

REPORT ON MACHINERY.

No. 081114

Received at London Office

Date of writing Report 23rd Aug. 1912 When handed in at Local Office 23 AUG 1912 Port of

No. in Survey held at Lytham & Date, First Survey Mar 18 Last Survey 22nd Aug. 1912

Reg. Book. 43 on the Machinery of the STEEL S.C. TUG "ULLSGARTH" (Number of Visits 7) Tons } Gross 45
Net

Master J. G. Houghton Built at Lytham By whom built Lytham S. B. & S. Co., Ltd. When built 1912-8

Engines made at Lytham By whom made Lytham S. B. & S. Co., Ltd. when made 1912

Boilers made at S. By whom made S. when made 1912

Registered Horse Power Owners R. & J. H. Pea Port belonging to Liverpool

Nom. Horse Power as per Section 28 39 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders two No. of Cranks two

Dia. of Cylinders 12 1/2" & 28" Length of Stroke 18" Revs. per minute 160 Dia. of Screw shaft as per rule 6.156 Material of W.I. Iron
as fitted 6 7/16" screw shaft

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'-6"

Dia. of Tunnel shaft as per rule 5.48" Dia. of Crank shaft journals as per rule 5.76" Dia. of Crank pin 5 7/8" Size of Crank webs 8 x 3 3/8" Dia. of thrust shaft under
as fitted 5 1/2" as fitted 5 7/8" collars 5 7/8" Dia. of screw 6'-9" Pitch of Screw 7'-0" No. of Blades 3 State whether moveable solid Total surface 16 sq ft

No. of Feed pumps 1 Diameter of ditto 2 1/4" Stroke 10" Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 1/4" Stroke 10" Can one be overhauled while the other is at work

No. of Donkey Engines one Sizes of Pumps 4" & 2 3/4" x 5" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 1 @ 2" In Holds, &c. Fore peak 1 @ 2"; Fore Cabin 1 @ 2";
Stokehold 1 @ 2"; After Cabin 1 @ 2"; and after peak 1 @ 2"

No. of Bilge Injections 1 sizes 2 1/2" Connected to condenser to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 2"

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 no

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 main steam pipes How are they protected non-conducting material and steel shield plates

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 12-7-12 of Stern Tube 12-7-12 Screw shaft and Propeller 12/7 & 30/7

Is the Screw Shaft Tunnel watertight no Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel H. Broadmore & Co. Ltd. & Lamsholm Steel Co. Ltd.

Total Heating Surface of Boilers 712 sq ft Is Forced Draft fitted no No. and Description of Boilers One cylindrical multitubular

Working Pressure 140 lbs. Tested by hydraulic pressure to 280 lbs. Date of test 12-7-12 No. of Certificate 1960

Can each boiler be worked separately Area of fire grate in each boiler 30 sq ft No. and Description of Safety Valves to
each boiler two - spring loaded Area of each valve 3.98 sq in Pressure to which they are adjusted 145 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-0" Mean dia. of boilers 9'-6" Length 9'-1 1/2" Material of shell plates Steel

Thickness 2 1/32" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR, L.
long. seams T.R., D.B.S. Diameter of rivet holes in long. seams 15/16" Pitch of rivets 7" Top of plates or width of butt straps 13 3/4"

Per centages of strength of longitudinal joint Working pressure of shell by rules 142 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 8" x 1 1/2" dia. No. and Description of Furnaces in each boiler two - plain Material Steel Outside diameter 36"

Length of plain part top 5'-11" Thickness of plates Description of longitudinal joint welded No. of strengthening rings
bottom 5'-6"

Working pressure of furnace by the rules 147 Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"

Pitch of stays to ditto: Sides 9" x 8" Back 8 3/4" x 8 3/4" Top 9" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 142.8

Material of stays Steel at smallest part 1.5" Area supported by each stay 76.56" Working pressure by rules 156 End plates in steam space:

