

## REPORT ON MACHINERY.

No. 14296  
WED. NOV. 15, 1911

Received at London Office

Date of writing Report 3 Nov 1911 When handed in at Local Office 6 Nov 1911 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 6 April Last Survey 4 Nov 1911  
Reg. Book. on the Steel Steamer Turkistan (Number of Visits 96)

Master Built at West Hartlepool By whom built W. Hay &amp; Co. Ltd When built 1911

Engines made at West Hartlepool By whom made Central Marine &amp; Wk when made 1911

Boilers made at West Hartlepool By whom made Central Marine &amp; Wk when made 1911

Registered Horse Power Owners Port belonging to Phoenix

Nom. Horse Power as per Section 28 616 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 25.46.77 Length of Stroke 48 Revs. per minute 65 Dia. of Screw shaft as per rule 15.01 Material of screw shaft as fitted 16.0

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 Yes 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 Length of stern bush 64.5

Dia. of Tunnel shaft as per rule 13.69 Dia. of Crank shaft journals as per rule 14.38 Dia. of Crank pin 14.5 Size of Crank webs 21.875 Dia. of thrust shaft under

collars 14.5 Dia. of screw 17.9 Pitch of Screw 17.0 No. of Blades 4 State whether moveable Yes Total surface 97 1/2 sq ft

No. of Feed pumps Two Diameter of ditto 4 1/2 Stroke 32 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 1/2 Stroke 32 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps 1 1/2, 10, 5, 6, 5, 12 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2 In Holds, &amp;c. Eight 3 1/2 Tunnel 3 1/2

Main feed pump 8.24 inch

No. of Bilge Injections one sizes 10 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room &amp; size 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 No

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 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

Dates of examination of completion of fitting of Sea Connections 21/9/11 of Stern Tube 29/9/11 Screw shaft and Propeller 11/10/11

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

OILERS, &amp;c.—(Letter for record S) Manufacturers of Steel Phoenix Iron Works

Total Heating Surface of Boilers 9469 Is Forced Draft fitted Yes No. and Description of Boilers Three single ended

Working Pressure 180 lb Tested by hydraulic pressure to 240 lb Date of test 12/9/11 No. of Certificate 1257

Can each boiler be worked separately Yes Area of fire grate in each boiler 71 sq ft No. and Description of Safety Valves to

each boiler One spring Area of each valve 11.04 sq Pressure to which they are adjusted 183 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 22.5 28 Mean dia. of boilers 16.0 Length 12.0 Material of shell plates Mild

Thickness 117/32 Range of tensile strength 27-30 Are the shell plates welded or flanged both Descrip. of riveting: cir. seams 3/16 in lap

long. seams all lap Diameter of rivet holes in long. seams 117/32 Pitch of rivets 10 Lap of plates or width of butt straps 22 1/8

Per centages of strength of longitudinal joint rivets 89.3 plate 84.68 Working pressure of shell by rules 210 Size of manhole in shell 16 x 12 in with

Size of compensating ring 9.117/32 No. and Description of Furnaces in each boiler 4 plain Material Mild Outside diameter 40 1/2

Length of plain part top 49 1/4 Thickness of plates crown 23/32 bottom 21/16 Description of longitudinal joint welded No. of strengthening rings one

Working pressure of furnace by the rules 195 lb Combustion chamber plates: Material Mild Thickness: Sides 21/32 Back 10/16 Top 21/32 Bottom 14/16

Pitch of stays to ditto: Sides 8 1/4 Back 9 1/2 Top 9 1/4 If stays are fitted with nuts or riveted heads No Working pressure by rules 183 lb

Material of stays Mild Diameter at smallest part 1 1/2 Area supported by each stay 9 1/8 Working pressure by rules 195 lb End plates in steam space:

Material Mild Thickness 1 1/4 Pitch of stays 18.16 1/2 How are stays secured all nuts Working pressure by rules 183 lb Material of stays Mild

