Rpt. 4.

REPORT ON MACHINERY.

No. 28195

Received at London Office TUE. JAN. 12. 1915

Date of writing Report 24-12-14 to When handed in at Local Office 29-12- to 14 Port of Hull

No. in Reg. Book. Survey held at Hull Date, First Survey 3-6-14 Last Survey 24-12-14 19 (Number of Visits 46.)

Supt 47 on the steel screw trawler Acantha (H.A.179) Tons Gross 322 Net 171

Master Built at Selby By whom built Cochrane & Sons Ld When built 1914-12

Engines made at Hull By whom made Earle's Co Ld when made 1914-12

Boilers made at Hull By whom made Earle's Co Ld when made 1914-12

Registered Horse Power Owners Equitable Steam Fishing Co Ld Port belonging to Grimsby

Nom. Horse Power as per Section 28 88 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks 3

Dia. of Cylinders 13" - 22½" - 37" Length of Stroke 26" Revs. per minute 112 Dia. of Screw shaft as per rule 7.84" as fitted 8" 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 2'-9"

Dia. of Tunnel shaft as per rule 7.02 as fitted ✓ Dia. of Crank shaft journals as per rule 7.37" as fitted 7½" Dia. of Crank pin 7½" Size of Crank webs 14½" × 4⅞" Dia. of thrust shaft under collars 7½" Dia. of screw 9'-6" Pitch of Screw 11'-9" No. of Blades 4 State whether moveable no Total surface 31 □ft

No. of Feed pumps one Diameter of ditto 2⅞" Stroke 12" Can one be overhauled while the other is at work ✓

No. of Bilge pumps one Diameter of ditto 2⅞" Stroke 12" Can one be overhauled while the other is at work ✓

No. of Donkey Engines two & 2½ ejector Sizes of Pumps 5¼ × 3½ × 5 duplex feed 6 × 3 × 6 flywheel pump serves No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room one 2" diar In Holds, &c. one 2" diar in each compartment all suctions also connected to ejector

No. of Bilge Injections one sizes 3½" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2½" yes

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 bilges yes

Dates of examination of completion of fitting of Sea Connections 5-12-14 of Stern Tube 4-12-14 Screw shaft and Propeller 5-12-14

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

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

Total Heating Surface of Boilers 1450 □ft Is Forced Draft fitted no No. and Description of Boilers one single ended

Working Pressure 200 lbs Tested by hydraulic pressure to 400 Date of test 13-11-14 No. of Certificate 3040

Can each boiler be worked separately ✓ Area of fire grate in each boiler 44.6 □ft 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 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork abt 9" ~~Mean~~ Int dia. of boilers 159⅞" Length 10'-6" Material of shell plates Steel

Thickness 1 3/16" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double long. seams 7 R & B 1 Diameter of rivet holes in long. seams 1¼" Pitch of rivets 8¾" ~~Lap of plates or~~ width of butt straps 18⅜"

Per centages of strength of longitudinal joint rivets 88 plate 85.7 Working pressure of shell by rules 200 Size of manhole in shell 16" × 12"

Size of compensating ring 9" × 1 3/16" No. and Description of Furnaces in each boiler Three plain Material S Outside diameter 39⅝"

Length of plain part top 76¾" bottom 70¼" Thickness of plates crown 7 13/16" bottom 7 7/16" Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 210 Combustion chamber plates: Material S Thickness: Sides 23/32 Back 11/16 Top 11/16 Bottom 23/32

Pitch of stays to ditto: Sides 10⅛" × 8¼" Back 9½" × 8¼" Top 9⅞" × 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 200

Material of stays S ~~Diameter~~ area at smallest part 2.07 Area supported by each stay 84 □" Working pressure by rules 222 End plates in steam space:

Material S Thickness 15/32 Pitch of stays 17½" × 16½" How are stays secured D.N. Working pressure by rules 207 Material of stays steel

~~Diameter~~ area at smallest part 6.23 □" Area supported by each stay 290 □" Working pressure by rules 223 Material of Front plates at bottom steel

Thickness 1 1/32" Material of Lower back plate steel Thickness 29/32 Greatest pitch of stays 14½" × 8⅝" Working pressure of plate by rules 205

Diameter of tubes 3½" Pitch of tubes 4¾" × 4¾" Material of tube plates S Thickness: Front 1 1/32" Back ⅞" Mean pitch of stays 9½"

Pitch across wide water spaces 14" Working pressures by rules 208 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 10½" × 1¾" Length as per rule 35 13/32" Distance apart 9⅞" Number and pitch of stays in each Three 8"

Working pressure by rules 215 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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W472-0123

IS A DONKEY BOILER FITTED? no. 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 of feed & bilge pump valves, main & donkey check valves & quantity of bolts & nuts & iron of various sizes ✓

The foregoing is a correct description.

FOR FARLE'S SHIPBUILDING & ENGINEERING CO. LIMITED.

MANAGER Manufacturer.

Dates of Survey while building — During progress of work in shops: 1914 Jun 3. 18. 19. 22. 30 July 6. 10. 28 Aug 10. 21. 26. Sep 3. 10. 11. 18. 19. 25. 30 Oct 6. 8

During erection on board vessel: 13. 19. 20. 22. 27. 28 Nov 2. 6. 7. 12. 13. 16. 18. 19. 24. 28 Dec 4. 5. 7. 8. 11. 14. 16. 19. 23. 2

Total No. of visits 46

Is the approved plan of main boiler forwarded herewith yes

" " " ~~donkey~~ " " " ✓

Dates of Examination of principal parts—Cylinders 30-9-14 Slides 28-10-14 Covers 13-10-14 Pistons 13-10-14 Rods 13-10-14

Connecting rods 2-11-14 Crank shaft 6-10-14 Thrust shaft 28-10-14 Tunnel shafts ✓ Screw shaft 12-11-14 Propeller 24-11-14

Stern tube 24-11-14 Steam pipes tested 14-12-14 Engine and boiler seatings 4-12-14 Engines holding down bolts 11-12-14

Completion of pumping arrangements 24-12-14 Boilers fixed 16-12-14 Engines tried under steam 19-12-14

Main boiler safety valves adjusted 19-12-14 Thickness of adjusting washers P 13/32 S 7/16

Material of Crank shaft S Identification Mark on Do. 1291 FLS Material of Thrust shaft S Identification Mark on Do. 1356 FLS

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 1382 FL

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 no ✓ If so, state name of vessel ✓

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 & the rules of this society, the materials & workmanship are good the boiler & steam pipes have been tested by hydraulic pressure as above & found sound & good. The machinery has been properly fitted & secured on board & on completion was tried under steam & found satisfactory, the safety valves have been adjusted under steam & tested for accumulation which did not exceed 210 lbs.

In my opinion the vessel is eligible for the record + L.M.C. 12-14.

Certificate (if required) to be sent to

It is submitted that this vessel is eligible for THE RECORD + LMC. 12. 14.

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

The amount of Entry Fee ...	£ 1 : 0	When applied for, 11-1-1915	
Special ...	£ 13 : 4	When received, 29/1/15	
Donkey Boiler Fee ...	£		
Travelling Expenses (if any)	£		

JWD 13/1/15

Frank L. Sturge

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

Committee's Minute FRI. JAN 15 1915

Assigned + LMC 12 14

MACHINERY CERTIFICATE WRITTEN

Form No. 1A.

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