

REPORT ON MACHINERY.

No. 28072.

Received at London Office NOV. 17. 1914.

Date of writing Report 16-11-14 Port of Hull
 When handed in at Local Office Hull
 No. in Survey held at Hull Date, First Survey 15-1-14 Last Survey 13-11-14
 Reg. Book. 34 on the 1 Sea Ranger (Number of Visits 38) Gross 263
 Master Built at Leby By whom built Cochrane Bros Ltd When built 1914-11
 Engines made at Hull By whom made Amos Smith Ltd (No. 2501) when made 1914-11
 Boilers made at Hull By whom made Amos Smith Ltd when made 1914-11
 Registered Horse Power Owners Humber Steam Trawling Co Ltd Port belonging to Hull
 Nom. Horse Power as per Section 28 78 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 1/2 - 21 1/2 - 35 1/4 Length of Stroke 24 Revs. per minute Dia. of Screw shaft as per rule 7 1/2 Material of screw shaft as fitted 7 7/8
 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 6/4 Dia. of Crank shaft journals as per rule 6 9/7 Dia. of Crank pin 7 1/4 Size of Crank webs 4 3/4 x 13 3/8 Dia. of thrust shaft under collars 7 1/2 Dia. of screw 9-0 Pitch of Screw 11-0 No. of Blades 4 State whether moveable no Total surface 29.57
 No. of Feed pumps one Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work
 No. of Bilge pumps one Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work
 No. of Donkey Engines one + 2 1/2 sizes of Pumps 6 7/8 x 4 3/4 x 6 duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2" dia. In Holds, &c. one 2" in each compartment also connected to yacht
 No. of Bilge Injections one size 3 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2 1/2 gals
 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 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 bilge yes
 Dates of examination of completion of fitting of Sea Connections 23-7-14 of Stern Tube 23-7-14 Screw shaft and Propeller 23-7-14
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from
BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix Abt. Holder Tustin & Co

Total Heating Surface of Boilers 1320 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 15-10-14 No. of Certificate 3028
 Can each boiler be worked separately Area of fire grate in each boiler 45 No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 4.9 Pressure to which they are adjusted 205 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7 Mean dia. of boilers 153 Length 10-6 Material of shell plates steel
 Thickness 1/8 Range of tensile strength 29-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double long. seams J.P.B.T Diameter of rivet holes in long. seams 1 5/32 Pitch of rivets 7 3/4 Lap of plates or width of butt straps 16 3/4
 Per centages of strength of longitudinal joint rivets 89.6 Working pressure of shell by rules 209 Size of manhole in shell 12 x 16
 Size of compensating ring 9 x 1 1/8 No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 37 5/8
 Length of plain part top 20 Thickness of plates crown 2 13/16 Description of longitudinal joint welded No. of strengthening rings bottom 72
 Working pressure of furnace by the rules 223 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 23/32 Top 1/16 Bottom 13/16
 Pitch of stays to ditto: Sides 9 1/2 x 8 1/2 Back 9 x 9 Top 9 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 202
 Material of stays S Area Diameter at smallest part 2.07 Area supported by each stay 81 Working pressure by rules 230 End plates in steam space
 Material S Thickness 1 3/32 Pitch of stays 16 1/2 x 17 How are stays secured 2.7.9 W Working pressure by rules 201 Material of stays S
 Diameter at smallest part 6.1 Area supported by each stay 280 Working pressure by rules 226 Material of Front plates at bottom S
 Thickness 1/4 Material of Lower back plate S Thickness 1 1/16 Greatest pitch of stays 13 3/4 x 10 Working pressure of plate by rules 210
 Diameter of tubes 3 1/2 Pitch of tubes 5 x 4 3/4 Material of tube plates S Thickness: Front 1 Back 7/8 Mean pitch of stays 11
 Pitch across wide water spaces 13 3/4 Working pressures by rules 203 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 1/2 x 1 3/4 Length as per rule 34 Distances apart 9 Number and pitch of stays in each three 8 1/2
 Working pressure by rules 216 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

W383-0048

IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded?

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 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, FOR AMOS & SMITH LTD,

S. J. Robinson

Secretary/Manufacturer.

Dates of Survey while building: During progress of work in shops - 1914: Jan 15, May 28, Jun 12, Jul 3, 21, 23, 31, Aug 21, 26, 28, Sep 1, 4, 9, 15, 18, 21, 23, 25, 29. During erection on board vessel - Oct 1, 2, 7, 9, 14, 15, 16, 20, 22, 27, 28, 29, 30, Nov 2, 3, 4, 5, 10, 13. Total No. of visits 38.

Is the approved plan of main boiler forwarded herewith? Yes 28030

Dates of Examination of principal parts - Cylinders 18-9-14, Slides 14-10-14, Covers 14-10-14, Pistons 14-10-14, Rods 14-10-14, Connecting rods 14-10-14, Crank shaft 29-9-14, Thrust shaft 7-10-14, Tunnel shafts ✓, Screw shaft 21-7-14, Propeller 21-7-14, Stern tube 21-7-14, Steam pipes tested 30-10-14, Engine and boiler seatings 23-7-14, Engines holding down bolts 2-11-14, Completion of pumping arrangements 5-11-14, Boilers fixed 2-11-14, Engines tried under steam 5-11-14, Main boiler safety valves adjusted 5-11-14, Thickness of adjusting washers 10/32 & 3/8. Material of Crank shaft Steel, Identification Mark on Do. 1287 FLS, Material of Thrust shaft Steel, Identification Mark on Do. 1293 FLS, Material of Tunnel shafts ✓, Identification Marks on Do., Material of Screw shafts Iron, Identification Marks on Do. 1301 J.S.M, Material of Steam Pipes solid drawn copper, Test pressure 400 lbs.

Is an installation fitted for burning oil fuel? no, 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 Sea Lecher

General Remarks (State quality of workmanship, opinions as to class, &c.) The Engines & boiler of this vessel have been constructed under special survey in accordance with the approved plan & the rules of this society, the materials & workmanship are good. The boiler & main steam pipes have been tested by hydraulic pressure to 400 lbs & found sound & good. The machinery has been properly fitted & secured on board & on completion tried under steam & found satisfactory. The safety valves have been adjusted under steam & found for accumulation which did not exceed 210 lbs.

In my opinion the vessel is eligible for the record + L.M.C. 11.14

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11.14.

J.W.D. G.P.R. 17/11/14

The amount of Entry Fee ... £ 1 : 0 : When applied for, 16-11-14. Special ... £ 11 : 14 : When received, 30/11/14. Donkey Boiler Fee ... £ Travelling Expenses (if any) £ - : 4 : 2

Frank A. Sturges Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. NOV 20. 1914. Assigned + L.M.C. 11.14



MACHINERY CERTIFICATE WRITTEN.