Rpt. 4.

REPORT ON MACHINERY.

No. 24460

Received at London Office SAT. DEC. 9 - 1911

Date of writing Report ...... 19 ...... When handed in at Local Office 8/12/1911 Port of Hull

No. in Reg. Book. 27 Supp — Survey held at Hull. Date, First Survey Mar 8th Last Survey Nov 23rd 1911 (Number of Visits 37)

on the S/Trawler DRYPOOL — Tons: Gross 331, Net 132

Master — Built at Selby. By whom built Cochrane & Sons When built 1911

Engines made at Hull. By whom made Amos & Smith Ld. when made do

Boilers made at do By whom made do when made do

Registered Horse Power — Owners City Steam Fishing Co Ld. Port belonging to Hull.

Nom. Horse Power as per Section 28 94. 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 $12\frac{3}{4} \times 22\frac{3}{4} \times 37$ Length of Stroke 26" Revs. per minute 108 Dia. of Screw shaft as per rule 7.8" as fitted $8\frac{1}{4}$ Material of screw shaft Steel

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 36"

Dia. of Tunnel shaft as per rule 6.96 as fitted $7\frac{3}{8}$-$7\frac{1}{2}$ Dia. of Crank shaft journals as per rule 7.3 as fitted $7\frac{1}{2}$" Dia. of Crank pin $7\frac{1}{2}$" Size of Crank webs $4\frac{3}{4} \times 14\frac{3}{4}$ Dia. of thrust shaft under collars $7\frac{1}{2}$" Dia. of screw 9'6" Pitch of Screw 11'3" No. of Blades 4 State whether moveable No. Total surface 33 ft.

No. of Feed pumps one. Diameter of ditto $2\frac{7}{8}$" Stroke 12 Can one be overhauled while the other is at work —

No. of Bilge pumps one Diameter of ditto $2\frac{7}{8}$" Stroke 12 Can one be overhauled while the other is at work —

No. of Donkey Engines one. Sizes of Pumps $6 \times 4\frac{1}{4} \times 6$" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-2" For'd & Aft. In Holds, &c. 3-2" (Forehold, Fishwell & ballast tank)

2" Ejector suction to all bilges with discharge on deck.

No. of Bilge Injections one sizes 3" Connected to condenser, or to circulating pump pump. Is a separate Donkey Suction fitted in Engine room & size 2" 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 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 8.9.11 of Stern Tube 8.9.11 Screw shaft and Propeller 8.9.11

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 Co. Hoerde.

Total Heating Surface of Boilers 1628 ft. Is Forced Draft fitted No. No. and Description of Boilers 1 S.E. Multitubular

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 2.11.11 No. of Certificate 1853

Can each boiler be worked separately — Area of fire grate in each boiler 48.75 ft. No. and Description of Safety Valves to each boiler 2 Spring loaded. Area of each valve 4.9 □" 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 int. 14'0" Length 10'6" Material of shell plates Steel.

Thickness $1\frac{7}{32}$ Range of tensile strength 29-32 Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams DR Lap.

long. seams DBS 5 rivets Diameter of rivet holes in long. seams $1\frac{1}{4}$" Pitch of rivets $8\frac{3}{4}$ ~~Lap of plates or~~ width of butt straps $18\frac{1}{2}$

Per centages of strength of longitudinal joint rivets 85.58 plate 85.6 Working pressure of shell by rules 202. Size of manhole in shell 16 × 12"

Size of compensating ring $40 \times 30 \times 1\frac{7}{32}$" No. and Description of Furnaces in each boiler 3 plain Material Steel. Outside diameter $3'4\frac{5}{8}$"

Length of plain part top $66\frac{1}{2}$" bottom 61" Thickness of plates crown $\frac{13}{16}$" bottom $\frac{13}{16}$ Description of longitudinal joint Welded. No. of strengthening rings —

Working pressure of furnace by the rules 218 Combustion chamber plates: Material Steel. Thickness: Sides $\frac{11}{16}$" Back $\frac{23}{32}$" Top $\frac{11}{16}$" Bottom $\frac{13}{16}$

Pitch of stays to ditto: Sides $9\frac{1}{2}$" × 8" Back $9\frac{3}{4}$" × $8\frac{3}{8}$" Top $8\frac{1}{2}$" × $9\frac{1}{2}$ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 203

Material of stays Steel. Diameter at smallest part $1\frac{3}{4}$ = 2.06, $1\frac{7}{8}$ = 2.39 Area supported by each stay 80.6 □" Working pressure by rules 224 End plates in steam space:

Material Steel. Thickness $1\frac{1}{8}$" Pitch of stays $17\frac{1}{2} \times 15$" How are stays secured Screwed into the plate, nut & washer Working pressure by rules 201. Material of stays Steel.

