Rpt. 4.

REPORT ON MACHINERY.

No. 29461

Received at London Office TUE 8 AUG 1916

Date of writing Report 5-8 1916 When handed in at Local Office Port of Hull

Date, First Survey 10.6.15 Last Survey 26.7.1916 (Number of Visits 66)

No. in Reg. Book 179 on the Steam Trawler "Raymont" Tons Gross 226 Net 10.9

Master Built at Beverley By whom built Cook, Welton & Gemmell When built 1916

Engines made at Hull By whom made Amos & Smith Ltd when made 1916

Boilers made at Hull By whom made Amos & Smith Ltd when made 1916

Registered Horse Power Owners Alec 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 7½" 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 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" Dia. of Crank pin 7" Size of Crank webs 13¾ × 4⅜ Dia. of thrust shaft under collars 7" Dia. of screw 8'.9" Pitch of Screw 11'.0" No. of Blades 4 State whether moveable no Total surface 29 ☐ft.

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 6¼" · 4¾" · 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 sluicewell 2" ejector from all bilges

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pumps 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

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 casings

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 17.3.16 of Stern Tube 17.3.16 Screw shaft and Propeller 17.3.16

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

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel the steel Co. of Scotland

Total Heating Surface of Boilers 1268 ☐ft. 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 27.6.16 No. of Certificate 3143

Can each boiler be worked separately ✓ Area of fire grate in each boiler 31.5 ☐ft. 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 abt. 7" ~~Mean~~ dia. of boilers 12'.9 11/16" 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" ~~Lap of plates~~ or 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 81¾" bottom Thickness of plates crown 13/16" bottom 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" × 9½" 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. ~~Diameter~~ 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 14½" × 13¾" How are stays secured screwed N & W Working pressure by rules 206 Material of stays S.

~~Diameter~~ 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 lbs. 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 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 ✓

Yes

If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the Ship?

IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? no.

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 fed and bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

A Brackenbury

Manufacturer.

Dates of Survey while building

During progress of work in shops — 1915:- Jan 10. 17. 22 Jul 2. 9. 14. 30 Aug 6. 13. 20. 27. Sep 3. 13. 20. 25 Oct 5

During erection on board vessel — 12. 19. 29 Nov 5. 12. 19. 26. 29 Dec 3. 7. 13. 17. 21. 30. 1916 Jan 7. 13. 28 Feb 4. 18. 25 Mar 9. 15

Total No. of visits — 16. 17. 23. 30. 31 Apl 6. 7. 13. 18. 28. 29 May 6. 13. 20. 27 Jun 3. 10. 12. 19. 24. 27. 28 Jul 3. 10. 15. 19. 21. 26 = 66

Is the approved plan of main boiler forwarded herewith A/12437

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 6.4.16 Slides 28.6.16 Covers 6.4.16 Pistons 28.6.16 Rods 28.6.16

Connecting rods 28.6.16 Crank shaft 28.6.16 Thrust shaft 16.3.16 Tunnel shafts ✓ Screw shaft 16.3.16 Propeller 16.3.16

Stern tube 16.3.16 Steam pipes tested 19.6.16 Engine and boiler seatings 17.3.16 Engines holding down bolts 11.7.16

Completion of pumping arrangements 26.7.16 Boilers fixed 11.7.16 Engines tried under steam 21.7.16

Main boiler safety valves adjusted 21.7.16 Thickness of adjusting washers Port 11/32" S. 3/8"

Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Iron Identification Mark on Do. 1635 P.T. 16.3.16

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 1635 P.T. 16.3.16

Material of Steam Pipes S.D. Copper Test pressure 400 lbs. per sq. inch

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 Louis Botha

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 the Society; the materials and workmanship are good; the boiler and steam pipes have been tested as above by hydraulic pressure and found satisfactory.

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. 7. 16.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.16

9.8.16

Certificate (if required) to be sent to Shell

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

The amount of Entry Fee	£ 1 : - :	When applied for,	7-8-1916
Special	£ 11 : 5 :		
Donkey Boiler Fee	£ : :	When received;	31-8-1916
Travelling Expenses (if any)	£ : 2 :		

Geo. Allan

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

1/9/16

Committee's Minute FRI. 11 AUG 1916

Assigned + LMC 7.16

MACHINERY CERTIFICATE WRITTEN