

REPORT ON MACHINERY.

No. 70821

Received at London Office

SAT. 6-APR. 1918

Date of writing Report 4th March 1918 When handed in at Local Office

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Newcastle

Date, First Survey

10th July 1917

Last Survey

22nd March 1918

Reg. Book.

on the S.S. "Clan Macneil"

(Number of Volls)

Gross 5815

Net 3121

Master

Built at Newcastle

By whom built

Northumberland & B. Co.

When built 1918

Engines made at

Newcastle

By whom made

N. E. Maine Eng Co

29/4 when made

1918

Boilers made at

do

By whom made

do

when made

1918

Registered Horse Power

Owners

Cayser & Co Ltd

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

569

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

27" - 45" - 75"

Length of Stroke

51"

Revs. per minute

74

Dia. of Screw shaft

as per rule 14.92"

Material of

Iron

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

Yes

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

If two

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

Length of stern bush

5' - 8"

Dia. of Tunnel shaft

as per rule 13.68"

Dia. of Crank shaft journals

as per rule 14.37"

Dia. of Crank pin

14.5"

Size of Crank webs

29" x 9 1/2"

Dia. of thrust shaft under

collars

15"

Dia. of screw

17' - 9"

Pitch of Screw

1' - 9"

No. of Blades

4

State whether moveable

No

Total surface

96 ft

No. of Feed pumps

2

Diameter of ditto

10 1/2" x 8"

Stroke

21"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2"

Stroke

27"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

10" x 12" x 10" & 7 1/2" x 5" x 6"

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

In Engine Room

Three

3 1/2"

In Holds, &c.

No 1 hold 2-3 1/2"

No 2 hold 2-3 1/2"

No. of Bilge Injections

1

sizes

10"

Connected to condenser or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes

3 1/2"

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

Both

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

Bilge

suctions

How are they protected

Wood casing

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 bilge

Yes

Dates of examination of completion of fitting of Sea Connections

11-12-17

of Stern Tube

11-12-17

Screw shaft and Propeller

11-1-18

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top platform

BOILERS, &c.—(Letter for record)

S

Manufacturers of Steel

John Spence & Sons

Total Heating Surface of Boilers

8478

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three, single ended

2-12-17

No. of Certificate

1-9030

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

5-1-18

No. of Certificate

1-9033

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

642 ft

No. and Description of Safety Valves to

each boiler

Two, Spring

Area of each valve

9.62 sq

Pressure to which they are adjusted

Smallest distance between boilers or uptakes and bunkers or woodwork

2 ft

Mean dia. of boilers

15' - 9"

Length

12' - 0"

Material of shell plates

Steel

Thickness

1 3/16"

Range of tensile strength

29 3/4 - 33

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

8 Lap

long. seams

SBS L Riv

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 3/4"

Lap of plates or width of butt straps

18 1/2"

Per centages of strength of longitudinal joint

rivets 87.8

plate 86.7

Working pressure of shell by rules

182 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3, Morrison

Material

Steel

Outside diameter

50 1/2"

Length of plain part

top 19"

Thickness of plates

bottom 32"

Description of longitudinal joint

Welded

No. of strengthening rings

23"

Top 23"

Bottom 17 1/2"

Working pressure of furnace by the rules

186 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

23/32"

Back

32"

Top

32"

Pitch of stays to ditto: Sides

10 1/2" x 9"

Back

10" x 9 3/4"

Top

10 1/2" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

182 lbs

Material of stays

Steel

Diameter at smallest part

2.03"

Area supported by each stay

97.5 sq

Working pressure by rules

187 lbs

End plates in steam space

Material of stays

Material

Steel

Thickness

1 7/16"

Pitch of stays

23 3/4" x 22 1/2"

How are stays secured

N & W

Working pressure by rules

183 lbs

Diameter at smallest part

9.62"

Area supported by each stay

53.4 sq

Working pressure by rules

189 lbs

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

29/32"

Greatest pitch of stays

14 1/2"

Working pressure of plate by rules

186 lbs

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4" x 3 5/8"

Material of tube plates

Steel

Thickness: Front

1"

Back

13/16"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

182 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9" x 2"

Length as per rule

Working pressure by rules

181 lbs

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

End plates: Thickness

How stayed

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Are they fitted with easing gear

Working pressure of end plates

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:—

Two top end, two bottom end & two main bearing bolts & nuts, a set of coupling bolts, a set of feed & bilge pump valves, a quantity of assorted bolts nuts & washers & a propeller.

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD.

J. Harrison

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1917 Jan. 10, Aug. 7, 9, 15, 21, 24, 28, 29, Feb. 7, 10, 12, 13, 17, 19, 21, 24, 25, 27, 28, Oct. 1, 2, 4, 8, 10, 11, 15, 16, 19, 24, 26, 29, 30, Nov. 6, 8, 13, 15, 19, 23, 28, 29, 30, Dec. 10, 11, 12, 17, 18, 20, 27, 1918 Jan. 3, 7, 9, 10, 11, 15, 22, 23, Feb. 1, 7, 12, 14, 15, 20, 21, 22, 25, Mar. 15, 20, 22
During erection on board vessel -- }
Total No. of visits 69

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 4-10-17 Slides 9-1-18 Covers 8-10-17 Pistons 8-10-17 Rods 30-11-17
Connecting rods 30-11-17 Crank shaft 11-12-17 Thrust shaft 10-10-17 Tunnel shafts 4-10-17 Screw shaft 19-11-17 Propeller 12-12-17
Stern tube 19-11-17 Steam pipes tested 15-2-18 Engine and boiler seatings 11-1-18 Engines holding down bolts 1-2-18
Completion of pumping arrangements 22-2-18 Boilers fixed 1-2-18 Engines tried under steam 22-2-18
Main boiler safety valves adjusted 22-2-18 Thickness of adjusting washers P.B. $P\frac{1}{4} S\frac{7}{16}$ C.B. $P\frac{5}{16} S\frac{3}{8}$ S.B. $P\frac{5}{16} S\frac{3}{8}$
Material of Crank shaft Steel Identification Mark on Do. Y. X. 12-17 Material of Thrust shaft Steel Identification Mark on Do. Y. X. 10-17
Material of Tunnel shafts Steel Identification Marks on Do. Y. X. 10-17 Material of Screw shafts Non Identification Marks on Do. Y. X. 11-17
Material of Steam Pipes Steel Test pressure 540 lbs

Is an installation fitted for burning oil fuel No

Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The engines & boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam & the boiler safety valves adjusted at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of +LMC 3-18. A report on the electric installation will be forwarded when received from the Electricians.

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.18. FD.

WLD 8/4/18

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for, 5- APR 1918
Special ✓ £ 48 : 9 : 0
Donkey Boiler Fee ... £ ...
Travelling Expenses (if any) £ ...
When received, 11-4-1918

Thomas Field
Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE APR 9 1918
Assigned + LMC 3.18 FD

MACHINERY CERTIFICATE WRITTEN