

REPORT ON MACHINERY.

Received at London Office

Date of writing Report

When handed in at Local Office 15 MAR 1918

Port of Sunderland

No. in Survey held at Sunderland

Date, First Survey 12 June 17

Last Survey 16 April 1918

Reg. Book.

on the new steel s.s. "MAINDY DENE"

(Number of Vols. H.S.)

Gross 3166.57

Net 1900.00

Master Culliford

Built at Stockton

By whom built Cairn & Taylor & Co. Ltd. (S/S No. 191)

When built 1918

Engines made at Sunderland

By whom made North Eastern Marine Eng. Co. Ltd. (No. 2276) when made 1918

Boilers made at Sunderland

By whom made North Eastern Marine Eng. Co. Ltd. (No. 2276) when made 1918

Registered Horse Power

Owners Maindy Shipping Co. Ltd.

Port belonging to Cardiff

Nom. Horse Power as per Section 28 324

324

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 24-29-69

Length of Stroke 42

Revs. per minute 68

Dia. of Screw shaft

as per rule 13.35" Material of screw shaft as fitted 13.35" steel

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 Yes

If two

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

Length of stern bush 4-6"

Dia. of Tunnel shaft

as per rule 11.76" Dia. of Crank shaft journals

as per rule 12.35" as fitted 12.35"

Dia. of Crank pin 12.5"

Size of Crank webs 19x7.5" Dia. of thrust shaft under collars 12.5"

Dia. of screw 16-6"

Pitch of Screw 16-6"

No. of Blades 4

State whether moveable No

Total surface 83 sq ft

No. of Feed pumps 2

Diameter of ditto 3.5"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3

Sizes of Pumps 7.5x9"

20 8.5x12"

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

In Engine Room

Three @ 3.5"

In Holds, &c. No. 1 hold - 2 @ 3.5"

No. 2 hold - 2 @ 3.5"

No. of Bilge Injections 1

size 4.5"

Connected to condenser, or to circulating pump P. Is a separate Donkey Suction fitted in Engine room & size Yes 3.5"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible Yes

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 Main below, others above

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

Forward hold suction

How are they protected Wood ceiling

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

23.1.18

of Stern Tube 18-2-18

Screw shaft and Propeller 18-2-18

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from top platform

BOILERS, &c. — (Letter for record 8)

Manufacturers of Steel

John Spencer & Sons Ltd.

Total Heating Surface of Boilers

4600 sq ft

Is Forced Draft fitted

No

No. and Description of Boilers Two single ended marine

Working Pressure 180

Tested by hydraulic pressure to 360

Date of test 3-12-17

No. of Certificate 3450

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

55 sq ft

No. and Description of Safety Valves to each boiler Two direct spring

Smallest distance between boilers or uptakes and bunkers or woodwork

22"

Mean dia. of boilers 15-9"

Length 10-6"

Material of shell plates Steel

Thickness 1.5"

Range of tensile strength 28.5-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams D.R.

long. seams D.B.S. TR

Diameter of rivet holes in long. seams 1.5"

Pitch of rivets 10"

Lap of plates or width of butt straps 20.5"

Size of manhole in shell 16x12"

Per centages of strength of longitudinal joint

rivets 87.6

plate 86.5

Working pressure of shell by rules 181

No. and Description of Furnaces in each boiler 3 Brighton

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler 3 Brighton

Material steel

Outside diameter 47.5"

Length of plain part

top 25"

bottom 6.5"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 180

Combustion chamber plates: Material steel

Thickness: Sides 3/4"

Back 1 1/16"

Top 3/4"

Bottom 1 1/16"

Pitch of stays to ditto: Sides 1 1/4 x 8 3/4"

Material of stays steel

Diameter at smallest part 2.790"

Area supported by each stay 139

Working pressure by rules 180

End plates in steam space

Material steel

Thickness 1.5"

Pitch of stays 20x22.5"

How are stays secured D.N.W.

Working pressure by rules 180

Material of stays steel

Diameter at smallest part 1.971"

Thickness 3/4"

Material of Lower back plate steel

Thickness 1 1/16"

Greatest pitch of stays 14 1/8 x 10 3/8"

Working pressure of plate by rules 180

Diameter of tubes 3 1/2"

Pitch of tubes 4 3/4 x 4 9/16"

Pitch across wide water spaces 14 1/2"

Working pressures by rules 192

Girders to Chamber tops: Material steel

Depth and thickness of girder at centre 8 1/2 x 2 1/4"

Length as per rule 3 1/2"

Distance apart 11 3/8"

Number and pitch of stays in each 2 @ 8 3/4"

Working pressure by rules 182

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

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If 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

