

Rpt. 4.

REPORT ON MACHINERY.

No. 5138

Received at London Office

JUL 18 1921

Date of writing Report May 21st. 1921 When handed in at Local Office

Port of Hong Kong

No. in Survey held at Hong Kong
Reg. Book.

Date, First Survey 9/3/20

Last Survey May 18th. 1921

on the Steel Twin Screw Salvage Tug "HENRY KESWICK"

(Number of Visits 69)

Master Built at Hong Kong

By whom built Hong Kong & Whampoa Dock Co. Ltd. When built 1921

Engines made at Hong Kong

By whom made Hong Kong & Whampoa Dock Co. Ltd. when made 1921

Boilers made at Hong Kong

By whom made Hong Kong & Whampoa Dock Co. Ltd. when made 1921

Registered Horse Power 800

Owners Hong Kong & Whampoa Dock Co. Ltd. Port belonging to Hong Kong

Nom. Horse Power as per Section 28 239

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Two Triple Expansion Surface Condensing No. of Cylinders 3 each 6 No. of Cranks 3 each 6

Dia. of Cylinders 15½", 26½", 43" Length of Stroke 30" Revs. per minute 115 Dia. of Screw shaft as per rule 9½" 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 - 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 Part of shaft between stern tube and bracket painted only Length of stern bush 36"

Dia. of Tunnel shaft as per rule None Dia. of Crank shaft journals as per rule 8.4" Dia. of Crank pin 8½" Size of Crank webs 6x16½" Dia. of thrust shaft under collars 8½" Dia. of screw 10" Pitch of Screw 12" No. of Blades 4 State whether moveable No Total surface 35 sq. ft.

No. of Feed pumps 2 Diameter of ditto 7" Stroke 18" Can one be overhauled while the other is at work Yes (Weirs Independent)

No. of Bilge pumps 4 Diameter of ditto 3" Stroke 16" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps Both 6"x4"x6" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps. In Engine Room One suction 3" dia. Two 2½" In Holds, &c. Cross Bunker & Stokehold Two 2½" P. & S.

Deep Tanks in Holds, Hand Pump to hold spaces above deep tanks.

No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump Cir. Pp's a separate Donkey Suction fitted in Engine room & size Yes 3"

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 Tank Suctions, Bilge suction pipes 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 No Tunnel Is it fitted with a watertight door - worked from -

BOILERS, &c.—(Letter for record E 4/3/20) Manufacturers of Steel Steel Company of Scotland

Total Heating Surface of Boilers 3946 Is Forced Draft fitted No No. and Description of Boilers 2 Horizontal Return Tubular Marine Type

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 13/10/20 No. of Certificate 108 & 109

Can each boiler be worked separately Yes Area of fire grate in each boiler 62 sq. ft. No. and Description of Safety Valves to each boiler Two 3" Spring loaded Area of each valve 7.06 sq. in. Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boiler 15' 1 13/32" Length 10' 6" Material of shell plates Steel

Thickness 1 13/32" Range of tensile strength 29-32 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double Lap long. seams Trable Butt Diameter of rivet holes in long. seams 1, 3/16" Pitch of rivets 9½" Gap of plates or width of butt straps 2 1/8"

Per centages of strength of longitudinal joint rivets 88.9% Working pressure of shell by rules 212 lbs. Size of manhole in shell 16" x 12" plate 85.2%

Size of compensating ring 3' 2" x 2' 10" x 1, 13/32" No. and Description of Furnaces in each boiler 3 Fox's Corr. Material Steel Outside diameter 48"

Length of plain part top - Thickness of plates crown 5/8" Description of longitudinal joint Welded No. of strengthening rings - bottom -

Working pressure of furnace by the rules 210 lbs. Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 5/8" Top 11/16" Bottom 1"

Pitch of stays to ditto: Sides 9" x 7" Back 7½" x 7½" Top 8½" x 8½" stays are fitted with nuts or riveted heads: Nuts Working pressure by rules S. 232 " S. 182 lbs. T. 229 "

Material of stays Steel Area at smallest part B. 1.478 sq. in. Area supported by each stay S. 58.2 sq. in. Working pressure by rules B. 203 " T. 197 " End plates in steam space: T. 1.76 sq. in.

Material Steel Thickness 1" Pitch of stays 17" x 15" How are stays secured Double Working pressure by rules 199 lbs. Material of stays Steel

Area at smallest part 6.1 sq. in. Area supported by each stay 257 sq. in. Nuts & Washers 246 lbs. Material of Front plates at bottom Steel

Thickness 7/8" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 12½" x 7½" Working pressure of plate by rules 180 lbs.

Diameter of tubes 3½" Pitch of tubes 4½" x 4½" Material of tube plates Steel Thickness: Front 15/16" Back 27/32" Mean pitch of stays 9" Back Nest 315 lbs.

