

REPORT ON MACHINERY.

No. 66950

Received at London Office MON DEC. 21. 1914

DEC 19 1914

Port of NEWCASTLE-ON-TYNE.

Date of writing Report

No. in Survey held at S. Shields
Reg. Book.

Date, First Survey 19th May 1914 Last Survey 25th Nov. 1914

Number of Vents 33

on the S.S. "Hewasack"

Tons { Gross 4199
Net 2679

Master

Built at S. Shield

By whom built J. Readhead & Sons

When built 1914

Engines made at S. Shields

By whom made J. Readhead & Sons No. 2085

when made 1914

Boilers made at S.

By whom made S.

when made 1914

Registered Horse Power

Owners Edward Hain & Sons

Port belonging to H. Dues

Nom. Horse Power as per Section 28 386

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 26"-42"-69"

Length of Stroke 48"

Revs. per minute 60

Dia. of Screw shaft

Material of description as per rule 14-4-44 as fitted 14 1/2" screw shaft

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 4'-10"

Dia. of Tunnel shaft

as per rule 12-9-3 as fitted 13"

Dia. of Crank shaft journals

as per rule 13-5-7 as fitted 13 3/4"

Dia. of Crank pin 13 3/4"

Size of Crank webs 18"x9"

Dia. of thrust shaft under collars 14 1/2"

Dia. of screw 17'-6"

Pitch of Screw 17'-6"

No. of Blades 4

State whether moveable No

Total surface 87 sq

No. of Feed pumps 2

Diameter of ditto 3 1/2"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4 3/8"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2

Sizes of Pumps 13 1/2"x9"x13 1/2"x5"x6"

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

In Engine Room Three 3 1/2" In Holds, &c. Two in each hold 3 1/2" one

No. of Bilge Injections 1

size 5 1/2"

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 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 15-10-14

of Stern Tube 15-10-14

Screw shaft and Propeller 27-10-14

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Top platform

BOILERS, &c.—(Letter for record R.)

Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 6329 sq

Is Forced Draft fitted No

No. and Description of Boilers Two, single ended

No. of Certificate 8713

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 15-10-14

No. of Certificate 8713

Can each boiler be worked separately

Yes

Area of fire grate in each boiler 66 sq

No. and Description of Safety Valves to

each boiler 2 - Spring

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers 17'-0"

Length 11'-6"

Material of shell plates

Steel

Thickness 1 3/8"

Range of tensile strength 28-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

8-Lap

long. seams

ABS T Rivet

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets 9 1/32"

Lap of plates or width of butt straps

1'-9 1/4"

Per centages of strength of longitudinal joint

rivets 85-3

plate 85-3

Working pressure of shell by rules

182 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

7" x 1 3/8"

No. and Description of Furnaces in each boiler

3 - Morrison

Material

Steel

Outside diameter

51"

Length of plain part

top 19 1/2"

Thickness of plates

bottom 19 1/2"

Description of longitudinal joint

Welded

No. of strengthening rings

Yes

Working pressure of furnace by the rules

185 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

23/32"

Back 23/32"

Top 23/32"

Bottom 1"

Pitch of stays to ditto: Sides

10" x 9 1/4"

Back 9 1/2" x 9 1/4"

Top 10" x 9"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

192 lbs

Material of stays

Steel

Diameter at smallest part

2-31"

Area supported by each stay

92-5"

Working pressure by rules

187 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/16"

Pitch of stays

25" x 21"

How are stays secured

St. & W.

Working pressure by rules

Diameter at smallest part

9-82"

Area supported by each stay

525-0"

Working pressure by rules

194 lbs

Material of Front plates at bottom

Steel

Thickness

7/8"

Material of Lower back plate

Steel

Thickness

1"

Greatest pitch of stays

15"

Working pressure of plate by rules

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4"

Material of tube plates

Steel

Thickness: Front

7/8"

Back 7/8"

Pitch across wide water spaces

14"

Working pressures by rules

194 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder as centre

8 1/4" x 1 3/4"

Length as per rule

30 1/2"

Distance apart

10"

Number and pitch of stays in each

2-9"

Working pressure by rules

193 lbs

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Yes

Diam. of rivet

holes

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

20"

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

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Yes

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Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

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IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes
 SPARE GEAR. State the articles supplied: 2 top-end, 2 bottom-end & 2 main-bearing bolts & nuts, a set of coupling bolts, a set of feed & bilge pump valves, a quantity of assorted bolts nuts & iron, a solid propeller, a screw shaft and one crank

The foregoing is a correct description,

John Readhead

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- } 1914 May 19 Jun 11-12-17 Jul 7-16-21-24 Aug 6-7-10-14-17-25-27-31 Sep 3-7-17-28-29 Oct 7-9-12-15-19-22-22 Nov 5-9-13-17-25
 During erection on board vessel --- }
 Total No. of visits 33

Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 10-8-14 Slides 14-8-14 Covers 14-8-14 Pistons 20-10-14 Rods 19-10-14
 Connecting rods 19-10-14 Crank shaft 20-10-14 Thrust shaft 12-10-14 Tunnel shafts 12-10-14 Screw shaft 12-10-14 Propeller 9-10-14
 Stern tube 7-10-14 Steam pipes tested 5-11-14 Engine and boiler seatings 13-11-14 Engines holding down bolts 13-11-14
 Completion of pumping arrangements 13-11-14 Boilers fixed 13-11-14 Engines tried under steam 13-11-14
 Main boiler safety valves adjusted 13-11-14 Thickness of adjusting washers M.B. all 3/8" H.B. F 5/16 A 3/4"
 Material of Crank shaft Steel Identification Mark on Do. RLA 10/14 Material of Thrust shaft Steel Identification Mark on Do. RLA 10/14
 Material of Tunnel shafts Steel Identification Marks on Do. RLA 10/14 Material of Screw shafts Steel Identification Marks on Do. RLA 10/14
 Material of Steam Pipes Copper Test pressure 360 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 Yes If so, state name of vessel S.S. "Gematon"

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 safety valves of main & donkey boilers adjusted. The machinery is now in good & safe working condition and eligible in our opinion to have the notation of +LMC 11-14

It is submitted that this vessel is eligible for THE RECORD. + LMC 11. A.

J.W.D.
J.M. 21/12/14

The amount of Entry Fee ... £ 3 0 0 When applied for, DEC 19 1914
 Special ... £ 39 6 0
 Donkey Boiler Fee ... £ 2 2 0 When received, 22 12 14
 Travelling Expenses (if any) £ ✓ : ✓

Committee's Minute TUE. DEC. 22 1914
 Assigned + L.M.C. 11. A.

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NEWCASTLE-ON-TYNE.

Certificates (if required) to be sent to the Registrar at Newcastle-on-Tyne.

Rpt. 5a.
 Date of writing Report
 No. in Survey Reg. Book.
 on the
 Master
 Engines made at
 Boilers made at
 Registered Horsepower
 MULTITUDE
 (Letter for record)
 Boilers
 No. of Certificates
 safety valves to
 Are they fitted
 Smallest distance
 Material of shell
 Descrip. of rivets
 Lap of plates
 rules 96
 boiler 2-
 Description of
 plates: Materi
 Top 12" x 10"
 smallest part
 Pitch of stays
 Area supported
 Lower back pl
 Pitch of tubes
 water spaces
 girder at cent
 Working press
 separately
 holes
 If stiffened wi
 Working pres
 Dates of Survey while building
 Du w Du bo
 GENERA
 conste
 all
 Survey Travelli
 Commit
 Assigned