

REPORT ON MACHINERY.

No. 14692

Received at London Office

MON. JUL. 14. 1913

Date of writing Report 12th July, 1913 When handed in at Local Office 12th July, 1913. Port of West HartlepoolNo. in Survey held at West Hartlepool
Reg. Book.Date, First Survey 23rd Oct., 1912 Last Survey 11th July, 1913.
(Number of Visits) 73.

on the steel screw steamer "Westerdyk"

Gross 8264
Tons
Net 5269.70
When built 1913

Master J. de Koning Built at West Hartlepool By whom built Irvin & Sons Ltd.

Engines made at Hartlepool By whom made Richardson, Westgarth & Co. Ltd. when made 1913

Boilers made at Hartlepool By whom made Richardson, Westgarth & Co. Ltd. when made 1913

Registered Horse Power Owners Holland Amerika Lijn Port belonging to Rotterdam

Nom. Horse Power as per Section 28 455 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes.

ENGINES, &c.—Description of Engines Quadruple Expansion, inverted No. of Cylinders four No. of Cranks four
Dia. of Cylinders $2\frac{1}{2}$, $3\frac{1}{4}$, $5\frac{1}{2}$, $8\frac{1}{4}$ Length of Stroke 60 Revs. per minute 68 Dia. of Screw shaft as per rule 16.6 as fitted 14.4 Material of 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 — 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 close fitting If two
liners are fitted, is the shaft lapped or protected between the liners Continuous Length of stern bush 6-0
Dia. of Tunnel shaft as per rule 15.4 as fitted 16 Dia. of Crank shaft journals as per rule 15.4 as fitted 14.4 Dia. of Crank pin $1\frac{3}{4}$ Size of Crank webs $11 \times 2\frac{1}{2}$ Dia. of thrust shaft under
collars $1\frac{1}{8}$ Dia. of screw 19-6 Pitch of Screw 20-0 No. of Blades four State whether moveable no Total surface 116
No. of Feed pumps two Diameter of ditto $4\frac{1}{2}$ Stroke 30 Can one be overhauled while the other is at work yes.
No. of Bilge pumps two Diameter of ditto $4\frac{1}{2}$ Stroke 30 Can one be overhauled while the other is at work yes.
No. of Donkey Engines four Sizes of Pumps General Service 10x10 duplex, auxiliary feed 8x12 duplex, independent feed pumps 9x24 duplex No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room five $3\frac{1}{2}$ In Holds, &c. twelve $3\frac{1}{2}$ and $2\frac{1}{2}$ tunnel well.
No. of Bilge Injections one sizes 10 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes. $3\frac{1}{2}$
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 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 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.
Dates of examination of completion of fitting of Sea Connections 7/7/13 of Stern Tube 29/4/13 Screw shaft and Propeller 26/5/13
Is the Screw Shaft Tunnel watertight yes. Is it fitted with a watertight door yes. worked from top platform
BOILERS, &c.—(Letter for record 5) Manufacturers of Steel J. Spencer & Sons, & Leeds Forge Co. Ltd.
Total Heating Surface of Boilers 12889 Is Forced Draft fitted no No. and Description of Boilers one single ended multi tube
Working Pressure 215 lbs. Tested by hydraulic pressure to 430 lbs. Date of test 18/4/13 2/5/13 No. of Certificate 3321 + 3324
Can each boiler be worked separately yes. Area of fire grate in each boiler 58.4 No. and Description of Safety Valves to
each boiler two, direct spring Area of each valve 5.93 Pressure to which they are adjusted 220 lbs. Are they fitted with easing gear yes.
