

Rpt. 4.

## REPORT ON MACHINERY

No. 38033

Date of writing Report 5-8-1918

1918

When handed in at Local Office 10-8-1918

1018

Port of Glasgow

Received at London Office

14.10.18

No. in Survey held at  
Reg. Book.

Glasgow

Date, First Survey 13 July 1917

Last Survey 8 August 1918

(Number of Visits 66)

on the Machinery for the Twin Screw Steamer "SAINTS"

Master J. H. Spence

Built at Chepstow

By whom built Smith &amp; Co. &amp; Co.

Tons Gross 468

Net 168

When built 1918

Engines made at Glasgow

By whom made The North British Diesel Eng. Co. &amp; Co.

when made 1918

Boilers made at Glasgow

By whom made W. &amp; A. Beardmore &amp; Co. &amp; Co.

when made 1918

Registered Horse Power

Owners H. &amp; J. Government

Port belonging to London

Nom. Horse Power as per Section 28 204

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

## ENGINES, &amp;c.—Description of Engines

Triple Expansion Twin Screw

No. of Cylinders 6

No. of Cranks 6

Dia. of Cylinders 15", 23 1/2", 36"

Length of Stroke 24"

Revs. per minute

Dia. of Screw shaft 7.62"

as per rule

Material of screw shaft 4.62"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

in the propeller boss — If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

liners are fitted, is the shaft lapped or protected between the liners

No liners

Tiebars

Length of stern bush 2.6"

Dia. of Tunnel shaft as per rule

None

Dia. of Crank shaft journals as per rule

None

as fitted

4.12"

Dia. of Crank pin 4 1/2"

Size of Crank webs 4 1/2" x 8 1/2"

Dia. of thrust shaft under

collars 4 1/4"

Dia. of screw 8-8"

Pitch of Screw 10-6"

No. of Blades 4

State whether moveable No

Total surface 25 sq

No. of Feed pumps 1 M. &amp; A.

Diameter of ditto 5 1/2"

Stroke 15"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 1

Diameter of ditto 8"

Stroke 15"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 3

In Engine Room 3-2"

Sizes of Pumps as above

No. and size of Suctions connected to both Bilge and Donkey pumps

In Holds, &amp;c. 1-2" fore peak, 1-2" fore hold, 1-2" after well

1-2" A.P.T.

No. of Bilge Injections 2

sizes 3"

Connected to circulating pump B.P.

Is a separate Donkey Suction fitted in Engine room &amp; size

Yes 2"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

None

Are all connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Yes

Are the Discharge Pipes above or below the deep water line

At

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

What pipes are carried through the bunkers

None

How are they protected

Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Yes

Dates of examination of completion of fitting of Sea Connections July 23

of Stem Tubes July 20, 23

Screw shafts and Propellers July 25

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

Yes

worked from

Yes

## BOILERS, &amp;c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers 4216 sq

Is Forced Draft fitted No

No. and Description of Boilers 2 Single ended marine

Working Pressure 160 lb

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: air seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

crown

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

End plates in steam space:

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

Thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Lloyd's Register

Foundation



*Manufacturers of Steel*

Diameter of uptake      Thickness of uptake plates

**SPARE GEAR.** State the articles supplied:— 1 piston rod & packing; 1 pair guide shoes, main bearing & connecting rod brasses  
4 bottom end, 8 top end, 4 main bearing bolts. Eccentric rod & strap; slide rod & brasses. 1 set piston & piston valve rings  
& springs. Studs & nuts for covers, 1 assorted. 40 condenser tubes. Metallic valves, set of thrust collars. 8 stay 12 1/2 plain boiler  
tubes. 4 safety valve springs. Spare gear for auxiliaries, steering & capstan engines.

The foregoing is a correct description,

FOR THE NORTH BRITISH DIESEL ENGINE WORKS, LTD.  
J. R. Holloway.

*Manufacturer.*

Dates of Survey while building	During progress of work in shops --	1914 July 8 Aug 9, 31 Sep 6, 20 Oct 3, 4, 22, 30 Nov 5, 7, 8, 12, 15, 20, 21, 26, 27, 29, 30 Dec 3, 4, 7, 12, 14, 18, 24
	During erection on board vessel --	1918 Jan 7, 11, 14, 24, 25, 30, 31 Feb 8, 12, 21, 26 Mar 5, 11, 16, 18, 27 Apr 4, 15, 22, 25, 29 May 1, 6, 14, 23, 24, 27 Jun 1, 5, 10, 29 July 5, 23, 27 Aug 8
	Total No. of visits	66 + 24 = 90

Is the approved plan of main boiler forwarded herewith

June 21, July 9, 16, 19, 20, 23, 29. Aug 2, 14, 15, 21, 30.  
Sept. 2, 5, 6, 8, 10, 11, 12, 14, 15, 16, 17, 18.

Dates of Examination of principal parts—Cylinders 31-1-18 Slides 26-11-17 Covers 31-1-18  
 Thrust shaft 26-0-18 Tunnel shafts 29-1-18 Screw shafts 29-6-18 Propeller 1-6-18

Connecting rods 2-6-18 Crank shaft 2-6-18  
Steam pipes tested 12-7-18 Engine and boiler seatings 12-7-18 Engines holding down bolts 2-8-18

Completion of pumping arrangements 6.9.18 Boilers fixed 9.8.18 Engines tried under steam 12.7.18

Main boiler safety valves adjusted 6.9.18

Material of Crank shafts	Identification Mark on Do.	Material of Screw shafts	Identification Marks on Do.
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Material of Tunnel shafts *Steel, lap welded* ✓ Test pressure *480 lbs.* ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c. ....)

The machinery has been tried under special survey in

with the Rules of the Society & the approved manner.

has been furnished to Chaplain in the form of

The Workmanship & materials are good.

the Machinery is eligible, and very good, and has been securely fitted on

T. L. M. C. with data when to have with satisfactory results.

brave & trust under

14. *As the 1st of Dec. has been fitted on board efficiently, it is now eligible to be classed with*

The machinery of this vessel has now nearly completed, and has been tried under steam & found satisfactory, in accordance with specifications.

record of L.M.C. 9-18, having run, and

It is submitted that  
this vessel is eligible for

THE RECORD. + LMC 9.18

Below the

*Inquis Only*      32 . 4 . 9      *When applied for.*      *John B. Compton*

[illegible]

Donkey Boiler Fee £ 16 2

When received.

Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Travelling Expenses (if any) £ 2486/-

Committee's Minute

(The Assigned Defered for compln

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