

REPORT ON MACHINERY

No. 32315
WED. FEB. 5. 1913
TUE. MAR. 18. 1913

Hull Rpt. 25972
Date of writing Report 19 When handed in at Local Office 3.2.13 Port of Glasgow
No. in Survey held at Coatbridge Date, First Survey 26.8.12 Last Survey 22.1.1913
Reg. Book. (Number of Visits 15) mar 7th (Hull)
Sup. on the Hull S.C.K. "DOGGAR BANK"
Master Built at Selby By whom built Cochran & Son (551) Tons Gross 274 Net 117
Engines made at Coatbridge By whom made W.B. & J. Ledgerwood (395) when made 1913
Boilers made at Glasgow By whom made D. Rowan & Co. (185) when made 1913
Registered Horse Power Owners G. H. Thomson & S. S. Fisking Co. Ltd. Port belonging to Hull
Nom. Horse Power as per Section 28 85 87 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 4 No. of Cranks 3
Dia. of Cylinders 13" 22" 37" Length of Stroke 27 Revs. per minute 8.06 as per rule 7.8 as fitted 8.5 Material of screw shaft iron
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 If the liner is in more than one length are the joints burned length 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 Length of stern bush 3' 6"
Dia. of Tunnel shaft as per rule 6.8 7.084 as fitted none Dia. of Crank shaft journals as per rule 7.25 7.438 as fitted 7.25 Dia. of Crank pin 7.75 Size of Crank webs 7 1/2 x 5 Dia. of thrust shaft under
collars 7 1/2 Dia. of screw 10 1/2 Pitch of Screw No. of Blades 4 State whether moveable Total surface
No. of Feed pumps 2 Diameter of ditto 3 Stroke 13 1/2 Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 3 Stroke 13 1/2 Can one be overhauled while the other is at work yes
No. of Donkey Engines one Sizes of Pumps 3 1/2 x 6 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Two 2 1/2" one forward & one aft. In Holds, &c. One 2 1/2" in main hold.

No. of Bilge Injections 1 sizes 3 1/2 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 2 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
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 Hold suction How are they protected Wood casing
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 25.11.12 of Stern Tube 25.11.12 Screw shaft and Propeller 25.11.12
Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record) Manufacturers of Steel
Total Heating Surface of Boilers 14307 Is Forced Draft fitted No. and Description of Boilers
Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate
Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
Smallest distance between boilers or uptakes and bunkers or woodwork 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
Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell
Size 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
bottom 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 End plates in steam space:
Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules Material of stays
Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom
Diameter at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules
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 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 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

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. *100* Description *Vertical Donkey Boiler*

Made at *Glasgow* By whom made *W. & A. Liddell* When made *1912* Where fixed *On board*

Working pressure *150 lbs.* tested by hydraulic pressure to *200 lbs.* Date of test *26 Aug 1912* No. of Certificate *822* Fire grate area *1.5* Description of Safety Valves *Two*

No. of Safety Valves *Two* Area of each *1.5* Pressure to which they are adjusted *150 lbs.* Date of adjustment *26 Aug 1912*

If fitted with easing gear *No* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *18 in.* Length *10 ft.*

Material of shell plates *Steel* Thickness *1/2 in.* Range of tensile strength *30 tons* Descrip. of riveting long. seams *Longitudinal*

Dia. of rivet holes *1/4 in.* Whether punched or drilled *Drilled* Pitch of rivets *2 in.* Lap of plating *1 in.* Per centage of strength of joint *85* Rivets *Steel*

Working pressure of shell by rules *150 lbs.* Thickness of shell crown plates *1/2 in.* Radius of do. *18 in.* No. of stays to do. *12* Dia. of stays *1 in.*

Diameter of furnace Top *18 in.* Bottom *18 in.* Length of furnace *10 ft.* Thickness of furnace plates *1/2 in.* Description of joint *Longitudinal*

Working pressure of furnace by rules *150 lbs.* Thickness of furnace crown plates *1/2 in.* Radius of do. *18 in.* Stayed by *Stays*

Diameter of uptake *18 in.* Thickness of uptake plates *1/2 in.* Thickness of water tubes *1/2 in.* Dates of survey *26 Aug 1912*

SPARE GEAR. State the articles supplied:— *Two sets of top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,

For W. & A. Liddell Manufacturer. *R. Sneddon*

Dates of Survey while building: During progress of work in shops -- *1912 Aug. 26. Oct. 3. 8. 22. 28. Nov. 13. 15. 21. 25. 27. Dec. 2. 11.*
During erection on board vessel -- *1913 Jan. 8. 16. 23. (Hull 1912 Nov. 25. 1913 - Feb. 5. 6. 11. 12. 14. 17. 20. 25. 27. Mar. 7.)*
Total No. of visits *15 + 11 = 26.*

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders *8/1/12* Slides *2/12/12* Covers *2/12/12* Pistons *2/12/12* Rods *2/12/12*
Connecting rods *2/2/12* Crank shaft *11/12/12* Thrust shaft *11/12/12* Tunnel shafts *✓* Screw shaft *15/11/12* Propeller *25.11.12*
Stern tube *15/11/12* Steam pipes tested *20.2.13* Engine and boiler seatings *25.11.12* Engines holding down bolts *11.2.13*
Completion of pumping arrangements *14.3.13* Boilers fixed *27.2.13* Engines tried under steam *27.2.13*
Main boiler safety valves adjusted *27.2.13* Thickness of adjusting washers *Port 3" Starboard 3/2"*
Material of Crank shaft *Steel* Identification Mark on Do. *96/54 11/12/12* Material of Thrust shaft *Steel* Identification Mark on Do. *40 11/12/12*
Material of Tunnel shafts *Steel* Identification Marks on Do. *50 11/12/12* Material of Screw shafts *Iron* Identification Marks on Do. *313 15/11/12*
Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs. per sq. inch hydraulic.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

These engines have been built under special survey, the materials & workmanship are of good description, they have now been forwarded to Hull where they will be fitted on board the vessel. These engines have now been secured on board in accordance with the Rules, tried under steam & found satisfactory. The boiler also having been secured on board & found satisfactory the machinery is respectfully submitted as being eligible in my opinion to be classed with the notation of T.L.M.C. 3.13 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.13.

J.M. J.W.D. 20/3/13.

A.M. Kland Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ *1* : *0* : *0* When applied for, *8.2.13.*
Special *1/2* : *15* : *0*
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : : When received, *4/4/13*

Committee's Minute GLASGOW 4 FEB. 1913

Assigned *Deferred for compln.*

TUE. APR. 1-1913

+ LMC 3.13



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