Smallest distance between boilers or uptakes and bunkers or woodwork 18 Mean dia. of boilers 15-3 Length 10-6 Material of shell plates steel
Thickness $\frac{1}{32}$ Range of tensile strength 29-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2.5 + 7.8.
long. seams 8.35 - 7.8 Diameter of rivet holes in long. seams $\frac{1}{32}$ Pitch of rivets $9\frac{5}{8}$ Lap of plates or width of butt straps $19\frac{1}{2}$
Per centages of strength of longitudinal joint rivets 85.3 plate 85.4 Working pressure of shell by rules 218 lbs. Size of manhole in shell $16\frac{1}{2} \times 13$
Size of compensating ring $8\frac{1}{2} \times 1\frac{1}{32}$ No. and Description of Furnaces in each boiler three suspension Material steel Outside diameter $48\frac{3}{4}$
Length of plain part top — Thickness of plates crown $\frac{1}{16}$ bottom $\frac{1}{16}$ Description of longitudinal joint weld No. of strengthening rings —
Working pressure of furnace by the rules 232 $\frac{1}{2}$ Combustion chamber plates: Material steel Thickness: Sides $\frac{5}{8}$ Back $\frac{21}{32}$ Top $\frac{5}{8}$ Bottom $\frac{15}{16}$
Pitch of stays to ditto: Sides $7 \times 8\frac{1}{8}$ Back $8\frac{1}{4} \times 7\frac{1}{4}$ Top $8\frac{1}{8} \times 7$ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 218 $\frac{1}{2}$
Material of stays steel Diameter at smallest part $1\frac{1}{2}$ Area supported by each stay $8\frac{1}{4} \times 7\frac{1}{4}$ Working pressure by rules 221 lbs. End plates in steam space:
Material steel Thickness $\frac{1}{4}$ Pitch of stays $15 \times 20\frac{1}{2}$ How are stays secured 5N + 5N W. Working pressure by rules 217 lbs. Material of stays steel
Diameter at smallest part 2.9 Area supported by each stay $4\frac{1}{8} \times 2\frac{1}{8}$ Working pressure by rules 215 lbs. Material of Front plates at bottom steel
Thickness $\frac{29}{32}$ Material of Lower back plate steel Thickness $\frac{29}{32}$ Greatest pitch of stays $14\frac{1}{4} \times 7\frac{3}{4}$ Working pressure of plate by rules 215 $\frac{1}{2}$
Diameter of tubes $3\frac{1}{2}$ Pitch of tubes $4\frac{1}{8} \times 4\frac{1}{8}$ Material of tube plates steel Thickness: Front $\frac{3}{32}$ Back $\frac{1}{8}$ Mean pitch of stays $14\frac{1}{2} \times 9\frac{3}{8}$
Pitch across wide water spaces $14\frac{1}{2}$ Working pressures by rules 218 lbs. Girders to Chamber tops: Material steel Depth and
thickness of girder at centre $9 \times 1\frac{3}{4}$ Length as per rule 29 $\frac{1}{2}$ Distance apart $8\frac{5}{8}$ Number and pitch of stays in each three 4
Working pressure by rules 239 $\frac{1}{2}$ 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.	Description				
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 Safety
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:— Two each top End, Bottom End & main bearing bolts & nuts, one set of coupling bolts, Half crank shaft, one propeller shaft, Air pump bucket & rod & valves, Circulating pump disc, one main crosshead shoe, one Eccentric rod & strap, one valve spindle, one end bar complete, 2 Top End braces, 1 set each piston rings & springs & piston valve, 2 each feed & high pump valves & independent feed pump valves, also assorted bolts & nuts &c.

The foregoing is a correct description,
FOR RICHARDSONS, WESTGARTH & CO. LIMITED
Manufacturer.

