

Rpt. 4.

REPORT ON MACHINERY.

No. 12382

Port of WEST HARTLEPOOL

THUR. 27 OCT 1904

WEST HARTLEPOOL

Received at London Office

19

No. in Survey held at

Reg. Book.

Date, first Survey

Last Survey

19

on the

S. S. "Pioneer" / YGOMAR

(Number of Visits)

Master

Built at

Selby

By whom built

Ment- Cochran & Sons

Tons

Gross

Net

When built

1904

Engines made at

By whom made

when made

Boilers made at

W. Hartlepool

By whom made

Central Marine Eng. Wks.

when made

1904

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

66.4

Is Refrigerating Machinery fitted

Is Electric Light fitted

ENGINES, &c.—Description of Engines

Dia. of Cylinders	Length of Stroke	Revs. per minute	No. of Cylinders	No. of Cranks
Is the screw shaft fitted with a continuous liner the whole length of the stern tube			Dia. of Screw shaft as per rule	Material of screw shaft
in the propeller boss			Is the after end of the liner made water tight	
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	
Dia. of Tunnel shaft as per rule	Dia. of Crank shaft journals as per rule	Dia. of Crank pin	Size of Crank webs	Dia. of thrust shaft under collars
Dia. of screw	Pitch of screw	No. of blades	State whether moveable	Total surface
No. of Feed pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work	
No. of Bilge pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work	
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps		
In Engine Room				
In Holds, &c.				

No. of bilge injections	sizes	Connected to condenser, or to circulating pump	Is a separate donkey suction fitted in Engine room & size
Are all the bilge suction pipes fitted with roses		Are the roses in Engine room always accessible	Are the sluices on Engine room bulkheads always accessible
Are all connections with the sea direct on the skin of the ship		Are they Valves or Cocks	
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates		Are the discharge pipes above or below the deep water line	
Are they each fitted with a discharge valve always accessible on the plating of the vessel		Are the blow off cocks fitted with a spigot and brass covering plate	
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			
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges			
When were stern tube, propeller, screw shaft, and all connections examined in dry dock			
Is it fitted with a watertight door		worked from	

BOILERS, &c.—

(Letter for record S)

Total Heating Surface of Boilers

1140

Is forced draft fitted

No. and Description of Boilers	one single ended cylindrical	Working Pressure	180 lb	Tested by hydraulic pressure to	360 lb																						
Date of test	10/6/04	Can each boiler be worked separately	Yes	Area of fire grate in each boiler	30.7																						
each boiler	2 Spring loaded	Area of each valve	3.98	Pressure to which they are adjusted	180 lb																						
Smallest distance between boilers or uptakes and bunkers or woodwork		82	Mean dia. of boilers	141.06	Length	9.6																					
Thickness	1 1/2	Range of tensile strength	27,000	Are they welded or flanged	both	Descrip. of riveting: cir. seams	long. seams	d.b. butt																			
Diameter of rivet holes in long. seams	1 1/2	Pitch of rivets	7 1/2	lap of plates or width of butt straps	16 1/4																						
Per centages of strength of longitudinal joint	85.2	Working pressure of shell by rules	183.8 lb	Size of manhole in shell	16 x 12																						
Size of compensating ring	8 x 1 1/2	No. and Description of Furnaces in each boiler	2 - plain	Material	steel	Outside diameter	40"																				
Length of plain part	top 5.11 1/2	Thickness of plates	3/16	Description of longitudinal joint	welded	No. of strengthening rings	Yes																				
Working pressure of furnace by the rules	180.6 lb	combustion chamber plates: Material	steel	Thickness: Sides	5/16	Back	5/16	Top	5/16	Bottom	3/4																
Pitch of stays to ditto: Sides	8 1/2 x 9	Back	8 x 9 1/2	Top	8	If stays are fitted with nuts or riveted heads	nuts	Working pressure by rules	180.5 lb																		
Material of stays	steel	Diameter at smallest part	1.5	Area supported by each stay	74	Working pressure by rules	193 lb	End plates in steam space:																			
Material	steel	Thickness	1 1/2	Pitch of stays	16 x 16 1/4	How are stays secured	double nut	Working pressure by rules	183.2 lb	Material of stays	steel																
Diameter at smallest part	2.53	Area supported by each stay	260	Working pressure by rules	194.2 lb	Material of Front plates at bottom	steel																				
Thickness	1"	Material of Lower back plate	steel	Thickness	7/8	Greatest pitch of stays	15 x 8	Working pressure of plate by rules	183 lb																		
Diameter of tubes	3 1/2	Pitch of tubes	4 1/4	Material of tube plates	steel	Thickness: Front	1"	Back	3/4	Mean pitch of stays	9 1/2																
Pitch across wide water spaces	7 1/2	Working pressures by rules	182.6 lb	Girders to Chamber tops: Material	steel	Depth and thickness of girder at centre	7 1/2 x 1 1/4	Length as per rule	26	Distance apart	8"	Number and pitch of Stays in each	2 - 16"														
Working pressure by rules	188.5 lb	Superheater or Steam chest; how connected to boiler	Yes	Can the superheater be shut off and the boiler worked separately	Yes	Diameter	Yes	Length	Yes	Thickness of shell plates	Yes	Material	Yes	Description of longitudinal joint	Yes	Diam. of rivet holes	Yes	Pitch of rivets	Yes	Working pressure of shell by rules	Yes	Diameter of flue	Yes	Material of flue plates	Yes	Thickness	Yes
If stiffened with rings	Yes	Distance between rings	Yes	Working pressure by rules	Yes	End plates: Thickness	Yes	How stayed	Yes																		
Working pressure of end plates	Yes	Area of safety valves to superheater	Yes	Are they fitted with easing gear	Yes																						

DONKEY BOILER— No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ 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 _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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 _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

H. B. Borrowman

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1904 April 12-15-29 May 4-6-10-12-17-20-26-30 June 2-7-10.
 { During erection on board vessel - - }
 Total No. of visits 14

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " "

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

The Boiler for this vessel has been constructed under special survey, the workmanship and materials used are both of good quality.

The Boiler has been sent to Grimsby for placing on board.

This boiler has been securely fastened on board the vessel and the safety valves adjusted under steam.

R. W. Coomber
Rus.

The amount of Entry Fee. . . £ :
 Special £ :
 Donkey Boiler Fee . . . £ :
 Travelling Expenses (if any) £ :
 When applied for, 13. 6. 04
 When received, 12. 9. 04

R. W. Coomber.

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

Committee's Minute

TUES. 1 NOV 1904

Assigned