

Rpt. 4.

## REPORT ON MACHINERY.

No. 13501  
MON. JUL. 21. 1913

Received at London Office

Date of writing Report 11<sup>th</sup> July 1913 When handed in at Local Office 19 Port of Hamburg  
No. in Survey held at Kiel Date, First Survey 21<sup>st</sup> November 1912 Last Survey 10<sup>th</sup> July 1913  
Reg. Book. on the Steamer "Kiowa" (Number of Visits 27)  
Master H. Riecke Built at Kiel By whom built Howaldtswerke Tons Gross  
Engines made at Kiel By whom made Howaldtswerke when made 1913 Net 1913  
Boilers made at Kiel By whom made Howaldtswerke when made 1913  
Registered Horse Power 320 Owners Deutsche-Amerik. Petroleum Ges. Port belonging to Hamburg  
Nom. Horse Power as per Section 28 320 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Quadr. Expansion No. of Cylinders 4 No. of Cranks 4  
Dia. of Cylinders 19 1/2, 28, 41, 59 Length of Stroke 41 3/8 Revs. per minute 80 Dia. of Screw shaft as per rule 12 5/16 Material of 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 — 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 49 7/8  
Dia. of Tunnel shaft as per rule 10 3/16 Dia. of Crank shaft journals as per rule 11 5/16 Dia. of Crank pin 11 1/2 Size of Crank webs 14 1/2 x 10 1/2 Dia. of thrust shaft under  
collars 11 5/8 Dia. of screw 15 5/8 Pitch of Screw 15 1/2 No. of Blades 4 State whether moveable yes Total surface 77.5 sq. ft.  
No. of Feed pumps 2 Diameter of ditto 4 Stroke 23 1/2 Can one be overhauled while the other is at work yes  
No. of Bilge pumps 2 Diameter of ditto 4 Stroke 23 1/2 Can one be overhauled while the other is at work yes  
No. of Donkey Engines 6 Sizes of Pumps See specifications No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 2 off 3 1/2, 1 off 3 from bilge In Holds, &c. 14 off 8 from cargo tanks, 1 off 6 from  
summers tanks, 2 off 5 from deep tank, 4 off 5 from boiler room, 1 off 5 from  
No. of Bilge Injections 1 sizes 8 Connected to condenser 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 —  
Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves & cocks  
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 none 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 18.6.13 of Stern Tube 26.13 Screw shaft and Propeller 9.6.13  
Is the Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record S) Manufacturers of Steel The Glasgow Iron & Steel Co. Ltd.  
Total Heating Surface of Boilers 45122 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers 2 Single ended multi tubular  
Working Pressure 213 lbs Tested by hydraulic pressure to 426 lbs Date of test 15/5/13 No. of Certificate 208, 209 & 210  
Can each boiler be worked separately yes Area of fire grate in each boiler 50 sq. ft. No. and Description of Safety Valves to  
each boiler 2 Spring loaded Area of each valve 2 sq. in. Pressure to which they are adjusted 213 lbs Are they fitted with easing gear yes  
Smallest distance between boilers on uptakes and bunkers on woodwork 16 Mean dia. of boilers 18 1/4 Length 64 1/2 Material of shell plates Steel  
Thickness 1 3/4 Range of tensile strength 38-50 tons Are the shell plates welded or flanged — Descrip. of riveting: cir. seams lap & riv.  
long. seams all lap & riv. Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 18 x 3 Lap of plates or width of butt straps 27.86  
Per centages of strength of longitudinal joint 119.89% Working pressure of shell by rules 217.6 lbs Size of manhole in shell 11.8 x 15.75  
Size of compensating ring 26 x 30 x 1 3/4 No. and Description of Furnaces in each boiler 3 horizontal Material Steel Outside diameter 43 3/4  
Length of plain part top 6 Thickness of plates crown 1 1/4 Description of longitudinal joint welded No. of strengthening rings none  
Working pressure of furnace by the rules 264 lbs Combustion chamber plates: Material Steel Thickness: Sides 68 Back 68 Top 68 Bottom 94  
Pitch of stays to ditto: Sides 7 1/2 x 7 1/2 Back 7 1/2 x 7 1/2 Top 7 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads not riveted Working pressure by rules 292 lbs  
Material of stays Steel Diameter at smallest part 1 1/4 Area supported by each stay 59 sq. in. Working pressure by rules 266 lbs End plates in steam space:  
Material Steel Thickness 1 1/4 Pitch of stays 15 x 16 How are stays secured all plates & riv. Working pressure by rules 292 lbs Material of stays Steel  
Diameter at smallest part 3 Area supported by each stay 288 sq. in. Working pressure by rules 293 lbs Material of Front plates at bottom Steel  
Thickness 1 1/2 Material of Lower back plate Steel Thickness 1 1/2 Greatest pitch of stays 19.69 Working pressure of plate by rules 296 lbs  
Diameter of tubes 3 1/2 Pitch of tubes 3 1/2 Material of tube plates Steel Thickness: Front 1 1/2 Back 91 Mean pitch of stays 15  
Pitch across wide water spaces 13.1 Working pressures by rules 215 lbs Girders to Chamber tops: Material Steel Depth and  
thickness of girder at centre 8.6 x 1.5 Length as per rule 31.5 Distance apart 7.5 Number and pitch of stays in each 3-7.5  
Working pressure by rules 213 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 —



