Rpt. 4.

REPORT ON MACHINERY.

No. 25955.

11 APR 1925

Received at London Office THU. JAN. 1 – 1914

Date of writing Report 19 When handed in at Local Office 31. 12 1913 Port of Sunderland.

No. in Reg. Book. Survey held at SUNDERLAND. Date, First Survey 4 April Last Survey 27 Dec 1913 (Number of Visits 38)

on the Steel Screw Sr. "Mattisfont" Tons Gross 4784 Net 2916

Master Martin Built at Sunderland By whom built J. L. Thompson Sons Ld. When built 1913

Engines made at Sunderland, By whom made J. Dickinson & Sons Ld when made 1913

Boilers made at " By whom made " " when made 1913

Registered Horse Power ✓ Owners Anthony Shipping Co Ltd. (Harris & Dixon Ld) Port belonging to London

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 Tri C.P. ✓ No. of Cylinders 3 ✓ No. of Cranks 3 ✓

Dia. of Cylinders 27½" 44½" 74" ✓ Length of Stroke 48" ✓ Revs. per minute 70 ✓ Dia. of Screw shaft as per rule 14.89 as fitted 15" ✓ Material of screw shaft I.B. ✓

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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5 feet ✓

Dia. of Tunnel shaft as per rule 13.48" ✓ as fitted 13½" ✓ Dia. of Crank shaft journals as per rule 14.15" ✓ as fitted 14¼" ✓ Dia. of Crank pin 14¼" Size of Crank webs patent ✓ Dia. of thrust shaft under collars 14¼" ✓ Dia. of screw 17' 9" ✓ Pitch of Screw 17' 6" ✓ No. of Blades 4 ✓ State whether moveable no ✓ Total surface 108½ ft ✓

No. of Feed pumps 2 ✓ Diameter of ditto 4½" ✓ Stroke 24 Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps 2 ✓ Diameter of ditto 5" ✓ Stroke 24" Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines 3 ✓ Sizes of Pumps 10×10 duplex (7×24 Weir's) (4½×10 duplex) ✓ No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room four 3½" ✓ In Holds, &c. two of 3½" in each ✓ tunnel 2½" ✓

No. of Bilge Injections 1 ✓ sizes 7" ✓ Connected to condenser, or to circulating pump C.P. ✓ 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 ✓

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 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 27.10.13 of Stern Tube 1.12.13 Screw shaft and Propeller 1.12.13

Is the Screw Shaft Tunnel watertight yes. ✓ Is it fitted with a watertight door yes ✓ worked from top platform ✓

BOILERS, &c.—(Letter for record S ✓) Manufacturers of Steel J. Spencer & Sons Ld ✓

Total Heating Surface of Boilers 7575 ft ✓ Is Forced Draft fitted no ✓ No. and Description of Boilers 3 Marine type ✓

Working Pressure 180 lbs ✓ Tested by hydraulic pressure to 360 lbs ✓ Date of test 4.12.13 No. of Certificate 3172

Can each boiler be worked separately yes ✓ Area of fire grate in each boiler 65 ft. ✓ No. and Description of Safety Valves to each boiler two Spring ✓ Area of each valve 8.3" ✓ 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 about 15" ✓ ~~Mean~~ dia. of boilers 15'-9" ✓ Length 11'6" ✓ Material of shell plates S ✓

Thickness 1 31/32" ✓ Range of tensile strength 28¾ - 32 ✓ Are the shell plates welded or flanged no ✓ Descrip. of riveting: cir. seams d.r. lap ✓ long. seams t.r. d butt ✓ Diameter of rivet holes in long. seams 1 5/16" ✓ Pitch of rivets 8 15/16" ✓ ~~Lap of plates~~ or width of butt straps 1' 4½" ✓

Per centages of strength of longitudinal joint rivets 92.46 plate 85.31 ✓ Working pressure of shell by rules 181 lbs ✓ Size of manhole in shell 16"×12" ✓

Size of compensating ring 8 5/8" × 1 31/32" ✓ No. and Description of Furnaces in each boiler 3 Corrug. ✓ Material S ✓ Outside diameter 4'2" ✓

Length of plain part top 9" bottom ✓ Thickness of plates crown 19/32" ✓ bottom 19/32 ✓ Description of longitudinal joint welt. ✓ No. of strengthening rings ✓

Working pressure of furnace by the rules 189½ Combustion chamber plates: Material S ✓ Thickness: Sides 11/16 ✓ Back 11/16 ✓ Top 11/16 ✓ Bottom ⅞" ✓

Pitch of stays to ditto: Sides 10¾×8" ✓ Back 10⅜×8½" ✓ Top 10"×9" ✓ If stays are fitted with nuts or riveted heads nuts ✓ Working pressure by rules 181½

