

Port of WEST HARTLEPOOL

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No. in Survey held at West Hartlepool Date, first Survey 23rd April Last Survey 17th October, 1906
Reg. Book. 53 (Number of Visits)
On the Steel Iron Steamer Tangistan Gross 5737.62
Master C.D. Sadler Built at W Hartlepool By whom built W Gray & Co Ltd Net 2593.03
Engines made at W Hartlepool By whom made General Marine & Wk when made 1906
Boilers made at W Hartlepool By whom made General Marine & Wk when made 1906
Registered Horse Power 144 Owners Anglo Algerian Steamship Co. 1896 Ltd Port belonging to Stranded
Nom. Horse Power as per Section 28 144 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

GINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three
Dia. of Cylinders 24" 40" 65" Length of Stroke 42" Revs. per minute 65 Dia. of Screw shaft 10 1/2" Material of Iron
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 No 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 Yes If two
liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 55"
Dia. of Tunnel shaft 11 1/2" Dia. of Crank shaft journals 12 1/2" Dia. of Crank pin 12 1/2" Size of Crank webs 19 1/2" Dia. of thrust shaft under
collars 12 1/2" Dia. of screw 16 1/2" Pitch of Screw 15 1/2" No. of Blades 4 State whether moveable No Total surface 86 sq ft
No. of Feed pumps Two Diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
No. of Bilge pumps Two Diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes
No. of Donkey Engines Two Sizes of Pumps 4 1/2" & 10 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three 3 1/2" In Holds, &c. Eight 3 1/2" & Tunnel 3 1/2"

No. of Bilge Injections One sizes 6 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"
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 None How are they protected None
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 6/9/06 of Stern Tube 12/9/06 Screw shaft and Propeller 24/9/06
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from 1st Staircase

BOILERS, &c.—(Letter for record S) Manufacturers of Steel David White & Sons
Total Heating Surface of Boilers 4702 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two Single Ended
Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 7/9/06 No. of Certificate 5074
Can each boiler be worked separately Yes Area of fire grate in each boiler 50.5 sq ft No. and Description of Safety Valves to
each boiler Two Spring Area of each valve 8.29 sq in Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 40" Mean dia. of boilers 42 1/2" Length 11 1/2" Material of shell plates Steel
Thickness 1 3/16" Range of tensile strength 22 1/2 to 30 Are the shell plates welded or flanged Both Descrip. of riveting: cir. seams 3/16 in lap
long. seams all checked Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 9" Lap of plates or width of butt straps 18 5/8"
Per centages of strength of longitudinal joint 85.47 Working pressure of shell by rules 182 lb Size of manhole in 16" x 12"
Size of compensating ring Hanged No. and Description of Furnaces in each boiler Three Plain Material Steel Outside diameter 38 1/2"
Length of plain part 7 1/2" Thickness of plates 49/16" Description of longitudinal joint Welded No. of strengthening rings 1
Working pressure of furnace by the rules 185 lb Combustion chamber plates: Material Steel Thickness: Sides 10 1/16" Back 10 1/16" Top 10 1/16" Bottom 12 1/16"
Pitch of stays to ditto: Sides 9 1/8" Back 9 1/8" Top 14 1/2" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 181 lb
Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 9 1/8" Working pressure by rules 192 lb End plates in steam space:
Material Steel Thickness 1 3/16" Pitch of stays 18 1/2" How are stays secured All nut Working pressure by rules 184 lb Material of stays Steel
Diameter at smallest part 2 1/2" Area supported by each stay 18 1/2" Working pressure by rules 194 lb Material of Front plates at bottom Steel
Thickness 15 1/16" Material of Lower back plate Steel Thickness 15 1/16" Greatest pitch of stays 16" Working pressure of plate by rules 180 lb
Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" Material of tube plates Steel Thickness: Front 15 1/16" Back 13 1/16" Mean pitch of stays 7 1/2"
Pitch across wide water spaces 18 1/2" Working pressures by rules 185 lb Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 9 1/4" Length as per rule 30" Distance apart 8 1/2" Number and pitch of stays in each Two 9"
Working pressure by rules 186 lb Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
separately Yes Diameter 18" Length 18" Thickness of shell plates 15 1/16" Material Steel Description of longitudinal joint Welded Diam. of rivet
holes 1 1/4" Pitch of rivets 9" Working pressure of shell by rules 184 lb Diameter of flue 18" Material of flue plates Steel Thickness 15 1/16"
Is stiffened with rings Yes Distance between rings 18" Working pressure by rules 184 lb End plates: Thickness 15 1/16" How stayed By stays
Working pressure of end plates 184 lb Area of safety valves to superheater 184 lb Are they fitted with easing gear Yes

