

# REPORT ON MACHINERY

No. 8926

Received at London Office FRI. APR. 30. 1915

Date of writing Report 22.4.15 When handed in at Local Office Apr. 29 10 S. Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Date, First Survey November 18. 1913 Last Survey April 17. 1915

Reg. Book. on the Steel screw steamer Ellawood (Number of Visits 39 S.S.N. 500

Master Built at Stockton By whom built Messrs Ropner & Sons Tons Gross Net When built 1915

Engines made at Stockton By whom made Messrs Blair & Co Ltd (N. 1815) when made 1915

Boilers made at Stockton By whom made Messrs Blair & Co Ltd when made 1915

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 301 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24-40-65 Length of Stroke 42 Revs. per minute 62 Dia. of Screw shaft as per rule 13.58 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 yes If the liner is in more than one length are the joints burned in one 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 light fit If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-1"

Dia. of Tunnel shaft as per rule 11.84 Dia. of Crank shaft journals as per rule 12.48 Dia. of Crank pin 13 1/2 Size of Crank webs 24 x 8 1/2 Dia. of thrust shaft under

collars 13 1/2 Dia. of screw 17'-0" Pitch of Screw 16'-0" No. of Blades 4 State whether moveable no Total surface 82 sq ft

No. of Feed pumps 2 Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 9 x 10" Ballast 4 x 8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 @ 3" + one @ 3 1/2" under boilers In Holds, &c. 2 @ 3" in each hold; Funnel well one @ 2 1/2"

No. of Bilge Injections 1 sizes 7" Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 4"

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 suction to forward holds How are they protected wood ceiling

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 28.2.15 of Stern Tube 23.2.15 Screw shaft and Propeller 4.3.15

Is the Screw Shaft Tunnel watertight see hull repl Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (5)) Manufacturers of Steel Messrs John Spencer & Sons

Total Heating Surface of Boilers 4690 Is Forced Draft fitted no No. and Description of Boilers 2 single ended

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 11.2.15 No. of Certificate 5464

Can each boiler be worked separately yes Area of fire grate in each boiler 61.3 sq ft No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 7.07 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-0" External Mean dia. of boilers 15'-9" Length 10'-6" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 29 3/4 - 33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 R. lap

long. seams 2 B - 3 Riv Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 8 3/8" Lap of plates or width of butt straps 17 3/8 x 1 1/2"

Per centages of strength of longitudinal joint rivets 93.0 Working pressure of shell by rules 187 Size of manhole in shell 16" x 12"

Size of compensating ring 7 5/8 x 1 3/2 No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 46 3/8"

Length of plain part top bottom Thickness of plates crown bottom 3/16" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 1/8" Back 1/16" Top 1/16" Bottom 1/16"

Pitch of stays to ditto: Sides 8 5/8 x 10" Back 9 3/4 x 8 3/4 Top 10 1/4 x 8 3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 187

Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 86.2 Working pressure by rules 208 End plates in steam space

Material steel Thickness 1 1/2" Pitch of stays 21 x 1 1/2 How are stays secured nuts + 7 x 1 washers Working pressure by rules 185 Material of stays steel

Diameter at smallest part 7.87 Area supported by each stay 441 Working pressure by rules 186 Material of Front plates at bottom steel

Thickness 1 1/2" Material of Lower back plate steel Thickness 1 1/2" Greatest pitch of stays 14 1/2 x 8 3/4 Working pressure of plate by rules 366

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4 x 4 3/4 Material of tube plates steel Thickness: Front 1/8" Back 1/8" Mean pitch of stays 11 3/2

Pitch across wide water spaces 14 1/2 Working pressures by rules 192 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 7 5/8 x 1 1/2 Length as per rule 26 1/2 Distance apart 10 1/4 Number and pitch of stays in each 2 @ 8 3/8

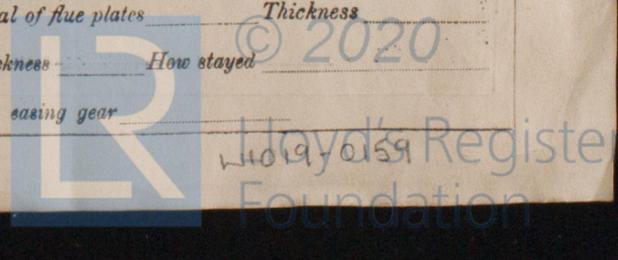
Working pressure by rules 188 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

