

# REPORT ON MACHINERY.

No. ~~38958~~ 38958

Received at London Office

THU. 7-AUG. 1919

Survey Report 18.7.19 When handed in at Local Office 31.7.19 Port of Glasgow

Survey held at Date, First Survey 24.4.15 Last Survey 14 July 1919

on the S.S. "Hillarney" (ex "Inoorfoul") (Number of Visits 124)

R. M. Murray Built at Glasgow By whom built A. H. Inglis Ltd 311 Tons Gross 1464

made at Glasgow By whom made A. H. Inglis Ltd 123 when made 1919 Tons Net 610

made at Glasgow By whom made A. H. Inglis Ltd 593 when made 1919

ed Horse Power Owners City of Cork Steam Packet Co Ltd Port belonging to London

orse Power as per Section 28 414 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Cylinders 28.46.44 Length of Stroke 45 Revs. per minute 88 Dia. of Screw shaft as per rule 13.89 Material of screw shaft S

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

propeller boss Yes If the liner is in more than one length are the joints burned No If the liner does not fit tightly at the part

the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No If two

are fitted, is the shaft lapped or protected between the liners No Length of stern bush 6'-0"

Tunnel shaft as per rule 12.98 Dia. of Crank shaft journals as per rule 13.63 Dia. of Crank pin 14.8 Size of Crank webs 4'-12"x9'-2"

14.8 Dia. of screw 13'-6.2 Pitch of Screw 20'-0" No. of Blades 4 State whether moveable Yes Total surface 75 sq

Feed pumps 2 Diameter of ditto 4.4 Stroke 24 Can one be overhauled while the other is at work Yes

Bilge pumps 2 Diameter of ditto 4.4 Stroke 24 Can one be overhauled while the other is at work Yes

Donkey Engines 5 Sizes of Pumps General Service 8"x10.5"x21.5" Dry 4"x3"x5" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3'-3" 4'-3" in Boiler Room In Holds, &c. 1-2.2" in chain locker, 1-2.2" in No. 1 hold, 1-3" in No. 2

hd, 1-3" in aft hold, 1-2.2" in Tunnel Well. Bilge Injections 1 sizes 10 Connected to condenser, or to circulating pump No. Is a separate Donkey Suction fitted in Engine room & size Yes 3"

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

All connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves

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

Are the pipes carried through the bunkers Airtight Steam & Airtight Exhaust How are they protected Filled close to deck beams.

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

Results of examination of completion of fitting of Sea Connections 5.3.19 of Stern Tube 18.3.19 Screw shaft and Propeller 18.3.19

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Engine Room top platform

MANUFACTURERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co. of Scotland, Glasgow & B. Co. Leeds & Co.

Working Surface of Boilers 6830 sq Is Forced Draft fitted No No. and Description of Boilers 2 Double Ended Horizontal Tubular

Working Pressure 165 lbs Tested by hydraulic pressure to 330 lbs Date of test 29.3.19 No. of Certificate 14643

Can each boiler be worked separately Yes Area of fire grate in each boiler 112 sq No. and Description of Safety Valves to

Forecastle boiler 2 Spring loaded Area of each valve 12.58 sq Pressure to which they are adjusted 168 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 13" Mean dia. of boilers 14'-0" Length 18'-0" Material of shell plates S

Thickness 1/16 Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Triple

g. seams DBS, I.R. Diameter of rivet holes in long. seams 1.4 Pitch of rivets 8.76 Lap of plates or width of butt straps 18.4

Percentages of strength of longitudinal joint rivets 84.2% Working pressure of shell by rules 180.9 Size of manhole in shell 16"x12"

Area of compensating rings End plate flanged No. and Description of Furnaces in each boiler 6 Harrison & Co. Material S. Outside diameter 3'-4"

Length of plain part top 18.8x10.2 Thickness of plates crown 3/4 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 175 lbs Combustion chamber plates: Material S Thickness: Sides 7/8 Back 3/4 Top 7/8 Bottom 1"

Pitch of stays to ditto: Sides 9.2x8 Back none Top 9.2x7.14 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 166 lbs