Assistant General Manager
Dates of Survey: During progress of work in shops -- 1912. Oct 23. 28. Nov 11. 27. 29. Dec 2. 5. 10. 12. 16. 27. 30. Jan 6. 8. 10. 14. 21. 31. Feb 4. 6. 7. 12. 19. 21. 24. 25. 26. 27. Mar 3. 5. 7. 10. 13. 17.
During erection on board vessel -- 18. 20. 27. 28. 31. Apr 7. 9. 11. 14. 15. 17. 18. 25. 29. May 2. 5. 6. 14. 16. 16. 23. 26. 28. 29. June 2. 3. 5. 6. 9. 10. 12. 13. 19. 20. 26. Jul 1. 3. 7. 11.
Total No. of visits 73.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 14/1/13 Slides 9/4/13 Covers 19/2 Pistons 3/3/13 Rods 27/3/13
Connecting rods 16/2/13 Crank shaft 27/3/13 Thrust shaft 18/2/13 Tunnel shafts 13/3/13 Screw shaft 14/6/13 Propeller 2/5/13
Stern tube 7/4/13 Steam pipes tested 26/6/13 Engine and boiler seatings 12/6/13 Engines holding down bolts 12/6/13
Completion of pumping arrangements 1/7/13 Boilers fixed 1/7/13 Engines tried under steam 1/7/13
Main boiler safety valves adjusted 1/7/13 Thickness of adjusting washers 3/8 7/8 1 1/2 1 3/4 2 1/2 3 1/2 4 1/2 5 1/2 6 1/2 7 1/2 8 1/2 9 1/2 10 1/2 11 1/2 12 1/2 13 1/2 14 1/2 15 1/2 16 1/2 17 1/2 18 1/2 19 1/2 20 1/2 21 1/2 22 1/2 23 1/2 24 1/2 25 1/2 26 1/2 27 1/2 28 1/2 29 1/2 30 1/2 31 1/2 32 1/2 33 1/2 34 1/2 35 1/2 36 1/2 37 1/2 38 1/2 39 1/2 40 1/2 41 1/2 42 1/2 43 1/2 44 1/2 45 1/2 46 1/2 47 1/2 48 1/2 49 1/2 50 1/2 51 1/2 52 1/2 53 1/2 54 1/2 55 1/2 56 1/2 57 1/2 58 1/2 59 1/2 60 1/2 61 1/2 62 1/2 63 1/2 64 1/2 65 1/2 66 1/2 67 1/2 68 1/2 69 1/2 70 1/2 71 1/2 72 1/2 73 1/2 74 1/2 75 1/2 76 1/2 77 1/2 78 1/2 79 1/2 80 1/2 81 1/2 82 1/2 83 1/2 84 1/2 85 1/2 86 1/2 87 1/2 88 1/2 89 1/2 90 1/2 91 1/2 92 1/2 93 1/2 94 1/2 95 1/2 96 1/2 97 1/2 98 1/2 99 1/2 100 1/2
Material of Crank shaft Steel Identification Mark on Do 5251 5257 14/5/13 15/2/13 Material of Thrust shaft Steel Identification Mark on Do 5251 5257 14/5/13 15/2/13
Material of Tunnel shafts steel Identification Marks on Do 5251 12/6/13 Material of Screw shafts steel Identification Marks on Do 5251 5257 14/5/13 15/2/13
Material of Steam Pipes not iron lined ✓ Test pressure 600 lbs ✓

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

Evaporator Body & ends tested to 50 lbs & 430 lbs respectively. Marked 394 test 50 lbs 6/5/13 430 lbs 7/5/13
Feed Water Body & ends tested to 50 lbs & 430 lbs respectively. Marked 398 test 50 lbs 7/5/13 430 lbs 7/5/13
Exhaust feed Water Body tested to 50 lbs, Marked 400 test 50 lbs 7/5/13

The Engines & Boilers of this vessel have been constructed under Special Survey, the Material & workmanship sound & good, the Boilers & steam pipes have been tested by hydraulic pressure in accordance with the Rules, the whole of the machinery worked satisfactorily & the Safety Valves have been adjusted under steam to their working pressure & easing gear fitted, rendering this Vessel Eligible in my opinion to have the Notation LMC 7.13 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 7.13.

The amount of Entry Fee .. £ 3 : 0 :
Special £ 54.15 :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for, 12.7.13
When received, 15.7.13

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

Committee's Minute FRI. JUL. 13. 1913

Assigned

+ LMC 7.13



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Foundation