Rpt. 4.

REPORT ON MACHINERY.

No. 29920

Received at London Office SAT. 28 APR. 1917

Date of writing Report 19 When handed in at Local Office 24/4/1917 Port of Hull

No. in Reg. Book. Survey held at Hull Date, First Survey 12.8.16 Last Survey 20/4 1917. (Number of Visits 30)

21 Supp on the Steam Trawler "War Grey" Tons { Gross 246 Net 97.

Master ✓ Built at Beverley By whom built Cook, Welton & Gemmell When built 1917

Engines made at Hull By whom made Amos & Smith Ld (No. 2881) when made 1917

Boilers made at Hull By whom made Amos & Smith Ld when made 1917

Registered Horse Power Owners A. L. Black Port belonging to Grimsby

Nom. Horse Power as per Section 28 75 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 110 Dia. of Screw shaft as per rule 7.23 as fitted 7⅝" Material of screw shaft Iron 7.75 See Steel Ltr. 8.5.17.

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 6.48" as fitted 6¾" Dia. of Crank shaft journals as per rule 6.8" as fitted 7.0 Dia. of Crank pin 7" Size of Crank webs 13½" 4⅜" 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 □'

No. of Feed pumps 1 Diameter of ditto 2⅝ Stroke 12" Can one be overhauled while the other is at work ✓

No. of Bilge pumps 1 Diameter of ditto 2⅝ Stroke 12" Can one be overhauled while the other is at work ✓

No. of Donkey Engines 1 Sizes of Pumps 6½" 4½" 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room two 2" one forward and one aft. In Holds, &c. two 2" fore hold and slushwell 2" ejector from all bilges

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 2½" 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 hold suction How are they protected wood 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

Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel John Spencer & Sons Ld

Total Heating Surface of Boilers 1265 □' 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 9.3.17 No. of Certificate 3197.

Can each boiler be worked separately ✓ Area of fire grate in each boiler 31.5 □' No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 3.97 □" Pressure to which they are adjusted 204 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Int. dia. of boilers 12'9 1/16 Length 10'0 Material of shell plates S.

Thickness 1 5/32 Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D. R. long. seams T. S. D. B. S. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 7¾" width of butt straps 16¾"

Per centages of strength of longitudinal joint rivets 91.4 plate 84.67 Working pressure of shell by rules 200 Size of manhole in shell 16" 12"

Size of compensating ring 40.30.1⅛ No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 3'1⅝

Length of plain part top bottom 81¾" Thickness of plates crown bottom 3/16" Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 214 Combustion chamber plates: Material S. Thickness: Sides ¾" Back 23/32" Top 11/16 Bottom ¾"

Pitch of stays to ditto: Sides 8¾" 9¼ Back 8" 9¼ Top 8½" 9½ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 202

Material of stays S. Area at smallest part 2.066 Area supported by each stay 79.5 Working pressure by rules 234 End plates in steam space: Material S. Thickness 1 1/16 Pitch of stays 16½" 15¾ How are stays secured screwed N & W. Working pressure by rules 206 Material of stays S.

Area at smallest part 6.1 Area supported by each stay 260 Working pressure by rules 244 Material of Front plates at bottom S

Thickness 1 1/16 Material of Lower back plate S. Thickness 15/16" Greatest pitch of stays 14½" 8" Working pressure of plate by rules 222

Diameter of tubes 3½" Pitch of tubes 4⅞" 5" Material of tube plates S. Thickness: Front 1 1/16 Back ⅞" Mean pitch of stays 10.8"

Pitch across wide water spaces 14½" Working pressures by rules 206 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8" 2" Length as per rule 2'8¾" Distance apart 8½" Number and pitch of stays in each two 9½"

Working pressure by rules 211 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 each top ✓ and bottom end connecting rod bolts and nuts ✓, two main bearing bolts and nuts ✓, one set of coupling bolts and nuts ✓, one set each feed and bilge pump valves, iron of various sizes ✓, a quantity of assorted bolts and nuts etc. ✓

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

J Rackenbury

Manufacturer.

Dates of Survey while building

During progress of work in shops — 1916:- Aug 12. 19. 26. Nov 22, 30. Dec 5. 16. 22, 1917:- Jan 13. Feb 3. 5. 10. 12. 14. 16 17 24. 27

During erection on board vessel — Mar 5. 9. 16. 21. 22. 24 27. 31. apr 5, 11. 18. 20.

Total No. of visits 31

Is the approved plan of main boiler forwarded herewith Yes.

" " " ~~donkey~~ " " " ✓

Dates of Examination of principal parts—*Cylinders* 3·2·17 *Slides* 12·2·17 *Covers* 3·2·17 *Pistons* 12·2·17 *Rods* 17·2·17

Connecting rods 5·3·17 *Crank shaft* 24·2·17 *Thrust shaft* 3·2·17 *Tunnel shafts* ✓ *Screw shaft* 5·12·16 *Propeller* 5·12·16

Stern tube 5·12·16 *Steam pipes tested* 24·3·17 *Engine and boiler seatings* 22·12·16 *Engines holding down bolts* 22·3·17

Completion of pumping arrangements 20·4·17 *Boilers fixed* 16·3·17 *Engines tried under steam* 31·3·17

Completion of fitting sea connections 22·12·16 *Stern tube* 22·12·16 *Screw shaft and propeller* 22·12·16

Main boiler safety valves adjusted 31·3·17 *Thickness of adjusting washers* P. 11/32" S. 13/32"

Material of Crank shaft Iron *Identification Mark on Do.* 24·2·17 1708 G.A. *Material of Thrust shaft* Iron *Identification Mark on Do.* 3·2·17 1707 G.A.

Material of Tunnel shafts ✓ *Identification Marks on Do.* ✓ *Material of Screw shafts* Iron *Identification Marks on Do.* 5·12·16 1691 G.A.

Material of Steam Pipes S. D. 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* Yes ✓

Is this machinery duplicate of a previous case Yes ✓ *If so, state name of vessel* "Carilon" ✓

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 and the rules of this Society; the material and workmanship are good; the boiler and steam pipes have been tested as above by hydraulic pressure and found sound and good. The machinery has been properly fitted and secured on board and on completion tried under steam and found satisfactory. The safety valves have been adjusted under steam and tested for accumulation which did not exceed 210 lbs. per sq. inch.

In my opinion the vessel is eligible for the record ✠ L.M.C. 4.17.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4.17.

JWD.

30/4/17 Geo. Allan

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ...	£ 1 : - :	When applied for,	
Special ... fee ...	£ 11 : 5 :	27.4.1917	
Donkey Boiler Fee ...	£ : :	When received,	
Travelling Expenses (if any)	£ : 2 :	30.4.1917	1.5.17.

Committee's Minute TUE - 1 MAY 1917

Assigned + L.M.C. 4.17.

MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to Hall

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