

# REPORT ON MACHINERY

No. 30901

Date of writing Report 13-1-19 19 When handed in at Local Office 15-1-19 19 Port of Hull Received at London Office FRI JAN 31 1919

No. in Survey held at Hull Reg. Book. on the steel screw steamer Elloughton Date, First Survey 19/4/15 Last Survey 13-1-19 19 (Number of Visits 100)

Master Built at Gool By whom built Gool & Bx Repg Co Ltd Tons Gross 955 Net 495 When built 1919-1

Engines made at Hull By whom made Barlis Co Ltd 7 A 192 when made 1919-1

Boilers made at Hull By whom made Barlis Co Ltd 7 A 192 when made 1919-1

Registered Horse Power Owners Pile No. Ingers Port belonging to Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Nom. Horse Power as per Section 28 113

**ENGINES, &c.**—Description of Engines Triple expansion ✓ No. of Cylinders Three ✓ No. of Cranks 3 ✓

Dia. of Cylinders 15"-25"-40" ✓ Length of Stroke 30" ✓ Revs. per minute 922 ✓ Material of screw shaft steel ✓

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no ✓ 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 no liners ✓ Length of stern bush 39" ✓

Dia. of Tunnel shaft as per rule 7.74" ✓ Dia. of Crank shaft journals as per rule 8.127" ✓ Dia. of Crank pin 8 1/4" ✓ Size of Crank webs 16 x 5 1/4" ✓ Dia. of thrust shaft under collars 8 1/4" ✓ Dia. of screw 11'-0" ✓ Pitch of Screw 11'-6" ✓ No. of Blades 4 ✓ State whether moveable no Total surface 42 sq ft ✓

No. of Feed pumps two ✓ Diameter of ditto 2 1/4" ✓ Stroke 18" ✓ Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps two ✓ Diameter of ditto 2 1/4" ✓ Stroke 18" ✓ Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines two ✓ Sizes of Pumps 6, 4 x 6" 6, 6 1/2 x 6" ✓ No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room one 2 1/2 in Engine Room ✓ In Holds, &c. two 2" dia ✓

No. of Bilge Injections one ✓ sizes 3 1/2" ✓ Connected to condenser, or to circulating pump yes ✓ Is a separate Donkey Suction fitted in Engine room & size yes 2 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 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 Toward Suctions ✓ How are they protected strong casings ✓

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 none ✓ Is it fitted with a watertight door worked from ✓

**BOILERS, &c.**—(Letter for record 5) Manufacturers of Steel D. Colville & Sons ✓

Total Heating Surface of Boilers 2000 ft² ✓ Is Forced Draft fitted no ✓ No. and Description of Boilers Two single ended ✓

Working Pressure 180 lbs ✓ Tested by hydraulic pressure to 360 lbs ✓ Date of test 21-9-17 ✓ No. of Certificate 3238 ✓

Can each boiler be worked separately yes ✓ Area of fire grate in each boiler 31.25 sq ft ✓ No. and Description of Safety Valves to each boiler two spring loaded ✓ Area of each valve 3.14 ft² ✓ 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 4 ft ✓ Mean dia. of boilers 129" ✓ Length 10'-3" ✓ Material of shell plates steel ✓

Thickness 17/16" ✓ Range of tensile strength 28-32 tons ✓ Are the shell plates welded or flanged no ✓ Descrip. of riveting: cir. seams double ✓

long. seams R.D.B.1 ✓ Diameter of rivet holes in long. seams 1 3/16" ✓ Pitch of rivets 6 3/8" ✓ Lap of plates or width of butt straps 12 3/4" ✓

Per centages of strength of longitudinal joint rivets 82.7 ✓ plate 81.3 ✓ Working pressure of shell by rules 180 ✓ Size of manhole in shell 16" x 12" ✓

Size of compensating ring 8 1/2" x 15/16" ✓ No. and Description of Furnaces in each boiler Two plain ✓ Material steel ✓ Outside diameter 39" ✓

Length of plain part top 84 7/16" ✓ bottom 77" ✓ Thickness of plates crown 25/32" ✓ bottom 1/8" ✓ Description of longitudinal joint welded ✓ No. of strengthening rings ✓

Working pressure of furnace by the rules 192 ✓ Combustion chamber plates: Material steel ✓ Thickness: Sides 23/32" ✓ Back 23/32" ✓ Top 23/32" ✓ Bottom 23/32" ✓

