

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 6th April Last Survey 4 Nov 1911
Reg. Book. on the Steel Steamer Turkistan (Number of Visits 96)

Master Wray & Co Ltd Built at West Hartlepool By whom built Wray & Co Ltd When built 1911

Engines made at West Hartlepool By whom made General Machine & Works when made 1911

Boilers made at West Hartlepool By whom made General Machine & Works when made 1911

Registered Horse Power _____ Owners _____ Port belonging to Shannon

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

ENGINES, &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 15.01 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 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 _____ Length of stern bush 64

Dia. of Tunnel shaft 13.69 Dia. of Crank shaft journals 14.38 Dia. of Crank pin 14.1/2 Size of Crank webs 21.8 1/2 Dia. of thrust shaft under

collars 14 1/2 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, &c. Eight 3 1/2, Tunnel 3 1/2

No. of Bilge Injections one sizes 10 Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & 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, &c.—(Letter for record S) Manufacturers of Steel Spencer & Sons

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

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 12/9/11 No. of Certificate 3257

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 two spring Area of each valve 11.04 sq in Pressure to which they are adjusted 183 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 22 x 28 Mean dia. of boilers 16.0 Length 12.0 Material of shell plates steel

Thickness 1 1/2 Range of tensile strength 27-30 Are the shell plates welded or flanged both Descrip. of riveting: cir. seams all in lap

long. seams all in lap Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10 Lap of plates or width of butt straps 22 1/8

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

Size of compensating ring 9 x 17 1/2 No. and Description of Furnaces in each boiler 4 plain Material steel Outside diameter 40 1/2

Length of plain part 49 1/4 Thickness of plates 1 1/2 Description of longitudinal joint welded No. of strengthening rings one

Working pressure of furnace by the rules 195 lbs Combustion chamber plates: Material steel Thickness: Sides 2 1/2 Back 10/16 Top 2 1/2 Bottom 14/16

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

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

Material steel Thickness 1 1/2 Pitch of stays 18-16 1/2 How are stays secured all nuts Working pressure by rules 183 lbs Material of stays steel

Diameter at smallest part 2 1/4 Area supported by each stay 18-16 1/2 Working pressure by rules 209 lbs Material of Front plates at bottom steel

Thickness 3/32 Material of Lower back plate steel Thickness 1 1/2 Greatest pitch of stays 15 Working pressure of plate by rules 180 lbs

Diameter of tubes 2 1/4 Pitch of tubes 4-3 1/2 Material of tube plates steel Thickness: Front 3/32 Back 29/32 Mean pitch of stays 8-7 1/4

Pitch across wide water spaces 18 1/4 Working pressures by rules 190 lbs Girders to Chamber tops: Material steel 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 lbs Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked

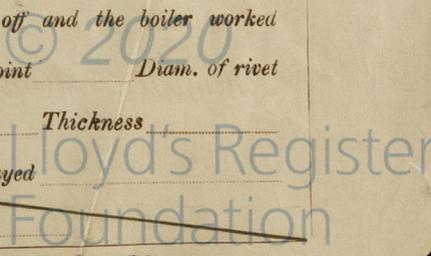
separately _____ Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet

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 _____

6-11-11-797



VERTICAL DONKEY BOILER— Manufacturers of Steel *None*

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
		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 assembly bolts. One set coupling bolts. One set feed pump valve. One set safety pump valve. One set 100 lb pressure springs. Paperless chg. Two last time Paperless blades. Air pump bucket. Circulating pump bucket. Safety valve springs. Bolt nuts etc.*

The foregoing is a correct description,

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

Manufacturer.

John Williams
Assistant Manager.

Dates of Survey while building
 During progress of work in shops -- 1911
 During erection on board vessel ---
 Total No. of visits

Apr. 6	19	20	21	24	29	May 1	3	4	8	9	15	16	17	18	22	24	26	June 8	12	13	14	16	20	23	26	27	28	29	30	July 3	4	6	10	11	12	13	14	17	18			
19	20	24	25	26	27	28	21	Aug. 1	2	3	4	14	15	16	17	18	19	22	23	24	25	28	30	Sept. 4	8	11	13	15	18	19	20	21	22	25	26	27	28	29				
Oct. 2	3	4	5	6	9	11	13	16	17	20	24	21	Nov. 1	2	3	4																										

96.

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.*)

Expansion coils tested to 360 lb and body to 50 lb.

This case is similar to the S. S. "Gorjistan", Landed in 1911, Harbours Report No. 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.

J.W.D. 15/11/11 J.W.A.

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

The amount of Entry Fee	£ 3 : 0	When applied for,
Special	£ 50 : 1619.....
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	16-11 17

Committee's Minute
 Assigned
 FRI. NOV. 17. 1911
 + L.M.C. 11. 11

Certificate (if required) to be sent to West-End-London

