Rpt. 4

REPORT ON MACHINERY.

No. 20,331

Received at London Office MUN. 27 JUL 1908

Date of writing Report 22/7/1908 When handed in at Local Office 25/7/1908 Port of Hull.

No. in Reg. Book. Survey held at Hull Date, First Survey Mar 3rd Last Survey Jul. 15th 1908 (Number of Visits 31)

10 Suppl. on the S/Trawler "CELIA" Tons Gross 202 Net 79

Master Built at Hull. By whom built Earle & Co When built 1908.

Engines made at Hull By whom made Amos & Smith when made 1908.

Boilers made at & By whom made & when made &

Registered Horse Power Owners Hellyer's Steam Fishing Co Ltd Port belonging to Hull.

Nom. Horse Power as per Section 28 46. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Inverted Triple Expansion No. of Cylinders 3 No. of Cranks 3.

Dia. of Cylinders 10 - 16¾ - 28 Length of Stroke 24 Revs. per minute 99 Dia. of Screw shaft as per rule 6.76 as fitted 7.5/7.2" 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 — 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 — Length of stern bush 32

Dia. of Tunnel shaft as per rule 5.75 as fitted 6 Dia. of Crank shaft journals as per rule 6.03 as fitted 6½ Dia. of Crank pin 6½ Size of Crank webs 12½ x 4½ Dia. of thrust shaft under collars 6½ Dia. of screw 10-0 Pitch of Screw 9-1½ Mean No. of Blades 4 State whether moveable No. Total surface 29.8 ft.

No. of Feed pumps 1 Diameter of ditto 2½ Stroke 11 Can one be overhauled while the other is at work —

No. of Bilge pumps 1 Diameter of ditto 2½ Stroke 11 Can one be overhauled while the other is at work —

No. of Donkey Engines 2 Sizes of Pumps 6x3x6 — 5x5x5 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2-2 For. - Aft. In Holds, &c. 2-2 Main hold - tallow tank. 2 Ejector suction to all legs with an elbow on deck.

No. of Bilge Injections 1 sizes 2½ Connected to condenser, or to circulating pump Circ. 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 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 Hold Suctions 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.

Dates of examination of completion of fitting of Sea Connections 25.6.08 of Stern Tube 25.6.08. Screw shaft and Propeller 25.6.08.

Is the Screw Shaft Tunnel watertight None. Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Phoenix & Hoerde, Westphalia.

Total Heating Surface of Boilers 758 ft. Is Forced Draft fitted No. No. and Description of Boilers 1 S.E. Multitubular

Working Pressure 200. Tested by hydraulic pressure to 400 Date of test 8.7.08. No. of Certificate 1652.

Can each boiler be worked separately — Area of fire grate in each boiler 25.5 ft. No. and Description of Safety Valves to each boiler 2 Spring loaded. Area of each valve 3.14. 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 6" Mean dia. of boilers 10-7 Length 9-3 Material of shell plates Steel.

Thickness 31/32" Range of tensile strength 28-32 Are the shell plates welded or flanged Yes. Descrip. of riveting: cir. seams D.R. Lap. long. seams D.R.S.B. Diameter of rivet holes in long. seams 1⅞" Pitch of rivets 7-6 ~~Lap of plates or~~ width of butt straps 16½

Per centages of strength of longitudinal joint rivets 100. plate 85.2. Working pressure of shell by rules 201. Size of manhole in shell 16" x 12"

Size of compensating ring 30 x 40 x 31/32" No. and Description of Furnaces in each boiler 2 plain Material Steel. Outside diameter 2-11 17/32"

Length of plain part top 6-7" bottom 12-6 Thickness of plates crown 49/64 bottom 49/64. Description of longitudinal joint welded. No. of strengthening rings —

Working pressure of furnace by the rules 228. Combustion chamber plates: Material Steel. Thickness: Sides 23/32" Back 11/16" Top 11/16" Bottom 23/32"

Pitch of stays to ditto: Sides 6¾ x 8½" Back 8½ x 8" Top 7⅞ x 8½" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 239.

