

REPORT ON MACHINERY.

No. 28771

Received at London Office THU. AUG. 26, 1915

Date of writing Report 25-8-15 When handed in at Local Office 25/8/15 Port of Hull
No. in Survey held at Hull Date, First Survey 29-12-15 Last Survey 31-7-1915
Ref. Book. 30 Supp. on the Steam Trawler "Commander Boyle" (Number of Visits 42) Tons { Gross 243
Net 96.
Master Built at Beverley By whom built Cook, Wilton & Gemmell When built 1915
Engines made at Hull By whom made Amos & Smith. (No 2620) when made 1915
Boilers made at Hull By whom made Amos & Smith when made 1915
Registered Horse Power Owners Hellyer's S.F.C. Ltd. Port belonging to Hull
Nom. Horse Power as per Section 28 60 68 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 12", 21", 34" Length of Stroke 24" Revs. per minute 108 Dia. of Screw shaft 7.64" Material of 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 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 34"
Dia. of Tunnel shaft as per rule 6.49" as fitted 6.34" Dia. of Crank shaft journals as per rule 6.82" as fitted 7" Dia. of Crank pin 7" Size of Crank webs 13 3/4" x 14 3/8" Dia. of thrust shaft under
collars 7" Dia. of screw 10-0" Pitch of Screw 8-6" No. of Blades 4 State whether moveable no Total surface 31.5 sq ft
No. of Feed pumps 1 Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work
No. of Bilge pumps 1 Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work
No. of Donkey Engines 2 Sizes of Pumps 5x5x5" & 6x3x6" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Two 2" In Holds, &c. Three 2"; one from fore hold,
one from forward slushwell, & one from aft slushwell.
No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pump 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
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 suction How are they protected wood 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
Dates of examination of completion of fitting of Sea Connections 17-2-15 of Stern Tube 17-2-15 Screw shaft and Propeller 17-2-15
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 1097 sq ft Is Forced Draft fitted no No. and Description of Boilers One single ended.
Working Pressure 200 lb Tested by hydraulic pressure to 400 lb Date of test 26-6-15 No. of Certificate 3088
Can each boiler be worked separately Area of fire grate in each boiler 30.75 sq ft No. and Description of Safety Valves to
each boiler 2 spring loaded Area of each valve 3.98 sq in Pressure to which they are adjusted 200 lb Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork alt. 7" Int. dia. of boilers 14 1/16" Length 10-0" Material of shell plates S
Thickness 1 3/32 Range of tensile strength 28/32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR.
long. seams TRDBS Diameter of rivet holes in long. seams 1 5/32 Pitch of rivets 8" Lap of plates on width of butt straps 16 3/8"
Per centages of strength of longitudinal joint rivets 89.25 plate 85.5 Working pressure of shell by rules 205 lb Size of manhole in shell 16x12"
Size of compensating ring 40x30x1 3/32 No. and Description of Furnaces in each boiler 2 plain Material S Outside diameter 3-6 5/8"
Length of plain part top 75" bottom 69 1/2" Thickness of plates crown 1 13/16 bottom 1 1/16 Description of longitudinal joint welded No. of strengthening rings
Working pressure of furnace by the rules 200 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 11/16" Top 11/16" Bottom 3/4"
Pitch of stays to ditto: Sides 8 1/2" x 9 1/2" Back 9 x 8 5/8" Top 8 x 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 210 lb.
Material of stays S Diameter at smallest part 2.066" Area supported by each stay 80.75 sq in Working pressure by rules 2304 End plates in steam space:
Material S Thickness 1" Pitch of stays 16 x 14 3/4" How are stays secured DN+W Working pressure by rules 200 Material of stays S
Diameter at smallest part 5.055" Area supported by each stay 236 sq in Working pressure by rules 218 Material of Front plates at bottom S
Thickness 1 1/16 Material of Lower back plate S Thickness 1 5/16 Greatest pitch of stays 13 3/4" x 9" Working pressure of plate by rules 225 lb.
Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 15/16 Material of tube plates S Thickness: Front 1 1/16 Back 7/8 Mean pitch of stays 9 1/2" x 9 3/8"
Pitch across wide water spaces 14" Working pressures by rules 201 lb Girders to Chamber tops: Material S Depth and
thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 2-8 1/4" Distance apart 8" Number and pitch of stays in each two 9 1/2"
Working pressure by rules 230 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:—

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, & air pump valves, one main & one donkey check valve, a quantity of bolts & nuts & iron of various sizes.

The foregoing is a correct description,

correct description,

is a correct description,

Manufacturer.

Secretary.

Dates of Survey while building { During progress of work in shops -- } 19/4 :- Dec 29. 1915 :- Jan 11. 15. 21. 27. Feb 2. 10. 11. 12. 17. 18. 23. Mar 1. 5. 9. 12. 18. 22. 26
 { During erection on board vessel -- } 29 Apr 1. 8. 12. 16. 20. 23. 26 May 4. 12. 19. 21. 27. Jun 4. 10. 17. 22. 26. Jul 9. 13. 14. 21. 31
 { Total No. of visits 42 } Is the approved plan of main boiler forwarded herewith **yes.**

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

“ ” “ donkey ” ” ”

Dates of Examination of principal parts—Cylinders 4-6-15 Slides 22-6-15 Covers 4-6-15. Pistons 10-6-15 Rods 10-6-15
Connecting rods 22-6-15 Crank shaft 17-6-15 Thrust shaft 17-6-15 Tunnel shafts ✓ Screw shaft 12-2-15 Propeller 12-2-15
Stern tube 12-2-15 Steam pipes tested 13-7-15 Engine and boiler seatings 17-2-15 Engines holding down bolts 14-7-15
Completion of pumping arrangements 31-7-15 Boilers fixed 14-7-15 Engines tried under steam 21-7-15
Main boiler safety valves adjusted 21-7-15 Thickness of adjusting washers P $\frac{7}{16}$, S $\frac{9}{32}$
Material of Crank shaft steel Identification Mark on Do. 17-6-15 Material of Thrust shaft steel Identification Mark on Do. 17-6-15
Material of Tunnel shafts ✓ Identification Marks on Do. Material of Screw shafts iron Identification Marks on Do. 12-2-15
Material of Steam Pipes S.D. Copper. ✓ Test pressure 400 lbs per sq. inch. ✓
Is an installation fitted for burning oil fuel no ✓ Is the flash point of the oil to be used over 150° F. ✓

MR. 45 P.F.

N.º 8. P.F.

12-2-15.

Have the requirements of Section 49 of the Rules been complied with

Is the flash point of the oil to be used over 150°F. ✓

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 and workmanship are good; the boiler & steam pipes have been tested as above by hydraulic pressure & found sound & good. The machinery has been properly fitted & secured on board, and on completion tried under steam & found satisfactory. The safety valves have been adjusted under steam and tested for accumulation, which did not exceed 205 lbs per square inch.

In my opinion the vessel is eligible for the record - $\frac{1}{2}$ LMC 7, 15.

It is submitted that
this vessel is eligible for
THE RECORD, + LMC 7. 15.

Sw.

36/8/15

The amount of Entry Fee	...	£	1	:	-	:	-	When applied for,
Special	...	£	9	:	-	:	-	25/8/15
Donkey Boiler Fee	...	£	✓	:		:		When received,
Travelling Expenses (if any)	£	✓	:			:		31-8-1915

P. Fitzgerald.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. AUG. 27, 1915

Assigned

MACHINERY CERTIFICATE
WRITTEN.

Lloyd's Register
Foundation