VERTICAL DONKEY BOILER— Manufacturers of Steel *As per Report Attached hereto*

No. *One* Description *One Cylindrical live steam*
 Made at *Stockton* By whom made *J. M. M. The Ltd* When made *1906* Where fixed *Main back*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb* Date of test *14/9/06* No. of Certificate *5762* Fire grate area *32 sq ft* Description of *S*
 Valves *Spring* No. of Safety Valves *Two* Area of each *2.29* Pressure to which they are adjusted *90 lb* Date of adjustment *14/10/06*
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* 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 _____
 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 _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two top end bolts. Two bottom end bolts. Two main*
bearing bolts. One set coupling bolts. One set dead pump valves. One set
bridge pump valves. Two sets of shaft. Two sets of high pressure piston clamps
bolts and nuts. Two sets of spare gear for forced draught engine.

FOR THE *MANAGER* The foregoing is a correct description,

J. M. M. The Ltd MANAGER. Manufacturer.
 Dates of Survey *During progress of work in shops - 10/6, 23, 25, 30. May. 7, 8, 9, 10, 11, 30. June. 7, 21, 25. July. 2, 5, 10, 13, 16, 18, 19, 20, 23, 24, 26, 27, 30, 31. Aug. 1, 2, 3, 11.*
During erection on board vessel - 17. Sept. 5, 6, 7, 11, 12, 13, 14, 17, 18, 20, 24, 26, 27. Oct. 2, 8, 10, 11, 16, 17.
 Total No. of visits *53* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *7/9/06* Slides *7/9/06* Covers *7/9/06* Pistons *7/9/06* Rods *7/9/06*
 Connecting rods *7/9/06* Crank shaft *7/9/06* Thrust shaft *7/9/06* Tunnel shafts *24/9/06* Screw shaft *7/9/06* Propeller *14/9/06*
 Stern tube *12/9/06* Steam pipes tested *14/9/06 26/9/06* Engine and boiler seatings *20/9/06* Engines holding down bolts *24/9/06*
 Completion of pumping arrangements *2/10/06* Boilers fixed *2/10/06* Engines tried under steam *2/10/06*
 Main boiler safety valves adjusted *2/10/06* Thickness of adjusting washers *Unaltered. Rules: 5.5 47/64 5.5 19/32. P.R. 1/2. P.S. 47/64*
 Material of Crank shaft *Steel* Identification Mark on Do. *4425* Material of Thrust shaft *Steel* Identification Mark on Do. *4425*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *4425* Material of Screw shafts *Steel* Identification Marks on Do. *4425*
 Material of Steam Pipes *Copper* Test pressure *450 lbs*

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

The Machinery and Boilers of this Steamer
have been constructed under special survey and placed
on board in accordance with the Societies Rules. They
are now in my opinion in safe working condition and
the case is respectfully submitted for the notification
+ L.M.C. 10.06 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD

L.M.C. 10.06 F.D. ELEC. LIGHT

The amount of Entry Fee... £ *3* : *0* : *0* : When applied for, *24.10.06*
 Special ... £ *37* : *10* : *0* : When received, *25.10.06*
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :

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

Committee's Minute

Assigned

MACHINERY CERTIFICATE
 WRITTEN.

West Hartlepool

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