

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

(Number of Visits 35)

606 on the new steel S/S "SATRAP"

Tons Gross 2234

Net 1373

Master Simpson Built at Sunderland By whom built J. Priestman & Co. (S/N: 243) When built 1913

Engines made at Sunderland By whom made George Clark Ltd (N: 977) when made 1913

Boilers made at Sunderland By whom made George Clark Ltd (N: 977) when made 1913

Registered Horse Power ✓ Owners Trident Line Ltd (Parker 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 as per rule 12" 04" 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 as per rule 10-56" Dia. of Crank shaft journals as per rule 11-1" Dia. of Crank pin 11-1" 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 23/4" Stroke 24" Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps 2 ✓ Diameter of ditto 8-1/2" Stroke 24" Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines 2 ✓ Sizes of Pumps BALLAST 9-10 x 10" FEED 6-8 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 7-088 # ✓ Pressure to which they are adjusted 185 ✓ Are they fitted with easing gear yes ✓

Smallest distance between boiler or 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 BBS TR Diameter of rivet holes in long. seams 1-1/16" Pitch of rivets 67/8" ✓ Lap of plates or width of butt straps 16" ✓

Per centages of strength of longitudinal joint rivets 90 ✓ 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 3'3 7/4" ✓

Length of plain part top 6-4 9/16" 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" Back 11" Top 11" Bottom 11" ✓

Pitch of stays to ditto: Sides 8 3/4 x 10 1/8 Back 9 1/4 x 9 5/8 Top 8 7/8 x 10 1/2 If stays are fitted with nuts or riveted heads nuts in ✓ Working pressure by rules 181

Material of stays steel Area at smallest part 20382.36 # Area supported by each stay 89.58 110 # Working pressure by rules 2166 186 End plates in steam space:

Material steel Thickness 19 1/2" Pitch of stays 18 x 22 ✓ How are stays secured DN ✓ Working pressure by rules 182 Material of stays steel

Area at smallest part 649 # 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 3/32" 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 24 2 1/2" Distance apart 10 1/2" Number and pitch of stays in each 20 x 8 7/8" ✓

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

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, bridge, air and circulating pump valves, iron and bolts of various sizes, one propeller.

The foregoing is a correct description,

FOR GEORGE CLARK, LIMITED
Manufacturer.

W. J. Jones

of the Main Engines of the

Dates of Survey while building	During progress of work in shops --	1912. Nov. 19. Dec. 18. 31. Jan. 8. 10. 14. 20. 30. Feb. 10. Mar. 3. 4. 10. 28. 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

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. Sh. : P 7/16 5 3/8. Std Sh. - P 3/8 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.	Material of Screw shaft	9. Steel	Identification Marks on Do.	4425 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.

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)	£		

Swish Harris

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

Committee's Minute FRI OCT 3-1913

Assigned

+ LMC 9.13

MACHINERY CERTIFICATE
WRITTEN



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Foundation