Material of stays S Diameter at smallest part 1.69 Area supported by each stay 46 sq Working pressure by rules 178 lbs End plates in steam space:

Material S Thickness 3/16 Pitch of stays 14.78x14 How are stays secured Double nuts & hooked washers Working pressure by rules 176 lbs Material of stays S

Diameter at smallest part 6.22 Area supported by each stay 299.9 Working pressure by rules 187 lbs Material of Front plates at bottom S

Thickness 7/8 Material of Lower back plate None Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes 3.4 Pitch of tubes 4.2x4.2 Material of tube plates S Thickness: Front 7/8 Back 3/4 Mean pitch of stays 9"x9"

Pitch across wide water spaces 5.4 Working pressures by rules 265 lbs Girders to Chamber tops: Material S Depth and

Thickness of girder at centre 10"x1" (20") Length as per rule 3.19.2 Distance apart 4.75 Number and pitch of stays in each 4@9.2

Working pressure by rules 186 lbs Superheater or Steam chest; how connected to boiler 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

of Visits 85

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. *See Separate Report N<sup>o</sup> 20*  
 Description *See Separate Report N<sup>o</sup> 20*  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_  
 Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_  
 Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_  
 Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *2 Top end & 2 bottom end bolts & nuts for connecting rod, 2 main bearing bolts, 1 set coupling bolts, 1 set feed and bilge pump valves, 1 set piston rings, assorted bolts and nuts. Iron of various sizes.*

The foregoing is a correct description,

**A. & J. INGLIS LIMITED** Manufacturers

Dates of Survey while building	During progress of work in shops	During erection on board vessel	Total No. of visits
1915. Apr 24 May 10. 19. June 2. July 26. Aug 18. Sept 15.	1916. Apr 17. May 24. June 19. July 10. Sept 18. Oct 2. Nov 2. 8.	1917. Feb 26. Mar 12. May 17. June 12. 18. July 29. Aug 3. 8. 16. 29. Sept 5. 11. 17. 24. 26. 30. Nov. 17. 24. 29. Dec. 4. 11. 18.	124

Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " " *Yes*  
 Dates of Examination of principal parts—Cylinders 10'1'19 Slides 6'2'19 Covers 2'4'19 Pistons 2'4'19 Rods 3'4'19  
 Connecting rods 3'4'19 Crank shaft 18'9'19 Thrust shaft 18'9'19 Tunnel shafts 8'9'19 28'1'19 Screw shaft 10'1'19 Propeller 19'12'19  
 Stern tube 13'1'19 Steam pipes tested 27'11'19 28'6'19 Engine and boiler seatings 24'3'19 Engines holding down bolts 14'6'19  
 Completion of pumping arrangements 14'4'19 Boilers fixed 10'4'19 Engines tried under steam 14'4'19  
 Main boiler safety valves adjusted 14'4'19 Thickness of adjusting washers *Port Boiler F<sup>15</sup> A<sup>16</sup> Starboard Boiler F<sup>16</sup> A<sup>16</sup>*  
 Material of Crank shaft *S* Identification Mark on Do. *FAF 18'9'19* Material of Thrust shaft *S* Identification Mark on Do. *FAF 18'9'19*  
 Material of Tunnel shafts *S* Identification Marks on Do. *423 FAF 11* Material of Screw shafts *S* Identification Marks on Do. *423 11*  
 Material of Steam Pipes *Lafu W. J. & Sunmetal* Test pressure *W. J. - 495 lbs. S. M. 330 lbs.*

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
*The engines and boilers of this vessel have been built under Special Survey, the workmanship and materials are good, they have been well fitted on board, tried under steam and found to work satisfactorily.  
 The machinery of this vessel is eligible in my opinion for the record + LMC 7.19 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + LMC 7.19

*Roll. H. 8/8/19*

The amount of Entry Fee	£ 3 : -	When applied for
Special	£ 40.14	31-7-19
Donkey Boiler Fee	£ :	When received
Travelling Expenses (if any)	£ :	7.8.19

Committee's Minute **GLASGOW 6 AUG 1919**  
 Assigned + LMC 7.19  
*8/8/19 J.D.*



Glasgow  
 Certificate (if required) to be sent to  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)