Material of stays S ✓ Diameter at smallest part 1.6" ✓ Area supported by each stay 94½" ✓ Working pressure by rules 184½ End plates in steam space: Material S ✓ Thickness 1 3/16" ✓ Pitch of stays 18½×20" ✓ How are stays secured d. nuts ✓ Working pressure by rules 181½ Material of stays S ✓

Diameter at smallest part 2.692" ✓ Area supported by each stay 340" ✓ Working pressure by rules 188 Material of Front plates at bottom S ✓

Thickness ⅞" ✓ Material of Lower back plate S ✓ Thickness 29/32 ✓ Greatest pitch of stays 14×10½" ✓ Working pressure of plate by rules 184

Diameter of tubes 3¼" ✓ Pitch of tubes 4½×4½" ✓ Material of tube plates S ✓ Thickness: Front ⅞" ✓ Back ⅞" ✓ Mean pitch of stays 9×11¼" ✓

Pitch across wide water spaces 1' 1¼" ✓ Working pressures by rules 288 lbs ✓ Girders to Chamber tops: Material S ✓ Depth and thickness of girder at centre 7½"×1" two ✓ Length as per rule 2'8 13/32" ✓ Distance apart 9" ✓ Number and pitch of stays in each 2 @ 10" ✓

Working pressure by rules 184½ 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 ✓

W200-0138

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 :— Propeller & shaft ; Set coupling bolts & nuts ✓ ; two top & bottom end bolts & nuts ✓ ; Set of holding down bolts & nuts. Set of feed & bilge pump valves ✓ ; Set of air & Circ. pump valves ✓ ; ballast & donkey valves & Seats for duplex feed pumps. Iron. assorted. bolts & nuts. ✓

pump

The foregoing is a correct description,

John Dickinson & Sons, Limited.

A Johnson Director Manufacturer.

Dates of Survey while building — During progress of work in shops : 1913 Apr 4. May 7. June 2. Jul 1. 3. 8. 10. Sept 8. 24. 25. Oct. 12. 6. 9. 10. 13 15. 16. 20. 21. 27. 28. Nov. 3. 6. 10. 20. 26. Dec. 1. 2. 4. 5. 8. 9. 10. 12. 17. 22. 24. 27

During erection on board vessel : (38)

Total No. of visits

Is the approved plan of main boiler forwarded herewith Yes ✓

" " " donkey " " " Yes ✓

Dates of Examination of principal parts— Cylinders 3. 11. 13 Slides 20. 10. 13 Covers 20. 10. 13 Pistons 6. 11. 13 Rods 6. 11. 13

Connecting rods 10. 11. 13 Crank shaft 20. 11. 13 Thrust shaft 20. 11. 13 Tunnel shafts 20. 11. 13 Screw shaft 26. 11. 13 Propeller 26. 11. 13

Stern tube 20. 11. 13 Steam pipes tested 10. 12. 1913 Engine and boiler seatings 2. 12. 13 Engines holding down bolts 9. 12. 13

Completion of pumping arrangements 17. 12. 13 Boilers fixed 9. 12. 13 Engines tried under steam 17. 12. 13.

Main boiler safety valves adjusted 17. 12. 13 Thickness of adjusting washers PB. f. 5/16 a. 13/32 C.B. p. 5/16 S. 3/8 SB f. 11/32 a. 5/16

Material of Crank shaft S Identification Mark on Do. WC 9417 KH. 8465 Material of Thrust shaft S Identification Mark on Do. HK. 4601

Material of Tunnel shafts S. Identification Marks on Do. KH. JM. HK 8437-(7465.) 7617. (460859) 4641 Material of Screw shafts IS Identification Marks on Do. JTF.

Material of Steam Pipes Copper. ✓ Test pressure 390 lbs ✓

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers constructed under Survey. Materials & workmanship good. Engines and boilers examined under full working conditions & found satisfactory. In my opinion this Vessel's machinery is eligible for the record in the Register of

+L.M.C 12. 13.

It is submitted that this vessel is eligible for THE RECORD. +LMC 12. 13.

JWD 7/1/14 FRA

The Amount of Entry Fee .. £ 3 : : When applied for. 27. 12. 1913

Special .. .. .. £ 42. 15 : :

Donkey Boiler Fee .. .. £ : : When received. 2/1/1914

Travelling Expenses (if any) £ : :

3

J. G. Findlay

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

(The Surveyor is requested not to write on or below the space for Committee's Minute.)

Certificate (if required) to be sent to

Committee's Minute TUE. JAN. 6—1914

Assigned +Lmc 12. 13

MACHINERY CERTIFICATE WRITTEN.