Diameter at smallest part 2 1/4 Area supported by each stay 18.16 1/2 Working pressure by rules 209 lb Material of Front plates at bottom Mild

Thickness 3/32 Material of Lower back plate Mild Thickness 1 1/4 Greatest pitch of stays 15 Working pressure of plate by rules 180 lb

Diameter of tubes 2 1/4 Pitch of tubes 4.375 Material of tube plates Mild Thickness: Front 3/32 Back 29/32 Mean pitch of stays 8.74 1/2

Pitch across wide water spaces 18 1/4 Working pressures by rules 190 lb Girders to Chamber tops: Material Mild Depth and

thickness of girder at centre 9 1/2 x 1 1/4 Length as per rule 31 Distance apart 8 1/4 Number and pitch of stays in each two 9

Working pressure by rules 187 lb Superheater or Steam chest; how connected to boiler 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

002825-002829-0087



VERTICAL DONKEY BOILER—

Manufacturers of Steel *Rome*

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 of Safety
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:—*Two top end bolts. Two bottom end bolts. Two main  
bearing bolts. One set coupling bolts. One set head pump valve. One set safety pump valve.  
One set 100 lb pressure springs. Papeterie chpt. Two last time Papeterie blades. Air pump  
bucket. Circulating pump bucket. Safety valve springs. Bolts nuts &c*

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS.  
(W. GRAY & Co., Ltd.)

Manufacturer.

*John B. Williams*  
Assistant Manager.

Dates of Survey while building  
During progress of work in shops -- *1911*  
During erection on board vessel ---  
Total No. of visits *Oct. 2. 3. 4. 5. 6. 7. 11. 13. 16. 17. 20. 24. 21. Nov. 1. 2. 3. 4*  
*96.*

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

Dates of Examination of principal parts—Cylinders *22/9/11* Slides *22/9/11* Covers *22/9/11* Pistons *22/9/11* Rods *20/9/11*  
Connecting rods *22/9/11* Crank shaft *19/9/11* Thrust shaft *19/9/11* Tunnel shafts *4/10/11* Screw shaft *19/9/11* Propeller *26/9/11*  
Stern tube *25/9/11* Steam pipes tested *4/10/11. 14/10/11. 24/10/11* Engine and boiler seatings *29/9/11* Engines holding down bolts *4/10/11*  
Completion of pumping arrangements *24/10/11* Boilers fixed *24/10/11* Engines tried under steam *24/10/11*  
Main boiler safety valves adjusted *24/10/11* Thickness of adjusting washers *5 17/32 7 31/32 5 25/32 7 14/16 5 1 7 13/16*  
Material of Crank shaft *Steel* Identification Mark on Do. *5123* Material of Thrust shaft *Steel* Identification Mark on Do. *5123*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *5123* Material of Screw shafts *Steel* Identification Marks on Do. *5123*  
Material of Steam Pipes *Main, Iron. Annul, Copper.* Test pressure *Main 600 lb. Copper 450 lb.*

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

*Boiler coils tested to 360 lb and leak to 50 lb.*

*This case is similar to the S. S. "Bojistan", entered in 1911, Harbours Report in 14222 dated 24 August 1911.*

*The Machinery and Boilers of this Steamer have been constructed 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 Certification + L.M.C. 11. 11 in the Register Book.*

*It is submitted that this vessel is eligible for THE RECORD + L.M.C. 11. 11.*

F.D.

*Lawd. 15/11/11. JRA*

*James Jones.*

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

The amount of Entry Fee .. £ 3 : 0 :  
Special .. £ 50 : 16 :  
Donkey Boiler Fee .. £ : :  
Travelling Expenses (if any) £ : :  
When applied for, .....19....  
When received, *16-11-11* ..19....

Committee's Minute

Assigned

FRI. NOV. 17. 1911

*+ L.M.C. 11. 11*

F.D.

RECEIVED CERTIFICATE  
1911



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Lloyd's Register  
Foundation

Certificate (if required) to be sent to West Lancashire

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