

# REPORT ON MACHINERY.

No. 25691

Received at London Office

WED. DEC. 11. 1912

Date of writing Report 19 When handed in at Local Office 10-12-12 Port of Hull  
 No. in Survey held at Hull Date, First Survey Sep. 2<sup>nd</sup> Last Survey Dec. 3<sup>rd</sup> 1912  
 Reg. Book. 34 Supt on the steel screw tug Redoubt (Number of Visits 35)  
 Master Built at Leby By whom built Cochran & Sons Tons { Gross 87 Net 36  
 Engines made at Hull By whom made Parle's Co. Ltd when made 1912-12  
 Boilers made at Hull By whom made Parle's Co. Ltd when made 1912-12  
 Registered Horse Power Owners J. Constant Port belonging to Odessa  
 Nom. Horse Power as per Section 28 46 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Compound Turbine Condensing No. of Cylinders two No. of Cranks two  
 Dia. of Cylinders 15" - 30" Length of Stroke 18" Revs. per minute 130 Dia. of Screw shaft as per rule 6.74" Material of screw shaft steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is the after end of the liner made water tight in the propeller boss ✓ 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 27"  
 Dia. of Tunnel shaft as per rule 5.91" Dia. of Crank shaft journals as per rule 6.21" Dia. of Crank pin 6 1/4" Size of Crank webs 12" x 4 1/2" Dia. of thrust shaft under collars 6 1/4" Dia. of screw 7-6" Pitch of Screw 9'-0" No. of Blades 3 State whether moveable no Total surface 24 ft<sup>2</sup>  
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 7 1/2" Can one be overhauled while the other is at work ✓  
 No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 7 1/2" Can one be overhauled while the other is at work ✓  
 No. of Donkey Engines one duplex Sizes of Pumps 5 1/4" - 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room one 2" dia in S.R. & one 2" in Bilge room In Holds, &c. one 2" in Fore hold, one 2" in FW tank, one 2" in after peak.  
 No. of Bilge Injections one sizes 3" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size yes 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 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 13-11-12 of Stern Tube 13-11-12 Screw shaft and Propeller 30-11-12  
 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 Co. of Scotland  
 Total Heating Surface of Boilers 875 ft<sup>2</sup> Is Forced Draft fitted no No. and Description of Boilers one single ended  
 Working Pressure 140 lbs Tested by hydraulic pressure to 280 lbs Date of test 8-11-12 No. of Certificate 1940  
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 36.8 sq ft No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 4.9" Pressure to which they are adjusted 142 Are they fitted with easing gear yes ✓  
 Smallest distance between boilers or uptakes and bunkers or woodwork 6" bilge lap dia. of boilers 126" Length 10'-0" Material of shell plates steel  
 Thickness 3/4" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double long. seams D.R.D.B. Diameter of rivet holes in long. seams 1" Pitch of rivets 5 1/16" Lap of plates or width of butt straps 10 3/4"  
 Per centages of strength of longitudinal joint rivets 82.2 plate 82.4 Working pressure of shell by rules 143 Size of manhole in shell 15" x 19"  
 Size of compensating ring 8 1/2" x 15 1/16" No. and Description of Furnaces in each boiler two plain Material steel Outside diameter 38 1/4"  
 Length of plain part top 8 3/4" bottom 11 1/2" Thickness of plates crown 3/4" Description of longitudinal joint welded No. of strengthening rings  
 Working pressure of furnace by the rules 141 Combustion chamber plates: Material steel Thickness: Sides 3/4" Back 5/8" Top 2/32" Bottom 3/4"  
 Pitch of stays to ditto: Sides 11" x 7 1/2" Back 10 1/4" x 9" Top 12" x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 145  
 Material of stays steel Diameter at smallest part 1.48" Area supported by each stay 82.5" Working pressure by rules 143 End plates in steam space: Material steel Thickness 27/32" Pitch of stays 15" x 14 3/4" How are stays secured D. T. Working pressure by rules 144 Material of stays steel  
 Diameter at smallest part 3.36" Area supported by each stay 221" Working pressure by rules 158 Material of Front plates at bottom steel  
 Thickness 27/32" Material of Lower back plate steel Thickness 27/32" Greatest pitch of stays 14" x 9" Working pressure of plate by rules 178 lbs  
 Diameter of tubes 3" Pitch of tubes 4 1/4" x 4 1/8" Material of tube plates steel Thickness: Front 27/32" Back 3/4" Mean pitch of stays 10 5/8"  
 Pitch across wide water spaces 14" Working pressures by rules 148 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7 1/2" x 1 1/2" Length as per rule 27" Distance apart 12" Number and pitch of stays in each two 7 1/2"  
 Working pressure by rules 142 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 ✓

W1502-0053



**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 ribet 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 top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed & bilge pump valves, a quantity of bolts & nuts & iron of various sizes.*

**FOR EARLE'S**  
**SHIPBUILDING & ENGINEERING CO. LIMITED.**  
 The foregoing is a correct description, *gub*  
*F. J. Salethorpe* Manufacturer.  
**SECRETARY.**

Dates of Survey while building  
 During progress of work in shops --- 1912 - Sep 2, 10, 18, 19, 23, 24, 27, 30, Oct 2, 3, 7, 8, 15, 17, 18, 21, 23, 25, 29, 31, Nov 1, 2, 6, 7, 8.  
 During erection on board vessel --- Nov 11, 12, 13, 14, 22, 25, 27, 29, 30, Dec 3.  
 Total No. of visits *35*

Is the approved plan of main boiler forwarded herewith *gub* ✓  
 " " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders *31-10-12* Slides *31-10-12* Covers *31-10-12* Pistons *31-10-12* Rods *23-9-12*  
 Connecting rods *10-9-12* Crank shaft *7-11-12* Thrust shaft *7-11-12* Tunnel shafts *23-9-12* Screw shaft *23-9-12* Propeller *30-11-12*  
 Stern tube *13-11-12* Steam pipes tested *27-11-12* Engine and boiler seatings *11-11-12* Engines holding down bolts *27-11-12*  
 Completion of pumping arrangements *27-11-12* Boilers fixed *27-11-12* Engines tried under steam *3-12-12*  
 Main boiler safety valves adjusted *3-12-12* Thickness of adjusting washers *Pat 1/32 Start 9/16*  
 Material of Crank shaft *Steel* Identification Mark on Do. *1009 FLS* Material of Thrust shaft *Pat-9-12* Identification Mark on Do.  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *1008 FLS* Material of Screw shafts *Steel* Identification Marks on Do. *1002 FLS*  
 Material of Steam Pipes *Copper* ✓ Test pressure *30 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 plan & the rules of this Society, the materials & workmanship are good, the boiler has been tested by hydraulic pressure to 20 lbs & found sound & tight. The machinery has been properly fitted & run on board & on completion was tested under steam & found satisfactory. The safety valves have been adjusted to 142 lbs & tested for accumulation & found satisfactory. In my opinion the vessel is eligible for the record & L.M.C. 12-12.*

*It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.12*  
*G.P.R.*  
*J.W.D.*  
*11/12/12*

*Frank L. Stanger*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£	1	:	0	:	When applied for,
Special	£	8	:	0	:	10-12-12
Donkey Boiler Fee	£	:	:	:	:	When received,
Travelling Expenses (if any)	£	:	:	:	:	10.1.13

Committee's Minute  
 Assigned  
 FRI. DEC. 13. 1912  
*Thome* 12.12

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

