

REPORT ON MACHINERY.

Received at London Office FRI. - 5 MAY. 1916

Date of writing Report 22-4-16 When handed in at Local Office 22-4-16 Port of Hull

No. in Survey held at Hull Date, First Survey 7-7-15 Last Survey 20-4-16 19
Reg. Book. (Number of Visits 45)

Capt 23 on the steel screw trawler *Leostreia* Gross Tons 293
Net Tons 123

Master Built at Beverley By whom built Cook, Welton & Gemmell When built 1916-4

Engines made at Hull By whom made C. D. Holmes & Co. L^d (701118) when made 1916-4

Boilers made at Hull By whom made C. D. Holmes & Co. L^d when made 1916-4

Registered Horse Power Owners Roberts & Kitchin L^d Port belonging to Grimsby

Nom. Horse Power as per Section 28 89 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 *13" - 23" - 37"* Length of Stroke *24"* Revs. per minute Dia. of Screw shaft *as per rule 7.62" as fitted 7.75"* Material of screw shaft *Iron*

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 *yes* 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 *35 1/2"*

Dia. of Tunnel shaft *as per rule 6.85" as fitted 7.19"* Dia. of Crank shaft journals *as per rule 7.38" as fitted 7.38"* Dia. of Crank pin *7 3/8"* Size of Crank webs *12" x 1 1/2"* Dia. of thrust shaft under collars *7 3/8"* Dia. of screw *9'-3"* Pitch of Screw *11'-0"* No. of Blades *4* State whether moceable *no* Total surface *33 1/2 sq ft*

No. of Feed pumps *one* Diameter of ditto *2 1/4"* Stroke *24"* Can one be overhauled while the other is at work *✓* *67 SHP*

No. of Bilge pumps *one* Diameter of ditto *2 1/4"* Stroke *24"* Can one be overhauled while the other is at work *✓*

No. of Donkey Engines *one 2 1/2 yds* Sizes of Pumps *6" 3 1/2" x 6" 7/8" wheel* No. and size of Suctions connected to both Bilge and Donkey pumps *In Engine Room two 2" dia* In Holds, &c. *One 2" dia in each compartment*

all suction also connected to yctor

No. of Bilge Injections *one* sizes *3"* Connected to condenser, or to circulating pump *pump* Is a separate Donkey Suction fitted in Engine room & size *2 1/2 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 *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 stowhold 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 *Forward suction* How are they protected *strong wooden 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 *7-7-15* of Stern Tube *7-7-15* Screw shaft and Propeller *12-7-15*

Is the Screw Shaft Tunnel watertight *✓* 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 *1520 sq ft* Is Forced Draft fitted *no* No. and Description of Boilers *one single ended*

Working Pressure *200 lbs* Tested by hydraulic pressure to *400 lbs* Date of test *25-2-16* No. of Certificate *3129*

Can each boiler be worked separately *✓* Area of fire grate in each boiler *48.24 sq ft* No. and Description of Safety Valves to each boiler *two spring loaded* Area of each valve *4.9 sq ft* Pressure to which they are adjusted *200 lbs* Are they fitted with easing gear *yes*

Smallest distance between boilers *on upper and bunkers on woodwork* *6"* Mean dia. of boilers *162 7/32"* Length *10'-9"* Material of shell plates *steel*

Thickness *1 15/16"* Range of tensile strength *28-32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *double* long. seams *J.P.D.B.L* Diameter of rivet holes in long. seams *1 7/32"* Pitch of rivets *8 1/16"* Lap of plates or width of butt straps *17 1/8"*

Per centages of strength of longitudinal joint *rivets 87.4 plate 84.8* Working pressure of shell by rules *204* Size of manhole in shell *16" x 12"*

Size of compensating ring *7" x 1 15/16"* No. and Description of Furnaces in each boiler *three plain* Material *steel* Outside diameter *40"*

Length of plain part *top 80 1/2" bottom 74 1/2"* Thickness of plates *top 7 13/16" bottom 7 1/16"* Description of longitudinal joint *welded* No. of strengthening rings *one ft*

Working pressure of furnace by the rules *204* Combustion chamber plates: Material *steel* Thickness: Sides *1 1/16"* Back *1 1/16"* Top *3/4"* Bottom *1 1/16"*

