

REPORT ON MACHINERY.

Steel screw trawler Christopher Dixon

Received at London Office

SAT. FEB. 1917

Date of writing Report 19 When handed in at Local Office 17-12-17 Port of Manchester

No. in Survey held at Manchester Date, First Survey March 12 Last Survey Dec. 14 1917

Reg. Book. on the Admiralty Trawler (Mersey Class) Ship No. 817 Eng. No. C17 (Number of Visits 22 Jan 13/14 324 Gross Tons 132 Net Tons 132)

Master Built at Selby By whom built Messrs. Cochrane & Co When built 1918-1

Engines made at Manchester By whom made Messrs. Crossley Bros. when made 1917A-1

Boilers made at Glasgow By whom made Lindsay Burnett when made 1918-1

Registered Horse Power Owners British Admiralty Port belonging to

Nom. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines *Three line, triple expansion, surface condensing* No. of Cylinders *Three* No. of Cranks *Three*

Dia. of Cylinders *37x23x13* Length of Stroke *26* Revs. per minute *114* Dia. of Screw shaft *7.90* 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 *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 *Yes* If two liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *36*

Dia. of Tunnel shaft *7.50* Dia. of Crank shaft journals *7.393* Dia. of Crank pin *7.50* Size of Crank webs *4 7/8 x 1 1/4* Dia. of thrust shaft under collars *7.50* Dia. of screw *115.50* Pitch of Screw *11 1/2* No. of Blades *4* State whether moceable *No* Total surface *33 1/2*

No. of Feed pumps *Two* Diameter of ditto *2 1/8* Stroke *14 3/4* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *Two* Diameter of ditto *2 1/8* Stroke *14 3/4* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *One & 3* Sizes of Pumps *6, 4 1/2 x 6 Duplex* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *Two 2" diam* In Holds, &c. *one 2" diam in each compartment*

all suction also connected to ejector

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 *3" ejector*

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 *Forward 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 *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers *1440* Is Forced Draft fitted *No* No. and Description of Boilers *one single ended*

Working Pressure *200 lbs.* Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler *2 Spring* Area of each valve *4.9* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Steam dome: description of joint to shell % of strength of joint

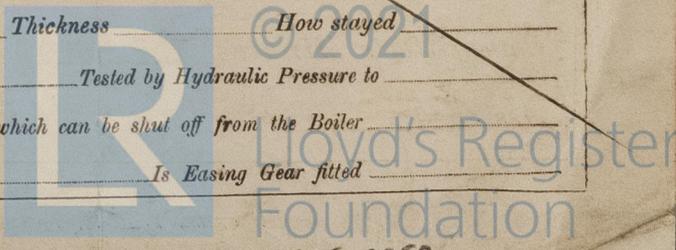
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

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

iameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top end bolts - 2 bottom end bolts - 2 main bearing bolts & nuts - 5 coupling bolts - 2 feed and 2 bilge pump valves 1 head 1 foot and 1 bucket valve for his pump - 3 condenser tubes and 2 ferrules - 6 Junk ring studs. Two valves for donkey pump, one main & one donkey check valve, one safety valve spring one set of fire bars & a quantity of bolts & nuts size of various sizes

The foregoing is a correct description,

CROSLEY BROTHERS LTD.,

[Signature] Managing Director, Manufacturer.

Dates of Survey while building: During progress of work in shops -- March 12. 21. July 22. 28. Sep 3 12. 17. Oct. 10. 31. Nov. 5. 23. Dec. 6. 14. During erection on board vessel --- Hull Dec 27 1918 Jan 2. 3. 7. 9 11. 15 Total No. of visits 27

Is the approved plan of main boiler forwarded herewith " " " donkey " " "

Dates of Examination of principal parts: Cylinders Nov. 23 Slides Nov. 23 Covers Nov. 23 Pistons Nov. 23 Rods Oct. 10 Nov. 5 Connecting rods March 21. Crank shaft Oct. 10. Thrust shaft March 12. 21 Tunnel shafts ✓ Screw shaft ~~29-8-17~~ Propeller 29-8-17 Stern tube 29-8-17 Steam pipes tested 3-1-18 Engine and boiler seatings 3-9-17 Engines holding down bolts 2-1-18 Completion of pumping arrangements 11-1-18 Boilers fixed 9-1-18 Engines tried under steam 11-1-18 Completion of fitting sea connections 3-9-17 Stern tube 3-9-17 Screw shaft and propeller 3-9-17 Main boiler safety valves adjusted 7-1-18 Thickness of adjusting washers 7 1/32 & 9 1/32 Material of Crank shaft Steel Identification Mark on Do. M. 5893 AB Material of Thrust shaft Steel Identification Mark on Do. 5891 AE Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 2007 FA Material of Steam Pipes solid drawn copper Test pressure 400 lbs Is an installation fitted for burning oil fuel 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 Yes If so, state name of vessel Thursy Glass C13-14-15-16

General Remarks (State quality of workmanship, opinions as to class, &c.)

The main Engines with the shafting of pumps have been constructed under survey; the material - tested in accordance with rule requirements - and the workmanship is good, the work having been carried out according to specification & plans.

So far as seen this machinery is eligible, in my opinion, to be classed +100 A1. and to have the record of +LMC with date when the main & auxiliary machines and boilers have been fitted on board to the satisfaction of the Society's Surveyors

The machinery has been properly fitted & secured on board the vessel & on completion tested under full power for two hours, as required by the Admiralty found satisfactory. The steam pipes have been tested & the safety valves adjusted as above & tested for accumulation which did not exceed 215 lbs.

In my opinion the vessel is eligible for the record +L.A.C. 1-18

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 1-18 *[Signature]* Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 14 : 0 : When applied for, Hull Special Fitting out ... £ 6 : 10 : Dec 21 1918 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : 12/3 : 17. 2. 3. 1918

Committee's Minute TUE. JAN 22 1918 Assigned + Lab 1. 18.



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

MACHINERY RECEIVED WRITTEN