

REPORT ON MACHINERY.

Port of Grimsby. Received at London Office 19
 No. in Survey held at Grimsby. Date, first Survey 10 August 06. Last Survey 10 April 1907.
 Reg. Book. 97 upon the Mill Sewing SPURN. (Number of Visits 22.)
 Master W. Steward Built at New Holland By whom built W. St. Warren. Tons ^{Gross} ✓
 Engines made at Sasgor. By whom made Muir & Houston. When built 1907.
 Boilers made at Grimsby. By whom made J. Central Coop. Ex. S. L. Co. when made 1889.
 Registered Horse Power ✓ Owners Turner & Dreschins. Port belonging to Hull.
 Nom. Horse Power as per Section 28 53. Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no.

ENGINES, &c.—Description of Engines Triple Exp., hor. Cond., Am. Cys. No. of Cylinders 3 No. of Cranks 3.
 a. of Cylinders 10 3/4 10 3/4 10 3/4 Length of Stroke 22. Revs. per minute 110. Dia. of Screw shaft as per rule 6.22 Material of screw shaft Sep. Iron
 the screw shaft fitted with a continuous liner the whole length of the stern tube no. 2 liners Is the after end of the liner made water tight
 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
 are fitted, is the shaft lapped or protected between the liners no. Length of stern bush 2-3"
 a. of Tunnel shaft as per rule 5.55 Dia. of Crank shaft journals as per rule 5.55 Dia. of Crank pin 5 3/4 Size of Crank webs 4 x 1 1/2 Dia. of thrust shaft under
 bars 5 7/8 Dia. of screw 7-3" Pitch of Screw 11-6" No. of Blades 4 State whether moveable no Total surface 18 5/8
 of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work ✓
 of Bilge pumps 1 Diameter of ditto 3" Stroke 11" Can one be overhauled while the other is at work ✓
 of Donkey Engines 1 Sizes of Pumps 6 pump & 6 Stk. No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Sea bilge & hotwell 2" bore. In Holds, &c. fore and aft peaks and cabin
connections.
 of Bilge Injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Gate 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 no
 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 Below.
 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 Steam & waste & How are they protected iron casings.
 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 18/12/06. of Stern Tube 18/12/06 Screw shaft and Propeller 18/12/06.
 the Screw Shaft Tunnel watertight none. Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record) Manufacturers of Steel _____
 Total Heating Surface of Boilers _____ Is Forced Draft fitted _____ No. and Description of Boilers _____
 Working Pressure _____ Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to _____
 on each boiler _____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates _____
 Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
 g. seams _____ Diameter of rivet holes in long seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 Percentages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 of compensating ring _____ No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____
 Thickness of girder at centre _____ Length as per rule _____ Distance apart _____ _____ and pitch of stays in each _____
 Working pressure by rules _____ 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 _____
 Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 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 fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of S _____

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 _____ Rivets _____ Plates _____

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 each top & bottom end and main bearings bolts, a set of coupling bolts, main and donkey feed check valves, air circulating feed & bilge pump valves, boiler tubes bolts & studion & propeller.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey	During progress of work in shops - -	1906. Aug 10, 13, 14, 31. Sep 3, 20. Oct 8, 20. 31. Nov 8.
Building	During erection on board vessel - -	1907. Feb 19, 26, 27. Mar 1, 4, 6, 7, 11, 14, 26, 27. April 10.
	Total No. of visits	22

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—	Cylinders	old	Slides	old	Covers	old	Pistons	13+14/06	Rods	old	
Connecting rods	old	Crank shaft	old	Thrust shaft	1/18/06	Tunnel shafts	✓	Screw shaft	8/11/06	Propeller	8/11/06
Stern tube	8/11/06	Steam pipes tested	146/3/07	Engine and boiler seatings	19/2/07	Engines holding down bolts	27/3/07				
Completion of pumping arrangements	26/3/07	Boilers fixed	27/2/07	Engines tried under steam	27/3/07						
Main boiler safety valves adjusted	26/3/07	Thickness of adjusting washers	5/16								
Material of Crank shaft	✓	Identification Mark on Do.	✓	Material of Thrust shaft	dup from	Identification Mark on Do.	447	One			
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	dup from	Identification Marks on Do.	4				
Material of Steam Pipes	Solid drawn copper 3" bore 7' long.	Test pressure	320 lbs.								

General Remarks (State quality of workmanship, opinions as to class, &c.) *These engines were built under special survey by Messrs. Muir & Houston of Glasgow in 1889, & fitted in the steam trawler "Aquarius". They have now been thoroughly overhauled and examined and the following repairs carried out viz:— The cylinders bored and new pistons fitted, air circulating pumps renewed, all gland bushes & neck rings renewed, crank shaft lined up and star reversing gear fitted. The dimensions given are from actual measurement. The case is in my opinion eligible for the record & will be and "Engines made 1889, refitted 4/07. + N.B. 3/07." See Secretary's letter E 7/6/06.*

Quinley office.

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee..	£ 1.00	When applied for,	
Special	£ 8.00	13/4/07	
Donkey Boiler Fee	£ 9.00	When received,	
Printing Expenses (if any) £		27.6.07	

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

Committee's Minute TUES. APR 16 1907

Assigned + hmc 4.07
Engines made & refitted 4.07