Pitch of stays to ditto: Sides *9 1/2" x 8"* Back *9 1/2" x 8 1/4"* Top *11" x 8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *207*

Material of stays *steel* Diameter at smallest part *2.4"* Area supported by each stay *106 sq in* Working pressure by rules *204* End plates in steam space: Material *steel* Thickness *1 3/16"* Pitch of stays *18" x 18"* How are stays secured *2.7 x 4* Working pressure by rules *206* Material of stays *steel*

Diameter at smallest part *6.33"* Area supported by each stay *324 sq in* Working pressure by rules *203* Material of Front plates at bottom *steel* Thickness *1"* Material of Lower back plate *steel* Thickness *1 5/16"* Greatest pitch of stays *14" x 9 1/2"* Working pressure of plate by rules *212*

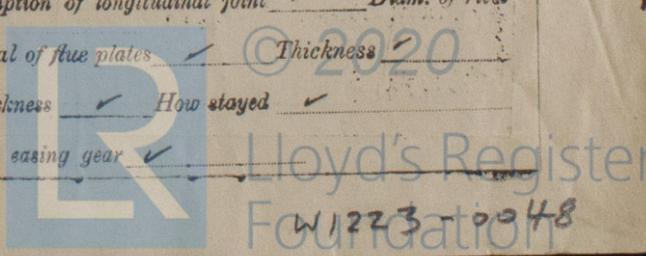
Diameter of tubes *3 1/2"* Pitch of tubes *5" x 5"* Material of tube plates *steel* Thickness: Front *1"* Back *7/8"* Mean pitch of stays *11 1/4"*

Pitch across wide water spaces *13 3/4"* Working pressures by rules *203* Girders to Chamber tops: Material *steel* Depth and thickness of girder at centre *10 3/4" x 1 3/4"* Length as per rule *37"* Distance apart *11"* Number and pitch of stays in each *three 8"*

Working pressure by rules *210* 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 *✓*



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, bilge & circulating pump valves, one main & one donkey check valve, two donkey pump valves, 12 piston studs & nuts, two safety valve springs one set of escape valve springs*

The foregoing is a correct description,

P. PRO CHARLES D. HOLMES & Co. LTD.

Harold S. Meadows GLEBETON

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1915:— Jul. 7. 10. 12. Oct. 8. 12. Nov. 2. 9. 12. 16. Dec. 6. 8. 15. 17. 22. 30. 1916:— Jan. 5. 10. 13. { During erection on board vessel --- } 18. 20. 25. 31. Feb. 3. 4. 7. 8. 10. 11. 14. 17. 22. 24. 25. 29. Mar. 3. 8. 10. 16. 30. Apr. 6. 10. 11. 13. 17. 20. Total No. of visits *45* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *7-2-16* Slides *10-3-16* Covers *29-2-16* Pistons *3-3-16* Rods *8-3-16* Connecting rods *8-3-16* Crank shaft *29-2-16* Thrust shaft *16-3-16* Tunnel shafts *✓* Screw shaft *12-7-15* Propeller *12-7-15* Stern tube *7-7-15* Steam pipes tested *11-4-16* Engine and boiler seatings *7-7-15* Engines holding down bolts *6-4-16* Completion of pumping arrangements *20-4-16* Boilers fixed *13-4-16* Engines tried under steam *20-4-16* Main boiler safety valves adjusted *13-4-16* Thickness of adjusting washers *7/32 & 1/32* Material of Crank shaft *Gun* Identification Mark on Do. *1566 FLS* Material of Thrust shaft *Gun* Identification Mark on Do. *7266 824* Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Gun* Identification Marks on Do. *1503 FLS* Material of Steam Pipes *solid drawn copper* Test pressure *40 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 machinery has been properly fitted & secured on board the vessel & on completion was tried under steam under full working conditions & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 205 lbs.*

In my opinion the vessel is eligible for the record + L.M.C. 4.16

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.16

JWD
9/5/16

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 13 : 7 :
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : 2 :
When applied for, 4-5-1916
When received, 31-5-1916

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

Committee's Minute TUE. MAY. -9. 1916

Assigned *+ L.M.C. 4.16*

MACHINERY CERTIFICATE WRITTEN



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Hull

The Surveyors are required not to write on or below the space for Committee's Minute.