

## REPORT ON MACHINERY.

No. 18246

Port of *Hull*Received at *L.R.* 24 AUG 1906

No. in Survey held at *Selby & Hull* Date, first Survey *May 10<sup>th</sup>* Last Survey *2<sup>nd</sup> Aug 1906*  
 Reg. Book. *1* *Supp* on the *Screw Steamer "Lokis"* (Number of Visits *20*) Tons { Gross *221*  
 Net *113*  
 Master *Selby* Built at *Selby* By whom built *Bochraane 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 *66.4* 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 6.54"* 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 1/4 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 1/2"* Stroke *24"* Can one be overhauled while the other is at work *✓*  
 No. of Bilge pumps *1* Diameter of ditto *2 1/2"* 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. Cyb. Mult.*  
 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 *B.R. Lap*  
 long. seams *B.R. 5 Rivet* Diameter of rivet holes in long. seams *1 1/2"* 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 *16x12"*  
 Size of compensating ring *7x1"* 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 *bottom 5'-3 1/2"* Description of longitudinal joint *welded* No. of strengthening rings *✓*  
 Working pressure of furnace by the rules *189 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *23/32"* Back *11/16"* Top *23/32"* Bottom *23/32"*  
 Pitch of stays to ditto: Sides *9x8"* Back *9x8 1/2"* Top *8 1/2x8"* 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:  
 Material *Steel* Thickness *1 1/2"* Pitch of stays *16x16"* How are stays secured *screwed into end plates* 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 3/4x1 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	Fire grate area
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	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 D. Stumm* 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. 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 $\frac{5}{16}$ " A $\frac{5}{16}$ "								
Material of Crank shaft	Iron	Identification Mark on Do.	262	Material of Thrust shaft	Iron	Identification Mark on Do.	19.7.06 J.K.	LLOYDS 262			
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	Iron	Identification Marks on Do.	28.5.06 J.K.	LLOYDS 262			
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 8.06**

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

Committee's Minute

Assigned

TUES. 28 AUG 1906

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



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