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



IS A DONKEY BOILER FITTED? *yes (Indb Rpt 8858)* If so, is a report now forwarded? *yes*  
 SPARE GEAR. State the articles supplied:— *Two each of con rod top end and bottom end bolts + nuts*  
*2 main bearing bolts and nuts: one set (7) coupling bolts and nuts: one set feed and*  
*bilge pump valves: assorted bolts and nuts: iron of various sizes: One set each of*  
*H.P & M.P piston rambottom rings, one propeller and one tail end shaft.*

The foregoing is a correct description,  
 FOR BLAIR & Co., LIMITED

*Geo Nettleship*

Manufacturer.

SECRETARY

Dates of Survey while building: During progress of work in shops - - *1914 Nov 18-20-24 Dec 2-9-14 22-24-31 1915 Jan 5-8-11-19-21-25-26-27-29 Feb 1-2-3-5-6-8-10-11-15-23-25-26 Mar 3-10-11-16-17*  
 During erection on board vessel - - - *1923 Apr 8-14*  
 Total No. of visits *39* Is the approved plan of main boiler forwarded herewith *yes*  
*Return for duplicate Boiler* *yes*  
*donkey* " " " " *yes*

Dates of Examination of principal parts—Cylinders *9-12-14* Slides *8-1-15* Covers *8-1-15* Pistons *25-1-14* Rods *8-1-15*  
 Connecting rods *8-1-15* Crank shaft *24-12-14* Thrust shaft *5-1-15* Tunnel shafts *8-2-15* Screw shaft *10-2-15* Propeller *8-2-15*  
 Stern tube *26-1-15* Steam pipes tested *11-3-15* Engines and boiler seatings *26-2-15* Engines holding down bolts *10-3-15*  
 Completion of pumping arrangements *19-3-15* Boilers fixed *19-3-15* Engines tried under steam *17-3-15*  
 Main boiler safety valves adjusted *17-3-15* Thickness of adjusting washers *PB 5-5/16 SB 5-3/8*  
 Material of Crank shaft *Ing Steel* Identification Mark on Do. *6933* Material of Thrust shaft *Ing Steel* Identification Mark on Do. *853-N*  
 Material of Tunnel shafts *Ing Steel* Identification Marks on Do. *853-N* Material of Screw shafts *iron* Identification Marks on Do. *6933*  
 Material of Steam Pipes *Solid drawn Copper (5 x 1/4 + 6 1/2 x 5/8)* Test pressure *400 lbs*

Is an installation fitted for burning oil fuel *no* 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 *Engines only* so, state name of vessel *S.S. "Levnet", Indb Rpt-8578*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The machinery of this vessel has been built under Special Survey. The materials and workmanship are sound and good. The boilers and main steam pipes were tested by hydraulic pressure and the engines and boilers examined under steam and all found satisfactory.*  
*The machinery is now in a good and safe working and renders the vessel eligible in our opinion to have the notation of L.M.C-4.15 in the Register Book.*

It is submitted that  
 this vessel is eligible for  
 THE RECORD + L.M.C 4.15.

The amount of Entry Fee ... £ *3-0-0* When applied for,  
 Special ... £ *35-1-0* *27/4/1915*  
 Donkey Boiler Fee ... £   
 Travelling Expenses (if any) £  *29/4/1915*  
 TUE. MAY. 4-1915

*Wm Morrison & Miller*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned *+ L.M.C 4.15*

MACHINERY CERTIFICATE  
 WRITTEN



Rpt. 5b.  
 Date of writing  
 No. in Reg. Book.  
 Master *Donkey*  
 Boilers made  
 Owners  
 VERTICAL  
 Made at  
 tested by hydro  
 No. of safety  
 enter the donk  
 strength 28-  
 Lap of plating  
 Radius of do  
 Thickness of t  
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 Ropner  
 be Specially Surve  
 We her  
 For boil  
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 No. 3270  
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 Foreign Shipping  
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 y, or for any error of  
 the Secretary,  
 Lloyd's Reg  
 Survey F  
 Travellin  
 Committe  
 Assigned

Middelsbrough

Certificates (if required) to be sent to the Secretary of the Committee (if required) to be sent to the Secretary of the Committee (if required)