

## REPORT ON MACHINERY.

No. 10681.

Received at London Office

FRI. SEP. 3 1920

Date of writing Report 28<sup>th</sup> August 1920 When handed in at Local Office 1<sup>st</sup> Sept 1920

Port of Southampton

No. in Survey held at Comco, Isle of Wight  
Reg. Book.Date, First Survey 12<sup>th</sup> Dec. 1919 Last Survey 27<sup>th</sup> August 1920  
(Number of Visits 18)

on the S.S. BILTON

Master W. Dames.

Built at Comco

By whom built J.S. White &amp; Co. Ltd

Tons { Gross 745.63  
Net 374.57  
When built 1920

Engines made at Comco

By whom made J.S. White &amp; Co. Ltd

when made 1920

Boilers made at Comco

By whom made J.S. White &amp; Co. Ltd

when made 1920

Registered Horse Power

Owners Combs, Marshall &amp; Co

Port belonging to Middlesbrough

Nom. Horse Power as per Section 28 120

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

ENGINES, &amp;c.—Description of Engines Triple Expansion, surface Condensing No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 15" x 25½" x 41" Length of Stroke 30" Revs. per minute 105 Dia. of Screw shaft as per rule 8.25" as fitted 9.25" Material of screw shaft 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 3'-0½"

Dia. of Tunnel shaft as per rule 8.166" as fitted 8.25" Dia. of Crank shaft journals as per rule 8.25" as fitted 8.25" Dia. of Crank pin 8.25" Size of Crank webs 5½" Dia. of thrust shaft under

collars 8½" Dia. of screw 10'-6" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable No Total surface 37 ft²

No. of Feed pumps 2 Diameter of ditto 2¾" Stroke 15" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2½" Stroke 15" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 7"x5"x8" &amp; 7"x5"x10" No. and size of Suctions connected to both Bilge and Donkey pumps 8"x8"x8" fitted after 1.37

In Engine Room 2-1½" and 3-2" In Holds, &amp;c. 2-2" from Holdwell.

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P.M.P. Is a separate Donkey Suction fitted in Engine room &amp; size yes. 2½"

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 yes

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Rock

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

at pipes are carried through the bunkers None How are they protected —

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

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door — worked from —

BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel The Port Talbot &amp; the Parkgate Steel Co. Ltd

Total Heating Surface of Boilers 2127 ft² Is Forced Draft fitted No No. and Description of Boilers One cylindrical return tube.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 29-7-20 No. of Certificate 331

Can each boiler be worked separately — Area of fire grate in each boiler 48.75 ft² No. and Description of Safety Valves to

each boiler 2. Spring loaded. Area of each valve 5.939 ft² Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4" Mean dia. of boilers 15'-0" Length 10'-9" Material of shell plates Steel

Thickness 1½" Range of tensile strength 28 to 32 Are the shell plates welded or flanged Flanged Descrip. of riveting: cir. seams D.R.L.A.P.

long. seams T.R. BUTT STRAP Diameter of rivet holes in long. seams 1½" Pitch of rivets 9½" Lap of plates or width of butt straps 1'-7½"

Per centages of strength of longitudinal joint rivets 86.9% plate 86.18% Working pressure of shell by rules 184.3 lbs. Size of manhole in shell 12" x 16"

Size of compensating ring 2'-9¼" x 2'-5¼" No. and Description of Furnaces in each boiler 3. Corrugated Material Steel Outside diameter 3'-9¼"

Length of plain part top — bottom — Thickness of plates crown 9/16" Description of longitudinal joint Welded No. of strengthening rings —

Working pressure of furnace by the rules 194.7 Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 21/32" Top 11/16" Bottom 23/32"

Pitch of stays to ditto: Sides 9¼" x 8½" Back 9½" x 8½" Top 10" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183.1

Material of stays Steel Area at smallest part 1.79 ft² Area supported by each stay 80.75 ft² Working pressure by rules 199.5 End plates in steam space:

Material Steel Thickness 1¼" Pitch of stays 19½" x 20½" How are stays secured Double nuts Working pressure by rules 184.8 Material of stays Steel