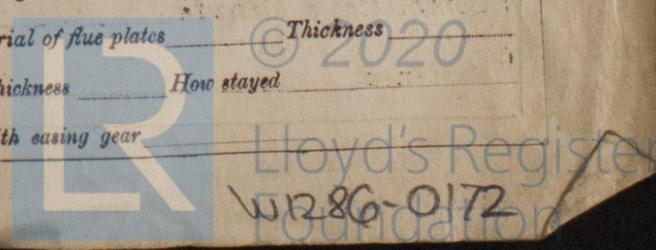
Are they fitted with easing gear

Yes

Yes

Yes

Yes



WR 86-0172

IS A DONKEY ^{Auxiliary} BOILER FITTED? *yes* If so, is a report now forwarded? *yes; Indt No 9978.*

SPARE GEAR. State the articles supplied: - *Two connecting rods top and bottom end bolts and nuts two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves iron and bolts of various sizes, one propeller.*

The foregoing is a correct description,

Geo. D. Greer Manufacturer.

Dates of Survey while building: During progress of work in shops - *1917 Jun 12, 13, Jul 10, 25, 30, Aug 25, Sep 7, 25, Oct 5, 10, 12, 19, 25, 26, 27, 31, Nov 25, 9, 14, 21, Dec 3, 7, 17*
During erection on board vessel - *18, 20, 27, Jan 4, 16, Feb 1, 2, 4, 5, 18, 26, Mar 4, 6, 11, at Mdb. 1918 Jan 23, Mar 26, Apr 4, 9, 11, 15, 16*
Total No. of visits *45* Is the approved plan of main boiler forwarded herewith *yes*
" " " *aux donkey* " " " *yes*

Dates of Examination of principal parts - Cylinders *13-12-17* Slides *4-2-18* Covers *16-1-18* Pistons *18-12-17* Rods *2-2-18*
Connecting rods *4-2-18* Crank shaft *27-12-17* Thrust shaft *4-2-18* Tunnel shafts *4-2-18* Screw shaft *1-2-18* Propeller *4-1-18*
Stern tube *1-2-18* Steam pipes tested *10-7-17 & 26-2-18* Engine and boiler seatings *23-1-18* Engines holding down bolts *4-3-18*
Completion of pumping arrangements *11-4-18* Boilers fixed *4-3-18* Engines tried under steam *6-3-18*
Main boiler safety valves adjusted *6-3-18* Thickness of adjusting washers *Port. 1/2" A 1/16", Starb. 1/2" A 1/16"*
Material of Crank shaft *Steel* Identification Mark on Do. *2688N.W.C* Material of Thrust shaft *Steel* Identification Mark on Do. *2688N.W.C*
Material of Tunnel shafts *Steel* Identification Marks on Do. *2688N.W.C* Material of Screw shafts *Steel* Identification Marks on Do. *2688N.W.C*
Material of Steam Pipes *Lapwelded wrought iron* Test pressure *540 pounds per sq. in.*
Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150°F. *no*

Have the requirements of Section 49 of the Rules been complied with *no*
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 material and workmanship is good. The machinery has been constructed under special survey and is eligible in our opinion for classification and to have the notation of LMC-4-18 in the Register Book.

To complete the survey, 18-1 hold sections require to be fitted. Bilge pipes in starboard packed bunkers to be protected. The tunnel to be made watertight & gear fitted to work it's door. Donkey boiler to be fitted. Electric lighting installation to be fitted. Vessel left for Strickton to complete. Middlesex surveyors advised. The above items have now been satisfactorily completed.

Vessel is fitted with Electric Light and "Wireless"

It is submitted that this vessel is eligible for THE RECORD. + LMC 4.18.

The amount of Entry Fee ... £ 2 : - :
Special ... £ 34 : 14 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 15 MAR 1918
When received, 3/4/18

L. Davis & W. Morrison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. 10 MAY. 1918

Assigned + LMC 4.18

SUNDERLAND.

The Surveyors are requested not to write on or below the space for Committee's Minute.

Date of writing Report
No. in Survey he
Reg. Book.
on the
Master
Engines made at
Boilers made at
Registered Horse Po

MULTITUBULAR

(Letter for record
Boilers One
No. of Certificate
safety valves to each
Are they fitted with
Smallest distance be
Material of shell p
Descrip. of riveting
Lap of plates or w
rules 183
boiler 2 plate
Description of longi
plates: Material
Top 10" x 8" 1/2
smallest part 2-0
Pitch of stays 19 1/2
Area supported by
Lower back plate
Pitch of tubes 4 3/8
water spaces
girder at centre
Working pressure
separately
holes Pitch
If stiffened with rin
Working pressure

If not, state whether, and when, one will be sent. Is a Report also sent on the Hull of the Ship?

SURVEY No. 1349

Dates of Survey while building: During work in shops - During board

GENERAL

Special Survey pressure will be satisf

Survey Fee
Travelling Ex

Committee's

Assigned

