

REPORT ON MACHINERY.

No. 18246

Port of Hull

Received at LONDON 24 AUG 1906

No. in Survey held at Selby & Hull Date, first Survey May 10th Last Survey 2nd Aug 1906
 Reg. Book. 1 Supp on the Screw Propeller "Lokis" (Number of Visits 20) Tons Gross 221 Net 113
 Master _____ Built at Selby By whom built Cochrane Sons When built 1906
 Engines made at Hull By whom made Charles D. Holmes & Co. when made 1906
 Boilers made at do By whom made do when made 1906
 Registered Horse Power _____ Owners H. L. Taylor Port belonging to Grimby
 Nom. Horse Power as per Section 28 66.4 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12", 21", 34" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft as per rule 6.9" Material of screw shaft 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 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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 36"
 Dia. of Tunnel shaft as per rule 6.26" Dia. of Crank shaft journals as per rule 6.51" Dia. of Crank pin 6 7/8" Size of Crank webs 13x4 5/8" Dia. of thrust shaft under collars 6 7/8" Dia. of screw 8'-6" Pitch of Screw 10'-3" to 11'-3" No. of Blades 4 State whether moveable No Total surface 27.5 sq. ft.
 No. of Feed pumps 1 Diameter of ditto 2 1/16" Stroke 24" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps 1 Diameter of ditto 2 1/16" Stroke 24" Can one be overhauled while the other is at work ✓
 No. of Donkey Engines One Sizes of Pumps 2 3/4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps _____
 In Engine Room Two 2" dia. In Holds, &c. Two 2" dia.
Ejector suction from all bilges + discharge on deck.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 2 1/2" Ejector
 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 None
 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 Hold suction How are they protected Wood casing
 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 5/6/06 of Stern Tube 5/6/06 Screw shaft and Propeller 5/6/06
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Wm. Beardmore & Co. Ltd.
 Total Heating Surface of Boilers 1095 sq. ft. Forced Draft fitted No No. and Description of Boilers One S. E. by Mr. Muller
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 17. 7. 06 No. of Certificate 1489
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 32 sq. ft. No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 3.9" Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 12'-0" Length 10'-0" Material of shell plates Steel
 Thickness 1" Range of tensile strength 29-32 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR. Lap long. seams DR. S. Rivet Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 7" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint rivets 86 Working pressure of shell by rules 186 lbs Size of manhole in shell 16" x 12" plate 85.2
 Size of compensating ring 7" x 1" No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 42"
 Length of plain part top 5'-10" Thickness of plates crown 4 1/2" Description of longitudinal joint welded No. of strengthening rings ✓ bottom 5'-3 1/2" bottom 64
 Working pressure of furnace by the rules 189 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 1/16" Top 23/32" Bottom 23/32"
 Pitch of stays to ditto: Sides 9" x 8" Back 9" x 8 1/2" Top 8 1/2" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 213 lbs
 Material of stays Steel Diameter at smallest part 1 3/4" Area supported by each stay 105.75 Working pressure by rules 204 lbs End plates in steam space: margin + screwed into end plates.
 Material Steel Thickness 1 1/32" Pitch of stays 16" x 16" How are stays secured to nuts Working pressure by rules 196 lbs Material of stays Steel
 Diameter at smallest part 5.78" Area supported by each stay 256" Working pressure by rules 225 lbs Material of Front plates at bottom Steel
 Thickness 27/32" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 15" Working pressure of plate by rules 198 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 5/8" Material of tube plates Steel Thickness: Front 27/32" Back 7/8" Mean pitch of stays 9 1/4"
 Pitch across wide water spaces 15" Working pressures by rules 180 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 8 3/4" x 1 3/4" Length as per rule 2'-8" Distance apart 8" Number and pitch of stays in each 3 @ 8 1/2"
 Working pressure by rules 196 lbs Superheater or Steam chest; how connected to boiler None 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		
Made at	By whom made	When made	Where used
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: *Two top + two bottom-end connecting rod bolts + nuts. Two main bearing bolts + nuts. One set of coupling bolts + nuts. One set of feed + bilge pump valves. Main + donkey feed check valves. Assorted bolts + nuts &c.*

The foregoing is a correct description,
Charles S. Sturmy Manufacturer.

Dates of Survey while building	During progress of work in shops	1906: May 10, 18, 24, 28 Jun 5, 7, 16, 19, 21, 25 July 2, 13, 19, 24, 25, 26, 27, 28 Aug 2.
	During erection on board vessel	
Total No. of visits		20
	Is the approved plan of main boiler forwarded herewith	Yes
	" " " donkey " " "	✓

Dates of Examination of principal parts	Cylinders	21/6/06	Slides	19/7/06	Covers	19/7/06	Pistons	2/7/06	Rods	2/7/06	
Connecting rods	2/7/06	Crank shaft	19/7/06	Thrust shaft	19/7/06	Tunnel shafts	✓	Screw shaft	28/5/06	Propeller	28/5/06
Stern tube	18/5/06	Steam pipes tested	27/7/06	Engine and boiler seatings	5/6/06	Engines holding down bolts	25/7/06				
Completion of pumping arrangements	28/7/06	Boilers fixed	26/7/06	Engines tried under steam	28/7/06						
Main boiler safety valves adjusted	28/7/06	Thickness of adjusting washers	F 5/16" A 5/16"								
Material of Crank shaft	Iron	Identification Mark on Do.	LLOYDS 262 19.7.06 J.K.		Material of Thrust shaft	Iron	Identification Mark on Do.	LLOYDS 262 28.5.06 J.K.			
Material of Tunnel shafts	✓	Identification Marks on Do.	✓		Material of Screw shafts	Iron	Identification Marks on Do.	LLOYDS 262 28.5.06 J.K.			
Material of Steam Pipes	Solid drawn copper		Test pressure	360 lbs.							

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Engines and Boiler of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of + LMC 8, 06 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. **+ LMC 806**

J.S.M.
J.S.
 24.8.06

The amount of Entry Fee	£ 1 : - : -	When applied for	22/8/1906
Special	£ 9 : 18 : -		
Donkey Boiler Fee	£ - : - : -	When received	31.8.06
Travelling Expenses (if any)	£ - : 8 : 2		

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

Committee's Minute
 Assigned

TUES. 28 AUG 1906



Certificate (if required) to be sent to Hull

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