Diameter area at smallest part 6.1. Area supported by each stay 263 □" Working pressure by rules 240. Material of Front plates at bottom Steel.

Thickness $1\frac{1}{64}$ Material of Lower back plate Steel. Thickness $\frac{15}{16}$" Greatest pitch of stays 14 × 9" Working pressure of plate by rules 218

Diameter of tubes $3\frac{1}{2}$" Pitch of tubes $4\frac{3}{4}$" × $4\frac{7}{8}$" Material of tube plates Steel. Thickness: Front $1\frac{1}{32}$" Back $\frac{27}{32}$" Mean pitch of stays 4".

Pitch across wide water spaces 14" Working pressures by rules 201. Girders to Chamber tops: Material Steel. Depth and thickness of girder at centre $9\frac{1}{2}$" × $1\frac{3}{4}$" Length as per rule 2'10" Distance apart $9\frac{1}{2}$" Number and pitch of stays in each 3 @ $8\frac{1}{2}$

Working pressure by rules 208 Superheater or Steam chest; how connected to boiler None 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 ......

Hull 227

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 Radius of do. 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 & nuts, one set of coupling bolts & nuts, one set of feed & bilge pump valves, one set of air pump valves, one main & one donkey feed check valve, assorted bolts & nuts etc.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

W. S. Hide

Managing Director.

Manufacturer.

Dates of Survey while building — During progress of work in shops	1911: Mar 8. Jun 16. 30. July 3. 7. 15. 18. 24. 25. 27. Aug 3. 8 per AC Aug 12. 17. Sep 1. 2.
During erection on board vessel	Sep. 5. 8. 12. 19. 21. 26. 27. Oct 5. 9. 13. 16. 26. Nov 2. 4. 10. 13. 16. 17. 18. 22. 23.
Total No. of visits	37

Is the approved plan of main boiler forwarded herewith Yes

" " " ~~donkey~~ " " " —

Dates of Examination of principal parts—Cylinders 5.10.11 Slides 2.10.11 Covers 5.10.11 Pistons 9.10.11 Rods 26.10.11

Connecting rods 9.10.11 Crank shaft 26.10.11 Thrust shaft 26.10.11 Tunnel shafts — Screw shaft 2.9.11 Propeller 2.9.11

Stern tube 2.9.11. Steam pipes tested 17.11.11 Engine and boiler seatings 10.11.11. Engines holding down bolts 13.11.11

Completion of pumping arrangements 23.11.11. Boilers fixed 13.11.11 Engines tried under steam 18.11.11.

Main boiler safety valves adjusted 18.11.11. Thickness of adjusting washers P 7/16 S 3/8

Material of Crank shaft Steel. Identification Mark on Do. 824. 26.10.11 S.H.G. Material of Thrust shaft Steel. Identification Mark on Do. 824 26.10.11 J.W.C.

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts Steel. Identification Marks on Do. 761. 2.9.11. J.B.

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 and are respectfully submitted as being eligible in my opinion to have record of + L.M.C. 11-11 in the Register Book.

Certificate (if required) to be sent to Hull

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

It is submitted that this vessel is eligible for THE RECORD +LMC.11.11.

JWD 9/12/11

DM

		When applied for,
The amount of Entry Fee ..	£ 1 : 0 : 0	5/12/1911
Special	£ 14 . 2 : 0	
Donkey Boiler Fee	£ : :	When received,
Travelling Expenses (if any)	£ : 8 2	30.12.11

John W. Goyme.

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

Committee's Minute TUE. DEC. 12. 1911

Assigned +LMC. 11.11

MACHINERY CERTIFICATE WRITTEN.