

## REPORT ON MACHINERY

No. 27395

THU: APR. 23. 1914

Date of writing Report *17<sup>th</sup> April 14* When handed in at Local Office *22. 4. 14* Port of *Hull*  
 No. in Survey held at *Hull*. Date, First Survey *Nov 11<sup>th</sup>* Last Survey *Apr. 15<sup>th</sup> 1914*  
 Reg. Book. *70 Supp on the steel sec "PENTLAND."* (Number of Visits *25*)  
 Master *Selby* Built at *Selby* By whom built *Lockhart & Sons* Tons { Gross *205*  
 Engines made at *Hull* By whom made *Cumos & Smith Ltd.* Net *79*  
 Boilers made at *Hull* By whom made *Cumos & Smith Ltd.* When built *1914*  
 Registered Horse Power *49* Owners *Hull Stevedoring & Sec Co Ltd* when made *1914*  
 Nom. Horse Power as per Section 28 *49* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*  
 Port belonging to *Hull*

ENGINES, &c.—Description of Engines *Triple expansion* No. of Cylinders *3* No. of Cranks *3*  
 Dia. of Cylinders *10 x 17 x 28* Length of Stroke *24* Revs. per minute *✓* Dia. of Screw shaft *as per rule 7.33* Material of *✓*  
 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 *32"*  
 Dia. of Tunnel shaft *as per rule 5.7* Dia. of Crank shaft journals *as per rule 6* Dia. of Crank pin *6 1/2* Size of Crank webs *4 1/2 x 12 1/2* No. of thrust shaft under  
 collars *6 1/2* Dia. of screw *10 1/2* Pitch of Screw *9 1/2* No. of Blades *4* State whether moveable *No* Total surface *29.8*  
 No. of Feed pumps *1* Diameter of ditto *2 1/2* Stroke *11"* Can one be overhauled while the other is at work *✓*  
 No. of Bilge pumps *1* Diameter of ditto *2 1/2* Stroke *11"* Can one be overhauled while the other is at work *✓*  
 No. of Donkey Engines *One* Sizes of Pumps *6 1/4 x 4 1/4 x 6* No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room *2. 2"* In forward one aft *✓* In Holds, &c. *3. 2"* Main hold, Fore hold.  
 Ballast tank *2 1/2* ejector from all bilges *✓*  
 No. of Bilge Injections *1* sizes *2 1/2* Connected to condenser, or to circulating pump *✓* Is a separate Donkey Suction fitted in Engine room & size *2 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 *yes*  
 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 Suctions* 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 *9.2.14* of Stern Tube *9.2.14* Screw shaft and Propeller *9.2.14*  
 Is the Screw Shaft Tunnel watertight *✓* Is it fitted with a watertight door *✓* worked from *✓*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Messrs. Phoenix & Co. Harder Verein of Harde*  
 Heating Surface of Boilers *835* Is Forced Draft fitted *No* No. and Description of Boilers *One single-ended*  
 Working Pressure *200 lbs.* Tested by hydraulic pressure to *400 lbs.* Date of test *13.3.14* No. of Certificate *2068*  
 Can each boiler be worked separately *✓* Area of fire grate in each boiler *27.37* No. and Description of Safety Valves to  
 boiler *2 Spring loaded* Area of each valve *3.14* Pressure to which they are adjusted *205* Are they fitted with easing gear *yes*  
 Least distance between boilers or uptakes and bunkers or woodwork *7"* Mean dia. of boilers *10 1/2* Length *9 1/2* Material of shell plates *S*  
 Thickness *3/32* Range of tensile strength *29-33* Are the shell plates welded or flanged *✓* Descrip. of riveting: cir. seams *DR L*  
 seams *DR S* Diameter of rivet holes in long. seams *1 3/32* Pitch of rivets *7.59* Lap of plates or width of butt straps *16 1/4*  
 Percentages of strength of longitudinal joint *89.6* Working pressure of shell by rules *202* Size of manhole in shell *16" x 12"*  
 of compensating ring *40 x 30 x 3/32* No. and Description of Furnaces in each boiler *2 Plain* Material *S* Outside diameter *3 1/2*  
 of plain part *top 68 1/2* Thickness of plates *bottom 3/4* Description of longitudinal joint *welded* No. of strengthening rings *✓*  
 Working pressure of furnace by the rules *205* Combustion chamber plates: Material *S* Thickness: Sides *3/4* Back *2 1/2* Top *1 1/2* Bottom *3/4*  
 of stays to ditto: Sides *8 1/2 x 8 1/2* Back *8 3/8 x 8 3/8* Top *9 1/2 x 8* If stays are fitted with nuts or riveted heads *yes* Working pressure by rules *202.8*  
 Area of stays *S* Diameter at smallest part *2.06* Area supported by each stay *76* Working pressure by rules *244* End plates in steam space:  
 Material *S* Thickness *1* Pitch of stays *18 x 13* How are stays secured *Nuts* Working pressure by rules *202* Material of stays *S*  
 Area at smallest part *5.05* Area supported by each stay *221* Working pressure by rules *238* Material of Front plates at bottom *S*  
 Material of Lower back plate *S* Thickness *1* Greatest pitch of stays *8 3/4 x 8 3/8* Working pressure of plate by rules *257*  
 of tubes *3 1/4* Pitch of tubes *4 1/2 x 4 1/2* Material of tube plates *S* Thickness: Front *1* Back *7/8* Mean pitch of stays *10.43*  
 across wide water spaces *13 3/4* Working pressures by rules *203* Girders to Chamber tops: Material *S* Depth and  
 of girder at centre *8 1/4 x 1 1/4* Length as per rule *2 1/2* Distance apart *9 1/2* Number and pitch of stays in each *208*  
 Working pressure by rules *202* Superheater or Steam chest; how connected to boiler *Can the superheater be shut off and the boiler worked*  
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet  
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 fitted 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



IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, one of various sizes, a quantity of assorted bolts & nuts etc.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

W. J. Hite

Manufacturer.

Managing Director.

Dates of Survey while building

During progress of work in shops - - -  
During erection on board vessel - - -  
Total No. of visits 25

1913. Nov 18. 26 Dec 9. 17. 23. 1914 Jan 15. 27 Feb 5. 9. 13. 17. 23. Mar 9. 11. 13  
Mar 17. 23. 27. 30. April 6. 7. 8. 15

Is the approved plan of main boiler forwarded herewith 27395

" " " donkey " " 725

Dates of Examination of principal parts—Cylinders 17.2.14. Slides 17.2.14. Overs 11.3.14. Pistons 23.3.14. Rods 30.3.14.

Connecting rods 30.3.14. Crank shaft 23.3.14. Thrust shaft 27.3.14. Tunnel shafts ✓ Screw shaft 9.2.14. Propeller 9.2.14.

Stern tube 9.2.14. Steam pipes tested 6.4.14. Engine and boiler seatings 9.2.14. Engines holding down bolts 6.4.14.

Completion of pumping arrangements 15.4.14. Boilers fixed 6.4.14. Engines tried under steam 8.4.14.

Main boiler safety valves adjusted 8.4.14. Thickness of adjusting washers SV 3/8" PV 3/32"

Material of Crank shaft S. Identification Mark on Do. 1206 Material of Thrust shaft S. Identification Mark on Do. 1206

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts S. Identification Marks on Do. 1206

Material of Steam Pipes Copper solid drawn. Test pressure 40 lbs.

Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case yes. If so, state name of vessel S.Y. "Bampton."

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this vessel have been constructed under special survey in accordance with the rules. The boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good & safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of + LMC 4.14. in the Register book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4.14.

JWD 23/4/14 JRS

The amount of Entry Fee ... £ 1 : : : When applied for, 22-4 1914  
Special ... £ 8 : : :  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : 4 : : : When received, 30/4/1914

Committee's Minute FRI. APR. 24 1914  
Assigned + LMC 4.14

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



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