

## REPORT ON MACHINERY

No. 16396.  
WED. AUG. 18. 1915

Received at London Office

Date of writing Report 10/8/15 When handed in at Local Office 10/8/15

Port of Greenock

No. in Survey held at  
Reg. Book.

Port Glasgow

Date, First Survey 17/2/15

Last Survey 9/8/15

(Number of Visits 54

Tons } Gross  
Not

on the

H. M. S. "Teronica"

Master

Built at Port Glasgow

By whom built Dunlop, Bremner &amp; Co. Ltd.

When built 1915

Engines made at

Port Glasgow

By whom made

Do

when made 1915

Boilers made at

Glasgow

By whom made

Lindsay Burnet &amp; Co.

when made 1915

Registered Horse Power

Owners The British Admiralty

Port belonging to

Nom. Horse Power as per Section 28 256

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 21½ 35 54

Length of Stroke 27

Revs. per minute 160

Dia. of Screw shaft

as per rule.

Material of screw shaft

as fitted 10½

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 4-6

Dia. of Tunnel shaft

as per rule.

as fitted 9½

Dia. of Crank shaft journals

as per rule.

as fitted 10½

Dia. of Crank pin 10½

Size of Crank webs solid

Dia. of thrust shaft under

collars 10½

Dia. of screw 9-6

Pitch of Screw 12-6

No. of Blades 4

State whether moveable No

Total surface 34 ft

No. of Feed pumps 2 WEIRS

Diameter of ditto 4

Stroke 21

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 WEIRS

Diameter of ditto 8

Stroke 18

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 WEIR 5 x 7 1/2 FEED

SIZES OF PUMPS 6 x 4 x 6 DUNLOP 5 x 7 1/2 SINGLE

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 @ 2½

AUX ENG. ROOM 1 @ 2½

BOILER ROOMS 2 @ 2½ EACH

In Holds, &amp;c. TUNNEL, 1 @ 2½

HELDS, 1 @ 2½

IN EACH COMPARTMENT

No. of Bilge Injections ONE sizes 9

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room &amp; size Yes 3½

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 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 Below

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 Steam &amp; water

How are they protected Boxed in

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 13/5/15

of Stern Tube 12/5/15

Screw shaft and Propeller 25/5/15

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper deck &amp; Eng. Rm. Platform

BOILERS, &amp;c.—(Letter for record)

Manufacturers of Steel See separate report

Total Heating Surface of Boilers

Is Forced Draft fitted Yes

No. and Description of Boilers 2 S.E. byl Multit

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately Yes

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler 2 SPRING LOADED

Area of each valve 12.56

Pressure to which they are adjusted 135 lb

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1-3

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

plate

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

End plates in steam space:

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of stays

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of Front plates at bottom

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Working pressure of plate by rules

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Back

Mean pitch of stays

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

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

Lloyd's Register

Foundation



IS A DONKEY BOILER FITTED? *NONE.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 top end, 2 bottom end, 2 main bearing, & 6 coupling bolts & nuts, 1 set piston springs & rings for each cylinder, a quantity of bolts & nuts of various sizes, 1 set of piston springs, 1 set of bucket rings, 1 piston rod, 1 pump rod with crosshead, 1 set of & guards, for each of the following pumps, Main feed pumps, Fire & bilge pumps, Main air pump, & Port use pump, 1 set v.s. packing for each cyl, 1 propeller, 1 con rod top end bush, 1 bolt end bush, 1 ecc strap with 4 bolts & nuts, 1 L.P. Valve spindle, 12 cyl cover studs & nuts, 12 junk ring bolts, 2 cyl escape valves & springs, 36 condenser tubes & 72 ferrules, 8 thrust shoes, 1 piston rod with x head & slipper, 24 plain tubes, 2 stay tubes. &c.

The foregoing is a correct description,

DUNLOP, BREMNER & COY. LIMITED

*Shos Daton*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1915 Feb 17 Mar 1, 4, 8, 10, 11, 12, 16, 17, 18, 31, Apr 5, 8, 9, 13, 16, 19, 21, 22, May 1, 3, 6, 12, 13, 17, 18, 20, 25, 27, 28, 31, June 1, 3, 8, 10, 15, 18, 21, 22, 24, 26, 28, July 7, 14, 16, 23, 26, 28, 29, 30, Aug 2, 3, 6, 9. During erection on board vessel - - Total No. of visits 54.

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts - Cylinders 3/3/15 Slides 12/5/15 Covers 5/4/15 Pistons 5/4/15 Rods 2/3/15 Connecting rods 5/4/15 Crank shaft 12/5/15 Thrust shaft 12/5/15 Tunnel shafts 17/5/15 Screw shaft 18/5/15 Propeller 17/5/15 Stern tube 12/5/15 Steam pipes tested 5/6/15 Engine and boiler seatings 3/5/15 Engines holding down bolts 10/6/15 Completion of pumping arrangements 26/7/15 Boilers fixed 23/7/15 Engines tried under steam 6/8/15 Main boiler safety valves adjusted 23/7/15 Thickness of adjusting washers 32 32 32 32 FOR BOILER AFTER BOILER. 1 1 1 1

Material of Crank shaft *W. STEEL* Identification Mark on Do. *2008 II* Material of Thrust shaft *W. STEEL* Identification Mark on Do. *157* Material of Tunnel shafts *W. STEEL* Identification Marks on Do. *157* Material of Screw shafts *W. STEEL* Identification Marks on Do. *157* Material of Steam Pipes *L. W. VYROT. IRON.* Test pressure *540 lb. sq. in.* 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 *Yes* If so, state name of vessel *H. M. S. Magnolia (Scotts 470)*

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

The engines & boilers of this vessel have been built under special survey, and the materials, and workmanship, are good. On completion they were examined while running full power for 6 hours in the Firth and found satisfactory.

Mean for 6 hours Revs per min 169. S.H.P. 2203.

4 Runs were taken on the mile with the following results.

Run	Time	Speed	Mean Speed	Revs	Mean Revs	S.H.P.	Mean S.H.P.
1,	3-24 <sup>3</sup> / <sub>4</sub>	17.341.	17.506.	140.0	170.125	2223.	2248.3.
2,	3-23 <sup>3</sup> / <sub>4</sub>	17.699.		170.25		2251	
3,	3-28 <sup>3</sup> / <sub>4</sub>	17.258.		170.25		2254	
4,	3-21 <sup>3</sup> / <sub>4</sub>	17.848.		170		2260	

The machinery throughout is now in good & efficient condition & eligible in my opinion to have the Record. *L.M.C. 8.15.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.15. F.D.

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	80-0-0	:	10 <sup>th</sup> Aug. 1915
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	31/8/1915

Committee's Minute *GLASGOW*

Assigned *+ L.M.C. 8.15*

*Harbottle.* 18/8/15. Engineer Surveyor to Lloyd's Register of British & Foreign Shipping



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MACHINERY CERTIFICATE 421124 18/8/15