

# REPORT ON MACHINERY.

No. 14706

Received at London Office

THU, AUG 7-1913

Fitting Report

19

When handed in at Local Office 6<sup>th</sup> Aug 1913 Port of West Hamstead

Survey held at West Hamstead Date, First Survey 28<sup>th</sup> October, 1912 Last Survey 1<sup>st</sup> August, 1913  
on the Steel Steamer Kathlamba (Number of Visits 121)

Smith Built at West Hamstead By whom built W. Hay & Co. Tons Gross 6382 Net 4404 When built 1913

made at West Hamstead By whom made Central Marine & Water when made 1913

made at West Hamstead By whom made Central Marine & Water when made 1913

red Horse Power Owners Bucknall S. Lines Ltd Port belonging to London

Power as per Section 28 586 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Cable to P.O.

Engines, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Cylinders 25 $\frac{1}{2}$  x 44 $\frac{1}{2}$  x 77 Length of Stroke 51 Revs. per minute 65 Dia. of Screw shaft as per rule 15.68 Material of screw shaft as fitted 16 $\frac{1}{2}$  screw shaft

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

propeller boss Yes If the liner is in more than one length are the joints burned No If the liner does not fit tightly at the part

in the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

are fitted, is the shaft lapped or protected between the liners Length of stern bush 67

Tunnel shaft as per rule 14.31 Dia. of Crank shaft journals as per rule 15.04 Dia. of Crank pin 15 $\frac{1}{2}$  Size of Crank webs 21 $\frac{1}{2}$  x 9 Dia. of thrust shaft under

s 15 $\frac{1}{2}$  Dia. of screw 18.6 Pitch of Screw 17.9 No. of Blades 4 State whether moveable Yes Total surface 115 sq ft

Feed pumps Yes Diameter of ditto 9 Stroke 21 Can one be overhauled while the other is at work Yes

Bilge pumps Yes Diameter of ditto 4 $\frac{1}{2}$  Stroke 20 Can one be overhauled while the other is at work Yes

Donkey Engines Three Sizes of Pumps 10 $\frac{1}{2}$  x 10.6 x 10.4 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Four 3 $\frac{1}{2}$  In Holds, &c. Three 3 $\frac{1}{2}$  Tunnel 3

Bilge Injections sizes 9 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 7 $\frac{1}{2}$  x 2

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

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

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

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 How are they protected

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

of examination of completion of fitting of Sea Connections 12/4/13 of Stern Tube 2/7/13 Screw shaft and Propeller 14/7/13

the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from 4 $\frac{1}{2}$  ft. stowage

Boilers, &c.—(Letter for record S) Manufacturers of Steel J. & W. Brown & Co. No. and Description of Boilers Three Single End (Other end)

al Heating Surface of Boilers 7938 Is Forced Draft fitted Yes No. of Certificate 3331

Working Pressure 220 lb Tested by hydraulic pressure to 440 lb Date of test 25/6/13 No. of Certificate 3331

each boiler be worked separately Yes Area of fire grate in each boiler 73 sq ft No. and Description of Safety Valves to

h boiler Yes opening Area of each valve 11.04 Pressure to which they are adjusted 225 lb Are they fitted with easing gear Yes

smallest distance between boilers or uptakes and bunkers or woodwork 18 Mean dia. of boilers 16.0 Length 12.3 Material of shell plates Steel

thickness 1 $\frac{1}{2}$  Range of tensile strength 27-30 Are the shell plates welded or flanged Both Descrip. of riveting: cir. seams 3 $\frac{1}{2}$  x 4 $\frac{1}{2}$

ing. seams all lap 3 $\frac{1}{2}$  Diameter of rivet holes in long. seams 1 $\frac{1}{2}$  Pitch of rivets 10 $\frac{1}{2}$  Lap of plates or width of butt straps 23 $\frac{1}{2}$

er centages of strength of longitudinal joint rivets 90.2 Working pressure of shell by rules 222 lb Size of manhole in shell 16 x 12

se of compensating ring 36 $\frac{1}{2}$  x 32 $\frac{1}{2}$  x 1 $\frac{1}{2}$  No. and Description of Furnaces in each boiler 4 Brighton Material Steel Outside diameter 43 $\frac{1}{2}$

length of plain part top Thickness of plates crown 10/16 Description of longitudinal joint welded No. of strengthening rings 4

Working pressure of furnace by the rules 233 lb Combustion chamber plates: Material Steel Thickness: Sides 1 $\frac{1}{16}$  Back 1 $\frac{1}{16}$  Top 1 $\frac{1}{16}$  Bottom 1

itch of stays to ditto: Sides 8 $\frac{1}{2}$  Back 7 $\frac{1}{2}$  Top 8 $\frac{1}{2}$  If stays are fitted with nuts or riveted heads Yes Working pressure by rules 220 lb

aterial of stays Steel Diameter at smallest part 1.63 Area supported by each stay 9 $\frac{1}{2}$  x 7 $\frac{1}{2}$  Working pressure by rules 260 lb End plates in steam space:

aterial Steel Thickness 1 $\frac{1}{16}$  Pitch of stays 18 $\frac{1}{2}$  x 17 How are stays secured all nut Working pressure by rules 221 lb Material of stays Steel

