

# REPORT ON MACHINERY.

No. 34998

Date of writing Report Feb. 21<sup>st</sup> 1924 When handed in at Local Office 26-2-24 Port of HULL Received at London Office FRI FEB 29 1924

No. in Survey held at Hull & Goole. Date, First Survey Jan 10/23 Last Survey Feb. 19<sup>th</sup> 1924

Reg. Book. S.S. "HARFAY" (Number of Visits 39)

Master Goole. Built at Goole. By whom built Goole S.B. Cold. Tons Gross 901  
Net 438.  
 When built 1924.

Engines made at Hull By whom made Charles S.B. & Co. Cold. when made 1924

Boilers made at Hull By whom made Charles S.B. & Co. Cold. when made 1924

Registered Horse Power Owners of Harfay Co. Port belonging to

Nom. Horse Power as per Section 28 129 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 16. 27. 44 Length of Stroke 33 Revs. per minute  Dia. of Screw shaft as per rule 10" Material of screw shaft Steel  
as fitted 11"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 yes 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 no If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 46"

Dia. of Tunnel shaft as per rule 8.4 Dia. of Crank shaft journals as per rule 8.8 Dia. of Crank pin 9 1/4" Size of Crank webs 18x6" Dia. of thrust shaft under collars 9 1/4" Dia. of screw 12'-0" Pitch of Screw 14'-3" No. of Blades 4 State whether moveable no Total surface 46 Sq. feet.

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 20 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 20 Can one be overhauled while the other is at work yes

No. of Donkey Engines Two Sizes of Pumps 8x8x8 Ballast No. and size of Suctions connected to both Bilge and Donkey pumps Feed

In Engine Room Three, 2 1/4" In Holds, &c. F.P.T. 1 @ 3" Hold 2 @ 2 3/4"  
A.P.T. 1 @ 3"

No. of Bilge Injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3"

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 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 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 Suctions. How are they protected Wood casings.

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 no Is it fitted with a watertight door yes worked from

**BOILERS, &c.**—(Letter for record (S)) Manufacturers of Steel Hunslet & Co. Ltd. Birmingham & Co. Ltd. Leeds & Co.

Total Heating Surface of Boilers 2107 Is Forced Draft fitted no No. and Description of Boilers 1 Single Ended.

Working Pressure 180 Lbs Tested by hydraulic pressure to 320 Lbs Date of test 1/6/23. No. of Certificate 3511.

Can each boiler be worked separately no Area of fire grate in each boiler 64 Sq. ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 7.06 Pressure to which they are adjusted 180 Lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3'-6" Mean dia. of boilers 15'-6" Length 10'-6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28/32. Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams DR.  
 long. seams T.R. 535. 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 86.0 Working pressure of shell by rules 180.5. Size of manhole in shell 16" x 12"  
85.4

Size of compensating ring yes No. and Description of Furnaces in each boiler 3 Brighton Material Steel Outside diameter 45.68

Length of plain part top 10 1/2" Thickness of plates bottom 32 Description of longitudinal joint butted No. of strengthening rings no

Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 21/32 Top 21/32 Bottom 23/32

Pitch of stays to ditto: Sides 9 1/4 x 10 1/2 Back 10 x 8 Top 10 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 183.

Material of stays Steel Area at smallest part 1.76. Area supported by each stay 97.0 Working pressure by rules 187 End plates in steam space: Material Steel Thickness 1 1/2" Pitch of stays 21 x 20. How are stays secured DN. Working pressure by rules 183 Material of stays Steel

Area at smallest part 4.24. Area supported by each stay 420.0 Working pressure by rules 192. Material of Front plates at bottom Steel

Thickness 29/32 Material of Lower back plate Steel Thickness 27/32 Greatest pitch of stays 1/4 x 8" Working pressure of plate by rules 224

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 29/32 Back 27/32 Mean pitch of stays 9.5

Pitch across wide water spaces 14" Working pressures by rules 183 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 3/8 x 3/4 (2) Length as per rule 30 3/4 Distance apart 10 1/4 Number and pitch of stays in each 3 @ 1/2"

Working pressure by rules 180 Steam dome: description of joint to shell yes % of strength of joint yes