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate
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 long. seams
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
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:— 1 set of studs & nuts for blades, 1 slide rod, 1 set of piston rings each for H.P., I.P., & L.P. cylinders, 2 pump links one for each side, 1 air pump bucket, rod & piston, 1 pair of bottom end brasses, 2 set of top end brasses, 1 main bearing bolt, 2 bottom end and 2 top end bolts with nuts, 2 set of coupling bolts one of each side, 1 set of jacking bolts for each piston, 1 set of valves for air pump, 1 set of valves & seats for feed & bilge pump, 3 springs for main boiler safety valves, several springs for escape valves of cylinders & feed pump, 1/2 set of firebars, 25 condenser tubes, with 50 screw glands, 25 tubes for main boiler, for centrifugal pump, 1 eccentric sheave & strap, 1 piston rod, 1 crosshead, 1 connecting rod, 1 slide valve with rod, 2 bolts for main bearings, a large number of bolts, studs, nuts, rivets, plates & bar iron.

**HOWALDTSWERKE**

Manufacturer.

Dates of Survey while building	During progress of work in shops	2/11, 5/12, 18/12, 30/12, 1913. 4/1, 11/1, 14/1, 22/1, 28/1, 10/2, 13/2, 18/2, 14/2, 25/2, 7/3, 10/3, 15/3, 23/3, 26/3, 9/4, 1913
	During erection on board vessel	18/6, 20/6, 23/6, 4/7, 9/7 & 10/7 1913
	Total No. of visits	27.

Is the approved plan of main boiler forwarded herewith *yes* *no* *partly*

Dates of Examination of principal parts—Cylinders	4/11 12	Slides	4/1 13	Covers	14/2 13	Pistons	14/2 13	Rods	28/2 13
Connecting rods	28/4 13	Crank shaft	31/3 13	Thrust shaft	28/2 12	Tunnel shafts	19/10 12	Screw shaft	9/8 12
Stern tube	9/6 13	Steam pipes tested	10/7 13	Engine and boiler seatings	4/7	Engines holding down bolts	4/7		
Completion of pumping arrangements	10/7 13	Boilers fixed	4/7	Engines tried under steam	9/7. 13				
Main boiler safety valves adjusted	9/7.	Thickness of adjusting washers	Forew. 1 1/4, aft 7/8, Forew. 1 1/2 aft 1 1/8, Donkey boiler 3/4 of 5/8						
Material of Crank shaft	Steel	Identification Mark on Do.	282, 285 & J.K.	Material of Thrust shaft	Steel	Identification Mark on Do.	286, 287 & J.K.		
Material of Tunnel shafts	Steel	Identification Marks on Do.	287, 19/12 & J.K.	Material of Screw shafts	Steel	Identification Marks on Do.	288 & J.K.		
Material of Steam Pipes	Steel	Test pressure	450 lb.						

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

1/1	Simplex double acting	Weirs 6 1/2" diam. by 18 1/4" stroke for feed purposes
1/1	duplex	" " " " " " " " " " " "
1/1	"	" " " " " " " " " " " "
1/2	"	" " " " " " " " " " " "
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1/1	"	" " " " " " " " " " " "
1/2	"	" " " " " " " " " " " "

Material and workmanship of these Engines & Boilers are of very best description, the outfit ample. The tests of the feed boiler material, signed by the testing Surveyors, are in my hands. The Forging certificates of shafting will be found attached. I attended to a satisfactory trial along side the Quays on the 14th July 13, when the machinery gave full satisfaction. The Boilers and Machinery of this Vessel having been constructed under Special Survey in accordance with the Society's Rules, I beg to recommend that they be classed fitted for Liquid Fuel 7.13 LMC 7.13 be entered in the R. P. & that

The amount of Entry Fee	£ 65	When applied for	15.7.1913
Special	£ 220	When received	31.7.1913
Donkey Boiler Fee	£ 45		
Travelling Expenses (if any)	£ 2.10		
Committee's Minute	£ 120		

Assigned *Thurs 7.13* *It is submitted that this vessel is eligible for THE RECORD + LMC 7.13* *Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.* *Fitted for oil fuel 7.13, F.P. above 150°F.* *22.1913* *27/7/13*

Write "Bridge Sheer Strake" and "Upper Deck Sheer Strake" opposite the corresponding letter.

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and  
LOWER  
Bowsprit  
Topmasts  
Rigging  
Sails.

Rpt. 5.

Date of writing

No. in Reg. Book.

Master

Engines m

Boilers ma

Registered

MULTIT

(Letter for

Boilers

No. of Cert

safety valve

Are they fit

Smallest di

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rules

boiler 2

Description

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