

*It has now been satisfactorily fitted on board the above vessel & is eligible, in my opinion, to have the notation N.B. made 1927 fitted 1930.*

*The pumping arrangements in the vessel have been completed & are in accordance with the plan approved in the Secretary's letter (E) of 3.5.30.*

*It is submitted that this vessel is eligible for THE RECORD.*

*N.B. made '27 refitted '30. — 100 lb.*

Survey Fee ... .. £ *8 : 8 : 0*

When applied for, *19/6/1930*

Travelling Expenses (if any) £ : :

When received, *19.9.1930*

*[Signature]*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*TUE. 24 JUN 1930*

Assigned

*N.B. made '27*

*refitted '30 100 lb.*



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