Diameter yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes

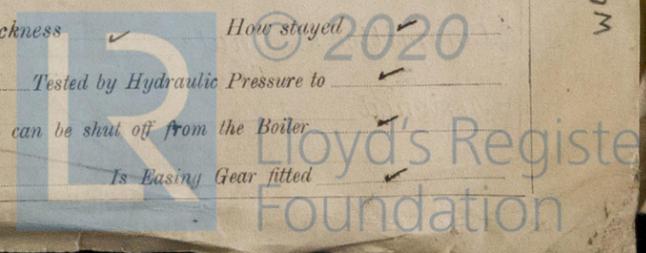
Pitch of rivets yes Working pressure of shell by rules yes Crown plates yes Thickness yes How stayed yes

**SUPERHEATER.** Type yes Date of Approval of Plan yes Tested by Hydraulic Pressure to yes

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

Diameter of Safety Valve yes Pressure to which each is adjusted yes Is Easing Gear fitted yes

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



W443-0112

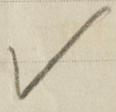
IS A DONKEY BOILER FITTED?

Yes.

If so, is a report now forwarded?

Yes.

SPARE GEAR. State the articles supplied:— 2 Bottom end bolts + nuts. 2 Top end bolts + nuts. 2 main bearing bolts + nuts. Set of coupling bolts + nuts. Spare valves for air, circulating, feed + bilge pumps. 6 junk ring studs. main + donkey check valves. 1 Safety valve spring. 1 Propeller.



The foregoing is a correct description,

FOR AND ON BEHALF OF EARLE'S SHIPBUILDING & ENGINEERING CO., LTD.

*A. J. Peck*

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1923: Jan 10, 18, 23, 31, Feb 21, 26, Mar 8, 15, 20, 27, 28, Apr 3, 4, 11, 17, 20, 23, May 3, 8, 10, 14, 16, 25, 29, Jun 1, 8, 12, Dec 10, 1924: Jan 16, 17, 18, 19, 22, 23, 29. Total No. of visits 39.

Is the approved plan of main boiler forwarded herewith? Yes.

Dates of Examination of principal parts: Cylinders 25/5/23, Slides 8/6/23, Covers 25/5/23, Pistons 8/6/23, Rods 14/5/23, Connecting rods 14/5/23, Crank shaft 8/5/23, Thrust shaft 16/5/23, Tunnel shafts ✓, Screw shaft 16/5/23, Propeller 22/1/24, Stern tube 25/5/23, Steam pipes tested (circled), Engine and boiler seatings 16.1.24, Engines holding down bolts 23.1.24, Completion of pumping arrangements 26/1/24, Boilers fixed 16.1.24, Engines tried under steam 26.1.24 ✓, Completion of fitting sea connections 10.12.23, Stern tube 10.12.23, Screw shaft and propeller 10.12.23, Main boiler safety valves adjusted 26.1.24, Thickness of adjusting washers S. 5/16, P. 3/8 ✓, Material of Crank shaft Steel, Identification Mark on Do. N° 19, P.F., Material of Thrust shaft Steel, Identification Mark on Do. N° 19, T.H.M., Material of Tunnel shafts ✓, Identification Marks on Do. ✓, Material of Screw shafts Steel, Identification Marks on Do. N° 19, T.H.M., Material of Steam Pipes S.D. Copper, 5" Bore x 5 W.S., Test pressure 360 lbs ✓, Is an installation fitted for burning oil fuel ✓, 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 ✓, 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 built under special survey + in accordance with the approved plans and Rule requirements. Materials + workmanship are good. The machinery fitted on board satisfactorily, tried under working conditions + found in order. Pumping arrangements in good order. Safety valves adjusted as above. The machinery is eligible in my opinion to have record in the Register Book of L.M.C. 2.24.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 2.24.

*A. J. Peck*  
3/3/24

*John Mackenzie*  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3 : 0 :  
Special ... £ 32 : 5 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 26/2/24  
When received, 25/3/24

Committee's Minute FRIMAR 27 1924  
Assigned + L.M.C. 2, 24

Certificate (if required) to be sent to Rule office.

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

