

REPORT ON MACHINERY

No. 74078

THU. 3 FEB. 1921

Received at London Office

2 - FEB 1921 Port of

NEWCASTLE-ON-TYNE

Date of writing Report

10

When handed in at Local Office

No. in Survey held at Reg. Book.

South Shields

Date, First Survey 14th Dec.

Last Survey 28th Jan 1921

on the

SS Trevinnard Ex Ammon

(Number of Visits)

Gross 7233

Master

Built at Hensburg

By whom built Hensburger Schiffst. Ges.

When built 1914

Engines made at

Hensburg

By whom made Hensburger Schiffst. Ges.

when made 1914

Boilers made at

Hensburg

By whom made Hensburger Schiffst. Ges.

when made 1914

Registered Horse Power

Owners Ham SS Co. Ltd.

Port belonging to St. Jona

Nom. Horse Power as per Section 28 686

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

31 1/10, 50 1/8, 84 1/10

Length of Stroke 53 9/10

Revs. per minute 73

Dia. of Screw shaft

as per rule 16.5

Material of 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

Is 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

If two

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

Length of stern bush 5'-9"

Dia. of Tunnel shaft

as per rule 15.3

Dia. of Crank shaft journals

as per rule 16.1

Dia. of Crank pin 16.3

Size of Crank webs 10 1/4 x 23

Dia. of thrust shaft under

rollers 16.1

Dia. of screw 20.3

Pitch of Screw 16.4

No. of Blades 4

State whether moveable Yes

Total surface 97 ft

No. of Feed pumps 2

2 1/2 in

Diameter of ditto 8 1/8

Stroke 21

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

4 1/4

Diameter of ditto 4 1/4

Stroke 31 3/8

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4

Sizes of Pumps

Fresh Water Pump 5 1/2 x 2 3/4 x 3 1/2

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

In Engine Room 5

3 1/2 dia.

1 donkey

2 1/2 in

2 Starboard

In Holds, &c. 2 in No. 1, 2, 3, 4, 5, 6, holds dia 3 1/2

No. of Bilge Injections 1

sizes 8 dia

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2 dia

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 No

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 below

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

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

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Top Engine room platform

BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel

Total Heating Surface of Boilers 9765.2

Is Forced Draft fitted Yes

No. and Description of Boilers 4 Single Ended.

Working Pressure 185 lbs

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately Yes

Area of fire grate in each boiler 47.5 sq ft

No. and Description of Safety Valves to

each boiler 2 direct spring

Area of each valve 11.04

Pressure to which they are adjusted 190 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2 ft

Mean dia. of boilers 14.9 1/8

Length 12-1/4

Material of shell plates Steel

Thickness 1/8

Range of tensile strength 29 1/4

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams

long. seams D.B.S.

Diameter of rivet holes in long. seams 1 7/16

Pitch of rivets 4 1/16

Lap of plates or width of butt straps 27 3/4

Per centages of strength of longitudinal joint

rivets 127

Working pressure of shell by rules 203 lbs

Size of manhole in shell 16 1/2 x 12 3/4

Size of compensating ring 9 x 1 1/8

No. and Description of Furnaces in each boiler 3

Material Steel Outside diameter 45.6

Length of plain part

top

Thickness of plates

bottom

Description of longitudinal joint Weld

No. of strengthening rings None

Working pressure of furnace by the rules 200

Combustion chamber plates: Material Steel Thickness: Sides 2/32 Back 5/8 Top 2/32 Bottom 1

Pitch of stays to ditto: Sides 7/8 x 7/8

Back 7/8 x 7/8

Top 7/8 x 7/8

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 241

Material of stays Steel

Area at smallest part 1.48

Area supported by each stay 62

Working pressure by rules 191 lbs End plates in steam space:

Material Steel

Thickness 1 1/4

Pitch of stays 15 x 15

How are stays secured S. nuts

Working pressure by rules 241 lbs Material of stays Steel

Area at smallest part 7.06

Area supported by each stay 225

Working pressure by rules 325 lbs Material of Front plates at bottom Steel

Thickness 1

Material of Lower back plate Steel

Thickness 7/8

Greatest pitch of stays 14 1/4

Working pressure of plate by rules 200 lbs

Diameter of tubes 3 1/8

Pitch of tubes 4 3/8 x 4 1/4

Material of tube plates Steel

Thickness: Front 1

Back 29/32

Mean pitch of stays 8.68

Pitch across wide water spaces 14 3/4

Working pressures by rules 217 lbs

Front 217 lbs

Back 420 lbs

Girders to Chamber tops: Material Steel

thickness of girder at centre 9 7/8 x 1 1/4

Length as per rule 33.5

Distance apart 7 1/2

Number and pitch of stays in each 3: 7 1/8

Working pressure by rules 202 lbs

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER.

Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

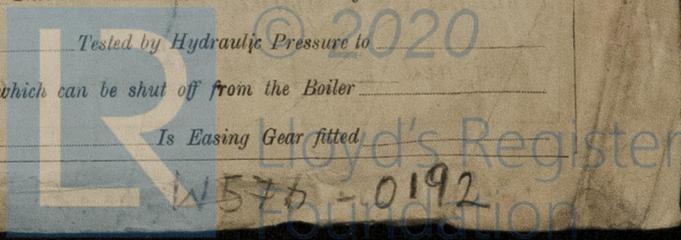
Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end brasses. Four top end bolts. Two bottom end bolts. One crank shaft coupling bolt. Twelve coupling bolts for beam shafting. Two main bearings bolts. Two eccentric strap bolts. One port pump link. One crank pin brass. One back pump link. One main engine valve spindle. One spare tail shaft. One propeller blade & boss. One spare crank shaft. One set of feed and bilge pump valves & seats. Twenty four slides for main engine & land work. One spare head valve complete for air pumps. Two spare piston rings for S.P. & P. and three fourths. Three spare seals & valves for ballast pumps. Full set of spares for main pumps. The quantity of articles bolts & nuts & iron of various sizes & one set of check valves. The foregoing is a correct description.

Manufacturer. *[Redacted]*

Dates of Survey while building { During progress of work in shops - - - During erection on board vessel - - - Total No. of visits

Is the approved plan of main boiler forwarded herewith? *No*

Dates of Examination of principal parts—Cylinders 17.12.20 Slides 17.12.20 Covers 17.12.20 Pistons 17.12.20 Rods 17.12.20 Connecting rods 17.12.20 Crank shaft 17.12.20 Thrust shaft 17.12.20 Tunnel shafts 17.12.20 Screw shaft 11.12.20 Propeller 11.12.20 Stern tube 11.12.20 Steam pipes tested 29.1.21 Engine and boiler seatings 5.1.21 Engines holding down bolts 5.1.21 Completion of pumping arrangements examined 22.12.20 Boilers fired Engines tried under steam 27.1.21

Completion of fitting sea connections 11.12.20 Stern tube 11.12.20 Screw shaft and propeller 11.12.20 Main boiler safety valves adjusted 27.1.21 Thickness of adjusting washers 7/16" 7/16" 7/16" 7/16" 7/16" 7/16" 7/16" 7/16" 7/16" 7/16"

Material of Crank shaft *Steel* Identification Mark on Do. Material of Thrust shaft *Steel* Identification Mark on Do. Material of Tunnel shafts *Steel* Identification Marks on Do. Material of Screw shafts *Steel* Identification Marks on Do.

Material of Steam Pipes *Steel* Test pressure 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? *Yes* 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 machinery and boiler of this vessel were built under the supervision of the Germanischer Lloyd Society. The scantlings of the boiler are in accordance to the plan approved by Lloyd's Register of Shipping on the 20th December 1920. The vessel was placed in Palmer's Bay Dock, Hull, and the following examination was made:— The screw shaft (continuous line), stem bush, wear ring, propeller, sea connections and all outside fastenings, the cylinders, pistons, slides, casings, crank, thrust and tunnel shafting and all bearings, the condenser, air, circulating feed and bilge pumps all auxiliary machinery and found in good working order. The main boiler with their mountings, safety valves, doors & fastenings were examined & found in good order. The scantlings of the engine & boiler were checked & found to comply generally with the Society's Rules. The main steam pipes (Steel) were examined in place & found in good condition. The main and auxiliary machinery were tried under steam, and the main boiler safety valves adjusted under steam, valves lifting at 190 lbs. The machinery throughout is now in good and safe working condition and capable in our opinion to have the record of L.M.C. 1.21. Marked in the Society's Register Book.

The amount of Entry Fee ... £ : : When applied for. Special ... £ 40 : : 19. Donkey Boiler Fee ... £ : : When received. Travelling Expenses (if any) £ : : 9.3.19

W.L. Hall, Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 23 SEP. 1921

Committee's Minute TUE. 1 MAR. 1921 Assigned L.M.C. 1.21 F.D.