Pitch across wide water spaces 13½" Working pressures by rules W. 197 " Space 197 " Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 11" x 3/4" (2 off) Length as per rule 2' 9½" Distance apart 8½" Number and pitch of stays in each Three 8½"

Working pressure by rules 270 lbs. Steam dome: description of joint to shell - % of strength of joint -

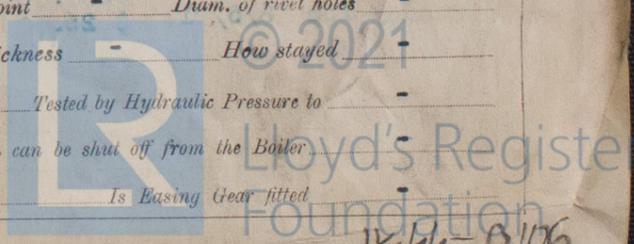
Diameter - Thickness of shell plates - Material - Description of longitudinal joint - Diam. of rivet holes -

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 -



W 44-8106

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? -

IP+

SPARE GEAR. State the articles supplied:— One set piston rings H.P.; One set piston rings L.P.; One set Connecting rod bottom end brasses; One set crosshead brasses; two Bottom end bolts and nuts; Four top end bolts and nuts; Two main bearing bolts and nuts; One set shaft coupling bolts and nuts; One of each size escape valve springs; One set of valves for bilge pump valve chest; One set valves for main and auxiliary check valves; One set of Fire bars for one Main Boiler furnace; Six gauge glasses; One propeller shaft complete; Two cast iron propellers; One centrifugal pump impeller and shaft; One air pump head valve complete; One bilge pump relief valve spring.

HONGKONG & WHAMPOA DOCK Co., Ltd. The foregoing is a correct description,

R.M. Dyer Chief Manager

Manufacturer.

1920 Mar. 9, 12, 25, 31 Apr. 6, 15, 20 May 2, 7, 10, 20, 22, 25, 29, 31 Jun. 4, 8, 9, 11, 14 16, 21, 22, 26, 29, Jul. 2, 7, 14, 20, 22, 28, Aug. 2, 4, 6, 13, 18, 23, 25, 31. Sept. 1, 6, 13, 16, 20, 26, 28, Oct. 13, 16, 18, 26, Nov. 26. 1921. Jan. 4, 19, 20, 28, 29, 31, Feb. 5, 21, Mar. 1, 14, 16, 28, Apr. 6, 7, 12, 20, 25, May 2, 8, 18. Mar. 1, 16, 28, Apr. 7, 12, 18, 20, May. 8, 18.

Dates of Survey while building During progress of work in shops - - - During erection on board vessel - - - Total No. of visits 69

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of donkey boiler forwarded herewith -

Dates of Examination of principal parts—Cylinders 18/6/20 Slides 28/7/20 Covers 14/7/20 Pistons 14/7/20 Rods 18/8/20 Connecting rods 14/7/20 Crank shaft 31/5/20 Thrust shaft 31/5/20 Tunnel shafts None Screw shaft 13/10/20 Propeller 13/10/20 Stern tube 26/11/20 Steam pipes tested 6/6/21 Engine and boiler seatings 4/1/21 Engines holding down bolts 12/4/21 Completion of pumping arrangements 20/4/21 Boilers fixed 16/3/21 Engines tried under steam 20/4/21 Completion of fitting sea connections 5/2/21 Stern tube & Bkts. 14/3/21 Screw shaft and propeller 16/3/21 Main boiler safety valves adjusted 18/4/21 Thickness of adjusting washers Ford. both 26/64" Aft P. 29/64 S. 28/64" Material of Crank shaft Steel Identification Mark on Do. 214 HKG Material of Thrust shaft Steel Identification Mark on Do. 215 HKG. Material of Tunnel shafts None Identification Marks on Do. - Material of Screw shafts Spare shaft Steel Identification Marks on Do. 219 HKG. 226 HKG. Material of Steam Pipes Solid Drawn Copper Test pressure 360 lbs. Feed " " 450 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 No If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c. The workmanship is good and it is recommended that the vessel be classed with Lloyd's Machinery Certificate and the record of L.M.C. 5,1921 be made in the Register Book.

NOTE:- FIRE PUMP.

A Merryweather patent vertical double cylinder steam fire pump is fitted in the Port Side of Engine room, designed to deliver 750 gallons of water per minute, with two hydrants on deck, one port and one starboard, taking six lengths of hose.

SALVAGE GEAR:- Is to consist of a compound vertical double acting steam engine of 88 B.H.P. made by Messrs. Browett Lindley & Co. Ltd., driving a 59 K.W. direct current shunt wound 100 volt generator, made by the English Electric Co. and to be fitted in the starboard side of Engine Room. Generator supplies current to two 8" and two 6" Merryweather submersible electrically driven pumps.

Gear (Salvage/not yet received from Makers).

IDENTIFICATION MARKS ON BOILERS

No.108 HKG. No.109 HKG. LLOYD'S TEST LLOYD'S TEST 360 lbs. 360 lbs. W.P. 180 lbs. W.P. 180 lbs. 18-10-20 18-10-20 T.S.M. T.S.M.

IDENTIFICATION MARKS ON BRACKETS:-

LLOYD'S HKG. No.575 28-2-21 T.S.M.

The amount of Entry Fee ... \$ 66.00 : When applied for, Special ... \$989.00 : 18/5 19 21 Donkey Boiler Fee ... \$: When received, Electric Light \$215.00 : 26/5/21 Travelling Expenses (if any) \$200.00 : Sunday fee 8/5/21 \$ 25.00 JUL. 26 JUL. 1921

L. Morrison Engineer Surveyor to Lloyd's Register of Shipping.

Assigned

+ L.M.C 5.21 BL

MACHINERY CERT. WRITTEN



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

Rpt. 13. Port of No. in Reg. Book Owners HO Yard No. DESCRIPTION 13 K.W. Capacity of Where is L Position of Positions of be fitt If fuses are circuits If vessel is Are the fuses Are all fuses are per Are all swite Total number A Engine Twin this THE Branch cables Branch cables Leads to lamps Cargo light cable DESCRIPTION ll conduc and the wh covered on Points in cables, are all the joint positions, n re there any jo how are the cab