Area at smallest part 6.95 ft² Area supported by each stay 399.75 ft² Working pressure by rules 161 Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 23/32" Greatest pitch of stays 13" x 9.5" Working pressure of plate by rules 189.8

Diameter of tubes 3¾" Pitch of tubes 4½" x 4½" Material of tube plates Steel Thickness: Front 1" Back 25/32" Mean pitch of stays 9" x 9"

Pitch across wide water spaces 14" Working pressures by rules 182.8 Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9¼" x ¾" (2) Length as per rule 2'-10" Distance apart 9" Number and pitch of stays in each 2-10"

Working pressure by rules 180.6 Steam dome: description of joint to shell — % of strength of joint —

Diameter — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —

Pitch of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed —

SUPERHEATER. Type — Date of Approval of Plan — Tested by Hydraulic Pressure to —

Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler —

Diameter of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —

002515-002521-0065



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied: 2. Conn. Rod, top end bolts & nuts. 2. Conn. Rod, bottom end bolts & nuts. 2. Main Bearing bolts & nuts. 1 set of Coupling bolts. 1. Feed pump section & 1. delivery valve. 1. Bilge pump section & 1 delivery valve. 50. Assorted bolts & nuts. 12. Tuning studs & nuts. Flat & round bar iron of various sizes. 1 escape valve spring of each size. 2 Pump link levers. 36. Condenser tubes. 24 Boiler tubes. 1 set of Safety Valve springs. 2 Feed check valves. 1. Propeller. For oil fuel:— 1. Strainer grid & gauge. 1. Felt filter. 1. set of Cone cleaning gear. 2. Sprayer spindles & 2. caps. 2. Disc plates.

The foregoing is a correct description,

For J. SAMUEL WHITE & COMPANY, Ltd.

*Showing*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 12.1919, 8.3.23, 23.29, 9.6.19, 21.28.29.  
During erection on board vessel - - 28.7.19, 24.26.27.  
Total No. of visits 18. 1920.

Is the approved plan of main boiler forwarded herewith No.

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 18-2-20 Slides 23-2-20 Covers 13-2-20 Pistons 13-3-20 Rods 23-3-20

Connecting rods 23-3-20 Crank shaft 6-5-20 Thrust shaft 19-5-20 Tunnel shafts ✓ Screw shaft 29-3-20 Propeller 6-5-20

Stern tube 6-5-20 Steam pipes tested 19-8-20 Engine and boiler seatings 28-7-20 Engines holding down bolts 11-8-20

Completion of pumping arrangements 19-8-20 Boilers fixed 11-8-20 Engines tried under steam 27-8-20

Completion of fitting sea connections 19-5-20 Stern tube 19-5-20 Screw shaft and propeller 19-5-20

Main boiler safety valves adjusted 26-8-20 Thickness of adjusting washers Part:— 4 5/64" start 1 1/16"

Material of Crank shaft Steel Identification Mark on Do. 1845 19-8-20 A.H.B. Material of Thrust shaft Steel Identification Mark on Do. 1845 19-8-20 A.H.B.

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 1845 19-8-20 29-3-20 A.H.B.

Material of Steam Pipes Copper Test pressure 360 lb. sq. in.

Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes

Have the requirements of Section 49 of the Rules been complied with yes

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 and boiler have been built under special survey and section on board. The materials and workmanship being sound and good.

The Spare Gear is in order with the rule requirements.

On trial the machinery & boiler proved satisfactory and the same is eligible in my opinion to have notation + L.M.C. 8.20.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.20.

Fitted for oil fuel 8.20 FP above 150°F

Roll

3/9/20.

APR

The amount of Entry Fee ... £ 2 : 0 : When applied for, 1 Sept 1920.

Special ... £ 18 : 0 : When received, 30/9/20 Feb 24

Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ 2 : 13 :

A.H. Boyle  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. SEP. 17 1920

FRI. OCT. 8 1920

Assigned

+ L.M.C. 8.20

Fitted for oil fuel 8.20  
F.P. above 150°F



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