Pitch of stays to ditto: Sides 10 1/2" x 8 3/4" ✓ Back 10 3/4" x 8 3/4" ✓ Top 10 3/4" x 8 3/4" ✓ Bottom 10 3/4" x 8 3/4" ✓ If stays are fitted with nuts or riveted heads nuts ✓ Working pressure by rules 186 ✓

Material of stays steel ✓ Area at smallest part 2.07 sq ft ✓ Area supported by each stay 94.3 sq ft ✓ Working pressure by rules 197 ✓ End plates in steam space: Material steel ✓ Thickness 17/16" ✓ Pitch of stays 14 1/2" x 14" ✓ How are stays secured R. T. ✓ Working pressure by rules 197 ✓ Material of stays steel ✓

Area at smallest part 4.22 sq ft ✓ Area supported by each stay 200 sq ft ✓ Working pressure by rules 220 ✓ Material of Front plates at bottom steel ✓

Thickness 17/16" ✓ Material of Lower back plate steel ✓ Thickness 15/16" ✓ Greatest pitch of stays 14" x 8 1/2" ✓ Working pressure of plate by rules 226 ✓

Diameter of tubes 3 1/4" ✓ Pitch of tubes 4 7/8" x 4 1/2" ✓ Material of tube plates steel ✓ Thickness: Front 15/16" ✓ Back 13/16" ✓ Mean pitch of stays 9.12" ✓

Pitch across wide water spaces 14 1/2" ✓ Working pressures by rules 188 ✓ Girders to Chamber tops: Material steel ✓ Depth and thickness of girder at centre 8" x 13 1/8" ✓ Length as per rule 26.6" ✓ Distance apart 10 3/4" ✓ Number and pitch of stays in each Two 8 3/4" ✓

Working pressure by rules 184 ✓ 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 ✓



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

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 air, feed & belp circulating pump valves, six junk ring studs & nuts, 300 lb steam tubes & quantity of fenders & packing, one set of donkey pump valves, one main & one donkey chest valve, one safety valve spring, one propeller & boiler tubes & quantity of bolts & nuts & iron of various sizes.*

The foregoing is a correct description,

FOR EARLE'S SHIPBUILDING & ENGINEERING CO. LTD.

*Earle Whylark*  
Secretary

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1915:— Apr 19<sup>th</sup> to Jan 13<sup>th</sup> 1919  
{ During erection on board vessel -- }  
Total No. of visits 100

Is the approved plan of main boiler forwarded herewith *yes*

Is the approved plan of donkey boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 5-11-17 Slides 29-10-18 Covers 5-11-17 Pistons 5-11-17 Rods 21-11-17

Connecting rods 30-5-17 Crank shaft 19-10-17 Thrust shaft 30-9-18 Tunnel shafts ✓ Screw shaft 11-9-18 Propeller 11-9-18

Stern tube 6-9-18 Steam pipes tested 18-11-18 Engine and boiler seatings 1-11-18 Engines holding down bolts 14-11-18

Completion of pumping arrangements 13-1-19 Boilers fixed 25-11-18 Engines tried under steam 13-1-19

Completion of fitting sea connections 23-9-18 Stern tube 23-9-18 Screw shaft and propeller 1-11-18

Main boiler safety valves adjusted 25-11-18 Thickness of adjusting washers *Port - P 1/2 5 3/4" Starboard P 1/2 5 3/4"*

Material of Crank shaft *Steel* Identification Mark on Do. *2047 FLS* Material of Thrust shaft *Steel* Identification Mark on Do. *2167 FLS*

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shaft *Steel* Identification Marks on Do. *2159 FLS*

Material of Steam Pipes *solid drawn copper* Test pressure *320 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 machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society, the materials & workmanship are good. The boiler & steam pipes have been tested as above & found sound & tight. The machinery has been properly fitted & secured on board the vessel & on completion tried under steam & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 192 lbs.*

*In my opinion the vessel is eligible for the record + L.M.C. 1-19.*

It is submitted that this vessel is eligible for THE RECORD, + L.M.C. 1-19.

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

The amount of Entry Fee ... £ 2 : 0 :  
Special ... £ 16 : 19 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : 6/4 :

When applied for 22/1/19  
When received 26.2.19

*Frank A. Stanger*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 4 FEB 1919  
Assigned *L.M.C. 1-19*

MACHINERY CERTIFICATE WRITTEN

