

# REPORT ON MACHINERY.

No. 42964

Received at London Office

WED. MAY. 30 1923

Date of writing Report 24/5/23 When handed in at Local Office 28.5.23 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 28<sup>th</sup> Feb 1923 Last Survey 22<sup>nd</sup> May 1923  
Reg. Book. 62930 on the T/S 'INVERCORRIE' (Number of Visits 28)

Master Built at W. Hanlepool By whom built W. Gray & Co Ltd. Tons Gross 1144 Net 1144  
Engines made at Glasgow By whom made Messrs. Kin & Barclay N°: 1095-6 when made 1923. When built 1918-5

Boilers made at Glasgow By whom made Dr. W. Henderson N°: 841 when made 1923

Registered Horse Power Owners A. Weir & Co Port belonging to London  
Nom. Horse Power as per Section 28 82 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin screw triple No. of Cylinders 3 each 3 No. of Cranks 3 each 3

Dia. of Cylinders 9"-15"-25" Length of Stroke 18" Revs. per minute 150 Dia. of Screw shaft as per rule 4.975" Material of screw shaft as fitted EXISTING 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 No 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 No Length of stern bush No 0.9 fitted 2-6 1/2"

Dia. of Tunnel shaft as per rule 4.65" Dia. of Crank shaft journals as per rule 4.83" Dia. of Crank pin 5" Size of Crank webs 9 1/4" x 3 1/2" Dia. of thrust shaft under rollers 5" Dia. of screw 7-6" Pitch of Screw 7-7" No. of Blades 3 EACH State whether moveable SOLID Total surface 34 1/2"

To. of Feed pumps 1 Diameter of ditto 2" Stroke 9" Can one be overhauled while the other is at work Yes  
To. of Bilge pumps 1 Diameter of ditto 2" Stroke 9" Can one be overhauled while the other is at work Yes

To. of Donkey Engines / FEED & BALLAST DONKEY BALLAST No. and size of Suctions connected to both Bilge and Donkey pumps in Engine Room 4 @ 2 3/4" & 1 @ 3" In Holds, &c. Originally fitted.

No. of Bilge Injections 2 sizes 3 1/2" dia. Connected to condenser, or to circulating pump or to a separate Donkey Suction fitted in Engine room & size Yes 6"

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 the Discharge Pipes above or below the deep water line ABOVE & 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 None Is it fitted with a watertight door Yes worked from

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Messrs D. Colville & Son Ltd.  
Total Heating Surface of Boilers 1603.3 Is Forced Draft fitted No No. and Description of Boilers Two return tube single ended

Working Pressure 180 lbs/sq. in Tested by hydraulic pressure to 320 lbs/sq. in Date of test 17-4-23 No. of Certificate 16233  
Can each boiler be worked separately Yes Area of fire grate in each boiler 30.25 sq. ft. No. and Description of Safety Valves to each boiler one double spring Area of each valve 2.14 sq. in Pressure to which they are adjusted 180 lbs/sq. in Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers Length Material of shell plates  
Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

Long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
Percentage of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Use of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:  
Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom  
Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
Pitch across wide water spaces SEE BOILER REPORT N° 2684 G.L.S. Working pressures by rules Girders to Chamber tops: Material Depth and

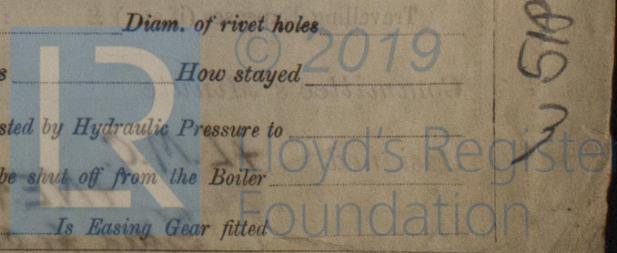
Thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each  
Working pressure by rules Steam dome: description of joint to shell % of strength of joint

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

1500-115



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:—

*Two propellers, two connecting rods top & bottom end bolts, two main bearing bolts, two sets of coupling bolts for each size of coupling, one set of feed and bilge pump valves, assorted bolts & nuts.*

The foregoing is a correct description,

*Micke & Baxter*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1923 Feb 28 Mar 2, 6, 9, 14, 19, 23, 26 Apr 5, 10, 13, 17, 18, 19, 20, 27 May 1, 2, 4, 7, 9, 11, 14, 16, 17, 18, 19, 22 }  
During erection on board vessel --  
Total No. of visits *28*

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *19-3-23* Slides *10-4-23* Gears *10-4-23* Pistons *10-4-23* Rods *10-4-23*

Connecting rods *10-4-23* Crank shaft *5-4-23* Thrust shaft *23-3-23* Tunnel shafts *EXISTING* Screw shafts *19-4-23* Propellers *23-3-23*

Stern tube *EXISTING* Steam pipes tested *4-5-23* Engine and boiler seatings *20-4-23* Engines holding down bolts *11-5-23*

Completion of pumping arrangements *17/5/23* Boilers fixed *11-5-23* Engines tried under steam *22-5-23*

Completion of fitting sea connections *BOILER BLOWDOWN ASH COCK DISCHARGE VALVES* 20-4-23 Stern tube FASTENINGS *20-4-23* Screw shafts and propellers *20-4-23*

Main boiler safety valves adjusted *180 lbs/sq* Thickness of adjusting washers *S.B. 5/16 PS. 3/16*

Material of Crank shaft *S* Identification Mark on Do. *1095-6* Material of Thrust shaft *S* Identification Mark on Do. *1256 PH*

Material of Tunnel shafts *-* Identification Marks on Do. *-* Material of Screw shafts *-* Identification Marks on Do. *-*

Material of Steam Pipes *S.D. COPPER* Test pressure *360 lbs/sq*

Is an installation fitted for burning oil fuel *Yes* Is the flash point of the oil to be used over 150°F. *Yes*

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. *These engines have been constructed under special survey in accordance with the rules, the materials and workmanship are good.*

*The oil engines of this vessel have been removed. The above steam engine and boilers (Cls. Rpt. N° 42684) have now been fitted on board in an efficient manner. The vessel was placed in dry dock, both propeller shafts were drawn for examination and interchanged for new engines to run inboard. Wear down P.Y.S. tube 1/32 bracket 3/64. All existing sea connections were opened up and examined; new boiler blow down ash cock and two new new discharge valves have been fitted. A full power trial was afterwards carried out and everything found satisfactory. It is now recommended that the vessel remain as classed and have record of <sup>L.M.C.</sup> New engines and boilers fitted 5-23. Fitted for oil fuel 5-23 F.P. above 150°F. Propeller shafts examined 5-23 C.L., and that the vessel's name be now removed from the Special Reasons list.*

The amount of Entry Fee £ : : When applied for,

Special £ 4-2 *1/2* : 6 : *29.5-1923*

Donkey Boiler Fee £ : : When received

Travelling Expenses (if any) £ : : *£ 4-2 paid 30/23*

*Jas Cairns* H. M. Cruick  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

29 MAY 1923

Assigned *+L.M.C.*

MACHINERY CERT.

WRITTEN:

*4/6/23*

*+NE & B. 5.23.  
Fitted for oil fuel 5.23. F.P. above 150°F*



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*Glasgow*

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

*H.C. 28.5.23*