Rpt. 4.

REPORT ON MACHINERY

No. 21459

Received at London Office WED. 21 JUL 1909

Date of writing Report July 14 1909 When handed in at Local Office 19.7.1909 Port of Hull

No. in Reg. Book 378 Survey held at Hull. Date, First Survey Mar 11th Last Survey July 7th 1909 (Number of Visits 37)

on the S/Trawler "ELITE"

Tons Gross 487 Net 305

Master Built at Selby. By whom built Cochrane & Sons When built 1909

Engines made at Hull By whom made Amos & Smith Ld when made 5

Boilers made at 5 By whom made 5 when made 5

Registered Horse Power – Owners Bensaude & Co Port belonging to Lisbon

Nom. Horse Power as per Section 28 117. Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 15"-25"-42" Length of Stroke 27 Revs. per minute 109 Dia. of Screw shaft as per rule 8.57 as fitted 8¾ 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 – If two liners are fitted, is the shaft lapped or protected between the liners – Length of stern bush 40"

Dia. of Tunnel shaft as per rule 7.46 as fitted 7¾" Dia. of Crank shaft journals as per rule 7.84 as fitted 8" Dia. of Crank pin 8" Size of Crank webs 15¾"×5" Dia. of thrust shaft under collars 8" Dia. of screw 10'-9" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable No. Total surface 40 ft

No. of Feed pumps 2 Diameter of ditto 2½" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2½ Stroke 18" Can one be overhauled while the other is at work Yes

No. of Donkey Engines One. Sizes of Pumps 5"×3½"×5" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2-2" (Fore & Aft) In Holds, &c. 4-2" (Boiler Space Fwd, Shaft well, Fish room & Fore hold. Ejector suction to all bilges with discharge on deck)

No. of Bilge Injections 1 sizes 4" Connected ~~to condenser, or~~ to circulating pump – Is a separate Donkey Suction fitted in Engine room & size 1-3"

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 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.

Dates of examination of completion of fitting of Sea Connections 20.4.09 of Stern Tube 20.4.09 Screw shaft and Propeller 20.4.09

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 Thyssen & Co. Dusseldorf

Total Heating Surface of Boilers 2050 ft Is Forced Draft fitted No No. and Description of Boilers 1 S.E. Multitubular

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 22.6.09 No. of Certificate 1710

Can each boiler be worked separately – Area of fire grate in each boiler 59.1 ft No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 7.06 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 15'-0" Length 11'-0" Material of shell plates Steel.

Thickness 1 3/16 Range of tensile strength 28-32 Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams DR Lap. long. seams DBS 5 rows Diameter of rivet holes in long. seams 1 7/32" Pitch of rivets 8½" ~~Lap of plates or~~ width of butt straps 18"

Per centages of strength of longitudinal joint rivets 85.9 plate 88.6. Working pressure of shell by rules 185 lbs. Size of manhole in shell 16"×12"

Size of compensating ring 40"×30"×1 3/16" No. and Description of Furnaces in each boiler 3 Corrugated Material Steel. Outside diameter 3'-11¼"

Length of plain part top – bottom – Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint Welded. No. of strengthening rings –

Working pressure of furnace by the rules 212 lbs. Combustion chamber plates: Material Steel. Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 9"×10" Back 8½"×10" Top 9"×10" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 198

Material of stays Steel. Diameter at smallest part 1 3/4"×1 7/8" Area supported by each stay 110 □" Working pressure by rules 196 lbs End plates in steam space: Material Steel. Thickness 1 3/32" Pitch of stays 15"×20" How are stays secured Nut & washer Working pressure by rules 183 Material of stays Steel

Diameter at smallest part 6.10 Area supported by each stay 350 □" Working pressure by rules 210 Material of Front plates at bottom Steel

Thickness 29/32" Material of Lower back plate Steel. Thickness 29/32" Greatest pitch of stays 14"×10" Working pressure of plate by rules 191

Diameter of tubes 3½" Pitch of tubes 4¾"×4¾" Material of tube plates Steel. Thickness: Front 27/32" Back 27/32" Mean pitch of stays 9½"

Pitch across wide water spaces 14" Working pressures by rules 182 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9"×1¾" Length as per rule 2'-8" Distance apart 10" Number and pitch of stays in each 2 @ 9"

Working pressure by rules 206 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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W88-0122

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 tops 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 main & one donkey feed check valve, one set of air pump valves, one circulating pump fan & spindle, assorted bolts & nuts—etc.

The foregoing is a correct description,

POR AMOS & SMITH LTD.

Manufacturer. W. H. Hale Managing Director.

Dates of Survey while building — During progress of work in shops: 1909.- Mar 11.23.26.31. Apr 1.3.14.16.20.24.27 May 1.4.5.8.13.15.21.25.26.29 Jun 2.4
During erection on board vessel: Jun 8.10.11.16.17.18.19.22.28.30. Jul 1.5.6.7.
Total No. of visits 37

Is the approved plan of main boiler forwarded herewith Yes
" " " ~~donkey~~ " " " ✓

Dates of Examination of principal parts—Cylinders 24.4.09 Slides 16.6.09. Covers 24.4.09. Pistons 16.6.09 Rods 10.6.09.
Connecting rods 24.4.09. Crank shaft 10.6.09. Thrust shaft 10.6.09. Tunnel shafts ✓ Screw shaft 16.4.09. Propeller 16.4.09
Stern tube 16.4.09 Steam pipes tested 30.6.09. Engine and boiler seatings 20.4.09. Engines holding down bolts 30.6.09
Completion of pumping arrangements 7.7.09. Boilers fixed 1.7.09. Engines tried under steam 1.7.09
Main boiler safety valves adjusted 1.7.09 Thickness of adjusting washers P 1/8. S 5/32.
Material of Crank shaft Steel. Identification Mark on Do. 491 10.6.09 S.W.G. Material of Thrust shaft Steel Identification Mark on Do. 491. 10.6.09 S.W.G.
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 491 16.4.09. S.W.G.
Material of Steam Pipes Solid drawn copper Test pressure 360 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. 7-09 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. ✠ LMC 7.09
Ref. mchy. Elec light.
A.R.R. H.E.D.
21-7-09.

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

Certificate (if required) to be sent to Hull

The amount of Entry Fee .. £ 2 : 0 : 0
Special .. .. £ 17 . 11 : 0
Donkey Boiler Fee .. .. £ - : - : -
Travelling Expenses (if any) £ : 16 : 4

When applied for, 20/7/1909
When received, 30.7.1909

Certificate

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

Committee's Minute JUL 27 1909

Assigned ✠ LMC 7.09

MACHINERY CERTIFICATE WRITTEN.

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