Rpt. 11b.

Lloyd's Register of Shipping. SURVEYS FOR FREEBOARD.—STEAM SHIPS.

N576-0193

Index No. (For London Office)

PARTICULARS RELATING TO ALL STEAM SHIPS EITHER FLUSH DECKED, OR WITH TOP GALLANT FORECASTLES, SHORT POOPS AND BRIDGE HOUSES DISCONNECTED, OR WITH TOP GALLANT FORECASTLES HAVING LONG POOPS, OR RAISED QUARTER DECKS CONNECTED WITH BRIDGE HOUSES, OR OTHERWISE.

Ship's Name *Hewinward* Port of Registry and Nationality. Official Number. Gross Tonnage. Date of Build. Particulars of Classification.

Table with columns: Registered dimensions from Ship's Register, LENGTH, BREADTH, DEPTH, UNDER DECK TONNAGE. Values: 471.1, 60.9, 28.6, 6612.

Moulded Depth as measured... 31-3. Addition for Keel below base line for draught record... inches. Note: If the depth is measured from vessel is not, the details of measurement should be reported.

CORRECTION FOR LENGTH. Length of Ship on Loadline... 471. Length in Table. Difference. Correction for 10ft., Table A. Table C. (if required.)

CORRECTION FOR IRON DECK. Proportion covered, if less than 7/10ths length covered. Thickness of usual wood deck, less stringer. No wood deck.

CORRECTION FOR ROUND OF BEAM. Breadth at Gunwale amidships... 60.5. Round of Beam... 15. Normal round. Difference. Proportion of Deck uncovered (Para. 19).

Co-efficient of fineness. Any modification necessary [Para. 4 (a) to (e)]*. Co-efficient as corrected.

Sheer (Stem... 126) at (Sternpost... 84) ÷ 2 = ... Mean. Sheer at 1/4 of the length from (Stem 69) (Sternpost 44) ÷ 2 = ... Mean. Gradual mean Sheer. Standard mean Sheer [Table, Para. 18]. Correction. Difference ÷ 4 =. § If limited as Para. 18 (f).

Rise in Sheer from amidships (At front of bridge house... At after end of forecastle... [Para. 18 (e)]).

Fall in Sheer (Para. 18 (d)) ÷ 2 =. Length uncovered. Correction.

ALLOWANCE FOR DECK ERECTIONS:— Freeboard, Table C. Correction for Length, if required (Para. 12, 13, and 14). Freeboard by Table A, corrected for sheer, and for length, if required (Para. 12, 13, and 14). Difference. Percentage as below.

Correction for R. Q. Dk. if engine and boiler openings not covered by bridge house (Para. 11). Allowance for Deck Erections.

Table with columns: Forecastle, Bridge House, Raised Q. Dk., Poop, Total. Values: 439.25, 7.25, 24.50.

Length of Ship. Corresponding percentage (Para. 11, 12, 13, or 14).

FREEBOARD recommended amidships from centre of Disc to top of Statutory Deck Line, Wood (Iron) Deck:— Fresh Water Line above centre of Disc. Indian Summer Line. Winter Line below. Winter North Atlantic Line.

Freeboard, Table A. Correction for Sheer. Correction for Length. Allowance for Deck Erections. Correction for Round of Beam. Correction for fall in Sheer (if any). Correction for Iron Deck (if required). Additions for non-compliance with provisions of Para. 11 (d) and (e) †. Other Corrections (if any).

Winter Freeboard. Summer Freeboard. Indian Summer Freeboard. N. A. Winter Freeboard.

Correction necessary because clearside amidships, measured in accordance with the Statute is not taken at the intersection of the wood or iron deck with side. Wheel.

Winter Freeboard from deck line. Summer. Indian Summer. N. A. Winter.

* If the frames, skin planking, or ceiling are of unusual thickness the breadth of vessel to inside of ceiling should be reported if possible. † In vessel obtaining an allowance for deck erections under Para. 11 where the sheer drops away amidships the height of the R.Q. Dk. to be taken from the level of the top of the amidship beam. ‡ The Surveyor should state whether the fall in sheer as reported is measured relatively to the straight line of keel or to the actual deck. If measured relatively to the actual deck the vessel's displacement, and also the actual length, should be reported.