Diameter at smallest part 3.03 Area supported by each stay 18 $\frac{1}{2}$  x 17 Working pressure by rules 235 lb Material of Front plates at bottom Steel

thickness 1 $\frac{3}{16}$  Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 14 $\frac{1}{2}$  Working pressure of plate by rules 220 lb

Diameter of tubes 3 Pitch of tubes 4 $\frac{1}{2}$  Material of tube plates Steel Thickness: Front 1 $\frac{3}{16}$  Back 1 $\frac{3}{16}$  Mean pitch of stays 8 $\frac{1}{2}$

Pitch across wide water spaces 14 $\frac{1}{2}$  Working pressures by rules 226 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10 x 1 $\frac{1}{2}$  Length as per rule 31 $\frac{1}{2}$  Distance apart 8 $\frac{1}{2}$  Number and pitch of stays in each Three 8

Working pressure by rules 229 lb Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

eparately 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

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Lloyd's Register  
W561-0012



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# VERTICAL DONKEY BOILER—

Manufacturers of Steel *Amc.*

No.	Description	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
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		
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:—*The top end bolts. The bottom end bolts. Two main bearing bolts. One set coupling bolts. One set feed pump valve one set Bidge pump valve. The propeller blades, one chain plate of the pump rod. The safety valve springs, bolts, nuts, washers.*  
The foregoing is a correct description,  
FOR THE CENTRAL MARINE ENGINE WORKS.  
(W. Gray & Co. Ltd.)  
Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1912 Oct 28-29-30-31 Nov 1-4-5-6-7-8-11 Dec 11-31 Jan 7-14-28 Feb 3-14-11-13-14-17-18-19-20 March 4-5-6-7-10-11-12-13-14-17-18-20-26-27-28-31 Apr 1-2-3-4-5-6-7-10-11-12-13-14-17-18-19-20-23-24-25-26-27-30-31 Aug 1-2-3-4-5-6-7-10-11-12-13-14-17-18-19-20-23-24-25-26-27-30-31  
During erection on board vessel -- 1913 May 1-2-5-6-7-8-9-14-15-16-17-20-22-23-26-27-28-30-31 June 2-3-5-6-9-10-11-13-16-18-19-20-23-24-25-26-27-30-31 July 2-3-4-5-6-7-8-9-10-11-12-13-14-17-18-19-20-23-24-25-26-27-30-31 August 1-2-3-4-5-6-7-8-9-10-11-12-13-14-17-18-19-20-23-24-25-26-27-30-31  
Total No. of visits 121.

Dates of Examination of principal parts—Cylinders 10/6/13 Slides 10/6/13 Covers 10/6/13 Pistons 24/6/13 Rods 23/5/13  
Connecting rods 9/6/13 Crank shaft 27/5/13 Thrust shaft 20/5/13 Tunnel shafts 2/7/13 Screw shaft 4/5/13 Propeller 27/6/13  
Stern tube 23/6/13 Steam pipes tested see below Engine and boiler seatings 24/6/13 Engines holding down bolts 27/7/13  
Completion of pumping arrangements 31/7/13 Boilers fixed 15/7/13 Engines tried under steam 30/7/13  
Main boiler safety valves adjusted 30/7/13 Thickness of adjusting washers Pat. 3/4 13/16 Superheater 7/8 13/16 Centre Boiler 13/16 13/16 Superheater 9/16 13/16  
Material of Crank shaft I Unit Identification Mark on Do. 5390 Material of Thrust shaft I Unit Identification Mark on Do. 5390  
Material of Tunnel shafts I Unit Identification Marks on Do. 5390 Material of Screw shafts I Unit Identification Marks on Do. 5390  
Material of Steam Pipes Lap welded steel Test pressure 720 lb

General Remarks (State quality of workmanship, opinions as to class, &c. Workmanship good.  
Steam pipes tested 3/7/13 4/7/13 8/7/13 11/7/13 14/7/13 15/7/13 23/7/13 24/7/13 25/7/13 28/7/13 29/7/13

Wapnash coils tested to 400 lb and today to 50 lb.

The Boilers of this vessel are fitted with "Omnid" superheaters, one to each boiler. The Report for same being here with attached. Each superheater is fitted with a 2" safety valve. A connection is fitted by which steam from the boiler is admitted to the main steam pipe without going through the superheater. The superheater safety valve adjusted to blow at 250 lb per sq in. The engine worked well & timing gear fitted the safety working well.

The Machinery and Boilers of this steamer have been continued under special survey, and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition, and the case is respectfully submitted for the ratification + L M C 13 in the Register Book.

It is submitted that  
this vessel is eligible for  
THE RECORD. + L M C 8.13

The amount of Entry Fee .. £ 3 : 0 :  
Special .. £ 49 : 6 :  
Donkey Boiler Fee .. £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 6/8/13  
When received, 13/8/13

Committee's Minute

Assigned

FRI. AUG. 8-1913

L. D. N. 8.13

MACHINERY CERTIFICATE  
WRITTEN

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



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Lloyd's Register  
Foundation