

# REPORT ON MACHINERY.

Received at London Office **FRI. 28 FEB. 1919**

Date of writing Report *best 11<sup>th</sup> 1918* When handed in at Local Office *best 14<sup>th</sup> 1918* Port of **DUNDEE.**

No. in Survey held at *Tayport.* Date, First Survey *19<sup>th</sup> Dec. 1914* Last Survey *10<sup>th</sup> Dec. 1918.*

Reg. Book. on the *S. drifts* "STARLIGHT" (Number of Visits *237.*)

Master *Banks* Built at *Banks* By whom built *Stephenson & Asher (No 29)* Tons *Gross 94.39 Net 41.13* When built *1918*

Engines made at *Tayport* By whom made *D. & R.B. Scott, Eng No D.87.* when made *1918*

Boilers made at *Glasgow* By whom made *A.W. Dalgligh No 736* when made *1918*

Registered Horse Power *42 43* Owners *The Admiralty* Port belonging to

Nom. Hors. Power as per Section 28 *42 43* Is Refrigerating Machinery fitted for cargo purposes  Is Electric Light fitted

ENGINES, &c.—Description of Engines *Triple Expansion, Surface Condensing* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *9 1/2 15 1/2 26* Length of Stroke *18* Revs. per minute *140* Dia. of Screw shaft *as per rule 5.45 as fitted 6* Material of screw shaft *STEEL.*

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 *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  If two liners are fitted, is the shaft lapped or protected between the liners  Length of stern bush *2'-0"*

Dia. of Tunnel shaft *as per rule 4.80 as fitted* Dia. of Crank shaft journals *as per rule 5.04 as fitted 5 1/4* Dia. of Crank pin *5 1/4* Size of Crank webs *6 x 3 1/2* Dia. of thrust shaft under collars *5 1/4* Dia. of screw *6-9* Pitch of Screw *8-6* No. of Blades *4* State whether moveable *Yes* Total surface *18 Sq. ft.*

No. of Feed pumps *One* Diameter of ditto *2 1/2* Stroke *9* Can one be overhauled while the other is at work

No. of Bilge pumps *One* Diameter of ditto *2* Stroke *9* Can one be overhauled while the other is at work

No. of Donkey Engines *One* Sizes of Pumps *5 1/4 x 5 x 5 duplex* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *One of 2* In Holds, &c. *fishhold one of 2*

Also *injectn drawing from all parts with separate suction to engine room*

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

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 *Suctions from fishhold boiler feed tanks* 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*

Is the Screw Shaft Tunnel watertight *none* Is it fitted with a watertight door *yes* worked from

OILERS, &c.—(Letter for record ) Manufacturers of Steel

Total Heating Surface of Boilers *814 1/2* Is Forced Draft fitted *no* No. and Description of Boilers *One, Single ended marine.*

Working Pressure *180 Lbs 0"* 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

ong. 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  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  Thickness of plates  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  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

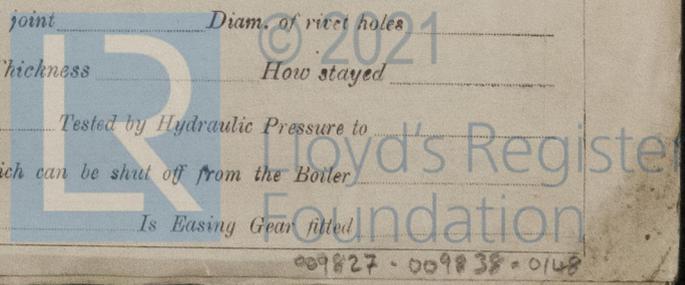
Diameter  Thickness of shell plates  Material  Description of longitudinal joint  Diam. of rivet holes

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



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied: Two top end bolts & nuts. Two bottom end bolts & nuts. Two main bearing bolts & nuts. One set valves for air, circulating, feed & bilge pumps. One set coupling bolts & nuts. 6 Condenser tubes & ferrules. 6 Cylinders with studs & nuts. 6 pump ring bolts & nuts. 34 Assorted bolts & nuts.

The foregoing is a correct description,

D. R. B. Scott

Manufacturer.

Dates of Survey while building: During progress of work in shops - - - 1914 DEC. 19. 20. 24. 1918 JAN. 30. FEB. 11. 15. 21. MAR. 13. 20. APR. 10. 24. MAY 1. 8. 16. 23. JUNE 6. 13. 20. 27. During erection on board vessel - - - 1919 DEC. 5. 11. 12. 16. 1919 JAN. 13. 14. 15. 20. 31. FEB. 5. 7. 19. 25. (13) Total No. of visits 23 1/2.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts - Cylinders 19. 9. 18 Slides 17. 10. 18 Covers 19. 9. 18 Pistons 17. 10. 18 Rods 11. 10. 18

Connecting rods 11. 10. 18 Crank shaft 21. 8. 18 Thrust shaft 17. 10. 18 Tunnel shafts ✓ Screw shaft 12. 12. 18 Propeller 12. 12. 18

Stern tube 11. 12. 18 Steam pipes tested 5. 2. 19 Engine and boiler seatings 11. 12. 18 Engines holding down bolts 14. 1. 19

Completion of pumping arrangements 17. 2. 19 Boilers fixed 13. 1. 19 Engines tried under steam 17. 2. 19

Completion of fitting sea connections 12. 12. 18 Stern tube 12. 12. 18 Screw shaft and propeller 12. 12. 18

Main boiler safety valves adjusted 17. 2. 19 Thickness of adjusting washers Port 2 5/8" Starboard 3 1/8"

Material of Crank shaft Steel Identification Mark on Do. 789 J.H.M. Material of Thrust shaft Steel Identification Mark on Do. 759 J.H.M.

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts 789 J.H.M. Identification Marks on Do. 812 J.H.M.

Material of Steam Pipes Copper 2 1/4" Bore N. 9 B.W.G. ✓ 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 Yes ✓ If so, state name of vessel "Lundu Rpt No. 8119"

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been built under special survey, & in accordance with the terms of the specifications, the materials & workmanship are sound & good. The machinery will be eligible in my opinion to have record of L.M.C. (with date when satisfactorily completed on board; and when the spare part has been checked, the pumping arrangements found in order, and the remaining terms of the specification carried out.

These engines with the boiler have now been fitted on board the above vessel and tried under steam with satisfactory results, and in my opinion will be eligible to have the record of L.M.C. 2-19 in the Register Book.

W. Wilson

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 2.19. APR 28/2/19

John Mackirdy, Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee £ : : When applied for, 14/12/1918. Special Admiralty... £ 9 : - : When received, 17.3.1919. Donkey Boiler Fee £ 4 : 10 : TUE. - 4. MAR. 18. 12. 18. Travelling Expenses (if any) £ : : 18.3.19.

Committee's Minute Assigned + L.M.C. 2.19.

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