Material Steel Thickness 1 3/16" Pitch of stays 15 3/4" x 14" How are stays secured DN & 2 LWS Working pressure by rules 140.8 Material of stays Steel

 at smallest part 3.24 Area supported by each stay 220.5" Working pressure by rules 154 Material of Front plates at bottom Steel

Thickness 1 3/16" Material of Lower back plate Steel Thickness 1 3/16" Greatest pitch of stays 13" x 8 3/4" Working pressure of plate by rules 155

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 1 3/16" Back 1 1/16" Mean pitch of stays 9"

Pitch across wide water spaces 15" Working pressures by rules 192.6 lbs. Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 7 1/2" x 1 1/4" Length as per rule 25" Distance apart 9" Number and pitch of stays in each 2 @ 8"

Working pressure by rules 183.1 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

Lloyd's Register Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel.

No. _____ Description *none fitted*

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 _____ Rivets _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ 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 connecting rods top and bottom end bolts & nuts; two main bearing bolts; 1 set coupling bolts; assorted bolts & nuts; iron of various sizes; 6 condenser tubes & 12 frames; 1 set valves for air, circulating, feed, & bilge pumps; 3 boiler tube stoppers; and 1 set fire bars.*

The foregoing is a correct description,

 Manufacturer.

THE LYTHAM SHIPBUILDING and
 ENGINEERING COMPANY, LIMITED
F. P. Pink
 MANAGING DIRECTOR

Dates of Survey while building { During progress of work in shops -- } *1912*
 { During erection on board vessel --- } *Mar 12 May 16 Jan 11 Jul 3. 12. 30 Aug 3.*
 Total No. of visits _____ Is the approved plan of main boiler forwarded herewith *yes.*

Dates of Examination of principal parts—Cylinders *1 1/2 1/2 1/2 1/2* Slides *1 1/2 1/2* Covers *1 1/2 1/2 1/2* Pistons *1 1/2 1/2 1/2* Rods *1 1/2 1/2 1/2*

Connecting rods *1 1/2 1/2 1/2* Crank shaft *and* Thrust shaft *1 1/2 1/2 1/2* Tunnel shafts *1 1/2 1/2* Screw shaft *1 1/2 1/2 1/2* Propeller *3 0/7*

Stern tube *1 2/3 1 1/2* Steam pipes tested *3 0/7* Engine and boiler seatings *1 2/7* Engines holding down bolts *3 0/7*

Completion of pumping arrangements *2 2/5* Boilers fixed *3 0/7* Engines tried under steam *2 2/5*

Main boiler safety valves adjusted *2 2/5* Thickness of adjusting washers *Port & Starboard 5/16*

Material of Crank shaft *Steel* Identification Mark on Do. *No 674* Material of Thrust shaft *Steel* Identification Mark on Do. *No 674*

Material of Tunnel shafts *Steel* Identification Marks on Do. *No 674* Material of Screw shafts *W. Iron* Identification Marks on Do. *No 674*

Material of Steam Pipes *Seamless Copper* Test pressure *280 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The engines and boiler of this vessel have been built under special survey, the material and workmanship are of good description. The main boiler safety valves were adjusted under steam. The machinery, tried under working conditions, found satisfactory; eligible, in my opinion, to have notification of + LMC 8.12.

Note: The machinery of this vessel is duplicate of that fitted to the Eng "STANEGARTH" (Liverpool 1st Entry Report No 64587)

It is submitted that
 this vessel is eligible for
 THE RECORD, + LMC 8.12.

J.W.D.
26/8/12

The amount of Entry Fee . . . £ 1 : - : - :
 Special £ 8 : - : - :
 Donkey Boiler Fee £ : : : :
 Travelling Expenses (if any) £ 4 : 2 : 4 :

When applied for, *23 AUG 1912*
 When received, *20/8/12*
James Carraghan
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned *L.M.C. 8.12.*

LIVERPOOL. 23 AUG 1912 *J.H.*



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