

REPORT ON MACHINERY.

No. 25196

Received at London Office

Date of writing Report 5-7-12 When handed in at Local Office 10-7-12 Port of Hull THU JUL 11 1912

No. in Survey held at Hull & Goolle Date, First Survey Dec 21st Last Survey 5-7-12 19
 Reg. Book. 499 on the steel screw trawler Vireo VIREO (Number of Visits 40) Tons } Gross 192
 Master Gode Built at Gode By whom built Gode J.B. & Rpp 60 Lk When built 1912
 Engines made at Hull By whom made Parlis C. Lk when made 1912-7
 Boilers made at " By whom made " when made 1912-7
 Registered Horse Power " Owners Kelsall Bros & Bushing Lk Port belonging to Hull
 Nom. Horse Power as per Section 28 55 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks 3
 Dia. of Cylinders 12"-21"-33" Length of Stroke 21" Revs. per minute " Dia. of Screw shaft 7 3/4" Material of screw shaft iron
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no, two liners 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 shaft painted Length of stern bush 36"
 Dia. of Tunnel shaft 5.74" Dia. of Crank shaft journals 6.102" Dia. of Crank pin 6 1/2" Size of Crank webs 12 1/4 x 4 1/2" Dia. of thrust shaft under collars 6 1/8" Dia. of screw 9-6" Pitch of Screw 7'-0" No. of Blades 4 State whether moceable no Total surface 82 f²
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 10" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 10" Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one & 2 1/2" Sizes of Pumps 4 1/2 x 2 3/4 x 4" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room one 2" In Holds, &c. one 2" to fore hold, two 2" to tanks & 2 1/2 yds. connected to all spaces
 No. of Bilge Injections one sizes 3 1/2" Connected to condenser to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 2 1/2" 2 yds
 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 hold suction 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
 Dates of examination of completion of fitting of Sea Connections 18-5-12 of Stern Tube 22-5-12 Screw shaft and Propeller 22-5-12
 Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door worked from ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel C. of Scotland
 Total Heating Surface of Boilers 900 Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 23-3-12 No. of Certificate 1886
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 24.5 f² No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 3.14 f² Pressure to which they are adjusted 165 lbs Are they fitted with easing gear yes
 Smallest distance between boilers and bunkers or woodwork 12" Mean dia. of boilers 126" Length 9'-6" Material of shell plates steel
 Thickness 27/82 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Double
 long. seams R.R. & B. 1 Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 5 3/8" Lap of plates on width of butt straps 11 1/2"
 Per centages of strength of longitudinal joint rivets 87.6 Working pressure of shell by rules 161 lbs Size of manhole in shell 16" x 12"
 plate 80.2
 Size of compensating ring 8" x 27/32 No. and Description of Furnaces in each boiler Two plain Material steel Outside diameter 34"
 Length of plain part top 6.4 1/2" Thickness of plates crown 22/32 Description of longitudinal joint welded No. of strengthening rings ✓
 bottom "
 Working pressure of furnace by the rules 177 Combustion chamber plates: Material steel Thickness: Sides 7/8" Back 2 1/32 Top 7/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 9" x 4 1/2" Back 10" x 9" Top 9" x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 165 lbs
 Material of stays steel Diameter at smallest part 1.76 f² Area supported by each stay 76.5 f² Working pressure by rules 184 End plates in steam space:
 Material steel Thickness 7/8" Pitch of stays 15" x 15" How are stays secured R. H. & W. Working pressure by rules 161 Material of stays steel
 Diameter at smallest part 4.22 f² Area supported by each stay 225 f² Working pressure by rules 195 Material of Front plates at bottom steel
 Thickness 7/8" Material of Lower back plate steel Thickness 7/8" Greatest pitch of stays 14 3/4 x 9" Working pressure of plate by rules 178
 Diameter of tubes 3" Pitch of tubes 4 3/8" x 4 5/8" Material of tube plates steel Thickness: Front 7/8" Back 13/16" Mean pitch of stays 9"
 Pitch across wide water spaces 14" Working pressures by rules 160 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7 1/4" x 1 1/2" Length as per rule 2-3 3/32 Distance apart 7 1/2" Number and pitch of stays in each two 9"
 Working pressure by rules 225 Superheater or Steam chest; how connected to boiler riv Can the superheater be shut off and the boiler worked separately no Diameter 30" Length 30" Thickness of shell plates 5/8" Material steel Description of longitudinal joint riv Diam. of rivet holes 1" Pitch of rivets 3 1/4" Working pressure of shell by rules 370 Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
 If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness 5/8" How stayed dished
 Working pressure of end plates 160 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	Percentage of strength of joint	
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 top end bolts, Two bottom end bolts, Two main bearing bolts, one set of coupling bolts, one set of air, circulating, feed valve pump valves, Iron of various sizes & a quantity of bolts & nuts.

FOR EARLE'S SHIPBUILDING & ENGINEERING CO. LIMITED

The foregoing is a correct description, J. Salethorpe Manufacturer.

Dates of Survey while building

During progress of work in shops	1911: Dec 21. 1912: Jan 4, 6, 9, 16, 19, 22, 25, 29. Feb 2, 5, 8, 9, 16, 20, 21, 22, 23, 26, 27. Mar 5, 8, 9
During erection on board vessel	Mar 18, 21, 23, 27, 30. Apr 10, 11, 26. May 18, 21, 22. Jun 13, 15, 19, 20. July 2, 3.
Total No. of visits	40

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts

Cylinders	22-2-12	Slides	22-2-12	Covers	22-2-12	Pistons	30-3-12	Rods	22-2-12
Connecting rods	22-2-12	Crank shaft	27-3-12	Thrust shaft	10-4-12	Tunnel shafts		Screw shaft	10-4-12
Stern tube	10-4-12	Steam pipes tested	15-6-12	Engine and boiler seatings	18-5-12	Engines holding down bolts	15-6-12		
Completion of pumping arrangements	3-7-12	Boilers fixed	15-6-12	Engines tried under steam	3-7-12				
Main boiler safety valves adjusted	20-6-12	Thickness of adjusting washers	Pat 3/8	Started	3/8				
Material of Crank shaft	Steel	Identification Mark on Do.	2949WDH	Material of Thrust shaft	Steel	Identification Mark on Do.	2975WDH		
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	iron	Identification Marks on Do.	2975WDH		
Material of Steam Pipes	Copper	Test pressure	400 lbs.						

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society, the material has been tested & the workmanship is good. The Boiler was tested by hydraulic pressure & found sound & tight. The machinery has been properly fitted on board & on completion was tested under steam & found to work satisfactorily. The safety valves adjusted under steam & tried for accumulation. In my opinion the vessel is eligible for the next + L.M.C. 7-12.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 7. 12.

J.R.P.

J.W.D. 11/7/12

Frank L. Sturgeon, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 1 : 0 : 0	When applied for	10/7/12
Special	£ 8 : 5 : 0	When received	9/8/12
Donkey Boiler Fee	£ - : - : -		
Travelling Expenses (if any)	£ - : - : -		

Committee's Minute

FRI JUL 12 1912

Assigned

+ L.M.C. 7. 12



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Certificate (if required) to be sent to Hull