Material of stays Steel. Diameter at smallest part 1¾ = 206 Area supported by each stay 74.3 Working pressure by rules 249. End plates in steam space: Material Steel. Thickness 15/16" Pitch of stays 12¾ x 13½" How are stays secured Screwed into end plates & Nuts Working pressure by rules 246. Material of stays Steel.

Diameter at smallest part 4.1 area. Area supported by each stay 169 Working pressure by rules 250. Material of Front plates at bottom Steel.

Thickness 15/16" Material of Lower back plate Steel. Thickness 15/16. Greatest pitch of stays 14 x 8" Working pressure of plate by rules 234

Diameter of tubes 3½" Pitch of tubes 4¾ x 4½" Material of tube plates Steel. Thickness: Front 15/16" Back ⅞" Mean pitch of stays 9½ x 8½"

Pitch across wide water spaces 13¾" Working pressures by rules 203 Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 8½ x 1¾" Length as per rule 30⅞" Distance apart 7⅞" Number and pitch of stays in each 2 @ 8½"

Working pressure by rules 232 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 —

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety

Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment

If fitted with easing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length

Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams

Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint Rivets Plates

Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays

Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint

Working pressure of furnace by rules Thickness of furnace crown plates Stayed by

Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied :— Two top & two bottom end connecting rod, bolts & nuts, two main bearing bolts, one set of coupling bolts & nuts, one set of feed & bilge pump valves, one set of air & circulating pump valves, one main & donkey feed check valve, assorted bolts & nuts. ✓

The foregoing is a correct description,

FOR AMOS & SMITH

Manufacturer. W. J. Stride MANAGING PARTNER per E.S.P.

Dates of Survey while building { During progress of work in shops- - } 1908:- Mar 3. 9. 14. 18. 31. Apr 6. 8. 13. 16. Apr 22. 28 May 2. 6.
{ During erection on board vessel - - } May 9. 11. 16. 19. 23. 26. 30. Jun 2. 6. 17. 19. 25. 27. Jul. 4. 6. 9. 11. 15. ✓
{ Total No. of visits 31.

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 2.5.08. Slides 26.5.08 Covers 26.5.08 Pistons 23.5.08. Rods 28.4.08

Connecting rods 19.5.08. Crank shaft 26.5.08 Thrust shaft 9.5.08 Tunnel shafts ✓ Screw shaft 19.5.08. Propeller 2.6.08.

Stern tube 2.6.08. Steam pipes tested 6.7.08 Engine and boiler seatings 4.7.08. Engines holding down bolts 4.7.08

Completion of pumping arrangements 15.7.08. Boilers fixed 4.7.08. Engines tried under steam 11.7.08.

Main boiler safety valves adjusted 11.7.08. Thickness of adjusting washers P 3/8 S 5/16

Material of Crank shaft Steel. Identification Mark on Do. 425. J.W.G. 6.6.08. Material of Thrust shaft Steel. Identification Mark on Do. 425. J.W.G. 6.6.08.

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 425. 23.5.08 J.W.G.

Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery & boiler of this vessel have been constructed under Special Survey, are of good material & workmanship & have been fitted & secured on board in accordance with the rules. They are now in good working condition & eligible in my opinion to have record of ✠ L.M.C. 7-08 in the Register Book. ✓

It is submitted that this vessel is eligible for THE RECORD. ✠ L.M.C. 7.08.

HC 27.7.08

L.S. 27.7.08

Certificate (if required) to be sent to Hull

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

The amount of Entry Fee	£ 7 : 0 : 0	When applied for, 25/7/1908	
Special	£ 8 : 0 : 0		
Donkey Boiler Fee	£ : :	When received, 1.8.1908	
Travelling Expenses (if any)	£ : :		

B 4.8.08

John. W. Gwynne
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES 28 JUL 1908

Assigned + LMC 7.08

MACHINERY CERTIFICATE WRITTEN