

REPORT ON MACHINERY

No. 25858

TUE. SEP. 30. 1913

Received at London Office

Date of writing Report 25-9-1913 When handed in at Local Office 29-9-1913 Port of SUNDERLAND

No. in Survey held at SUNDERLAND, Reg. Book.

Date, First Survey 19 Novr Last Survey 25-9-1913

606 on the new steel S/S "SATRAP"

(Number of Visits 35) Gross 2234 Net 1373

Master Simpson Built at Sunderland By whom built Priestman & Co. (S/S No. 243) When built 1913

Engines made at Sunderland By whom made George Clark Ltd (No. 977) when made 1913

Boilers made at Sunderland By whom made George Clark Ltd (No. 977) when made 1913

Registered Horse Power Owners Trident Line Ltd (Part of Thomas & Co. Ltd) Port belonging to Newport, Mon.

Nom. Horse Power as per Section 28 222 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

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

Dia. of Cylinders 21" 35" 67" Length of Stroke 39" Revs. per minute 65 Dia. of Screw shaft 12" 0/4" Material of 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 4-0

Dia. of Tunnel shaft 10-56" Dia. of Crank shaft journals 11-1" Dia. of Crank pin 11-3/4" Size of Crank webs 16-1/2 x 7-1/2 Dia. of thrust shaft under

collars 11-3/4" Dia. of screw 15-0" Pitch of Screw 16-0" No. of Blades 4 State whether moveable no Total surface 73 #

No. of Feed pumps 2 Diameter of ditto 2-3/4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3-1/2" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps BALLAST 9 3/4 x 10 FEED 6 3/4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three @ 3" In Holds, &c. Fore hold, - 2 @ 3" After hold, -

2 @ 3" & 2 @ 2-1/2" Tunnel well, - 1 @ 3" No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump B.P. Is a separate Donkey Suction fitted in Engine room & size yes 4"

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 Fore hold suction 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 8-8-13 of Stern Tube 2-9-13 Screw shaft and Propeller 4-9-13

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel John Spencer & Sons Ltd

Total Heating Surface of Boilers 3463 # Is Forced Draft fitted no No. and Description of Boilers Two single ended marine

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 17-6-13 No. of Certificate 3121

Can each boiler be worked separately yes Area of fire grate in each boiler 52 # No. and Description of Safety Valves to

each boiler Two direct spring Area of each valve 7-0/8 # Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boiler uptakes and bunkers on woodwork 2-0" Mean dia. of boilers 13-6" Length 10-6" Material of shell plates steel

Thickness 1-1/16" Range of tensile strength 29 1/2 - 33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR

long. seams SBS TR Diameter of rivet holes in long. seams 1-1/16" Pitch of rivets 67/8" Top of plates or width of butt straps 16"

Per centages of strength of longitudinal joint rivets 90 plate 84-5 Working pressure of shell by rules 181 Size of manhole in shell 16 x 13

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3-37/4"

Length of plain part top 6-49/16" bottom 5-11" Thickness of plates crown 47" bottom 64" Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 180 Combustion chamber plates: Material steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 11/16"

Pitch of stays to ditto: Sides 8 3/4 x 10 1/8 Back 9 1/4 x 9 5/8 Top 8 3/8 x 10 1/2 If stays are fitted with nuts or riveted heads nuts in cas Working pressure by rules 181

Material of stays steel Diameter at smallest part 2 038 x 2 36 # Area supported by each stay 89 58 x 110 # Working pressure by rules 216 & 186 End plates in steam space:

Material steel Thickness 19/32" Pitch of stays 18 x 22 How are stays secured DN Working pressure by rules 182 Material of stays steel

Diameter at smallest part 6 49 # Area supported by each stay 351 # Working pressure by rules 192 Material of Front plates at bottom steel

Thickness 13/16" Material of Lower back plate steel Thickness 29/32" Greatest pitch of stays 15 x 9 1/4" Working pressure of plate by rules 182

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 10"

Pitch across wide water spaces 14 1/2" Working pressures by rules with BS-202 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 20 7/8 x 7 1/2" Length as per rule 2 4 2 1/2" Distance apart 10 1/2" Number and pitch of stays in each 20 x 8 3/8"

Working pressure by rules 181 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

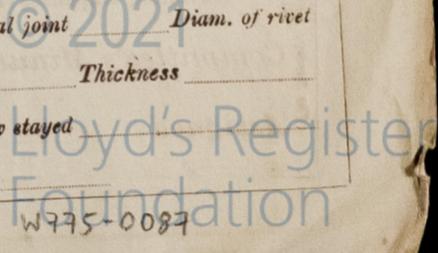
separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

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

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



W775-0087

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ When 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 casing 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 connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed, bidge, air and circulating pump valves, iron and bolts of various sizes, one propeller.

The foregoing is a correct description, W. S. Bruce
FOR GEORGE CLARK, LIMITED
 Manufacturer. of the main Register, St. Paul's

Dates of Survey while building	During progress of work in shops --	1912 Nov. 19, Dec. 18, 31, Jan. 8, 10, 14, 21, 30, Feb. 10, Mar. 3, 4, 10, 20, Apr. 1, 11, 17, 23, 24, May 9, 15, 20, 28	
		During erection on board vessel ---	June 17, July 2, Aug. 8, 11, 13, 14, 18, 21, Sep. 2, 4, 9, 11, 15, 25
		Total No. of visits	35

Is the approved plan of main boiler forwarded herewith yes
 " " " donkey " " " yes

Dates of Examination of principal parts—	Cylinders	31-12-12	Slides	15-5-13	Covers	4-3-13	Pistons	30-1-13	Rods	10-3-13	
Connecting rods	23-4-13	Crank shaft	20-1-13	Thrust shaft	13-8-13	Tunnel shafts	11-8-13	Screw shaft	18-8-13	Propeller	3-7-13
Stern tube	21-8-13	Steam pipes tested	11-9-13	Engine and boiler seatings	8-8-13	Engines holding down bolts	9-9-13				
Completion of pumping arrangements	25-9-13	Boilers fixed	9-9-13	Engines tried under steam	15-9-13						
Main boiler safety valves adjusted	15-9-13	Thickness of adjusting washers	Pol. Blk. P 7/16 5 3/8. Std. Blk. - P 7/8 5 1/16.								
Material of Crank shaft	9. Steel	Identification Mark on Do.	1919 M.B.	Material of Thrust shaft	9. Steel	Identification Mark on Do.	5489 P.A.				
Material of Tunnel shafts	9. Steel	Identification Marks on Do.	5490-1-2 P.A. 8387 K.H.	Material of Screw shaft	9. Steel	Identification Marks on Do.	4426 H.K.				
Material of Steam Pipes	Solid drawn copper	Test pressure	400 lbs per sq								

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The materials and workmanship are good. The machinery has been made under special survey and is eligible in my opinion for classification, and the record + LMC 9.13.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.13.

J.W.D.
 30/9/13
J.M.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 2	When applied for.	29.9.13
Special	£ 31	When received.	4/10/13
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Committee's Minute FRI, OCT. 3-1913
 Assigned + LMC 9.13

MACHINERY CERTIFICATE WRITTEN



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