

REPORT ON MACHINERY.

No. 7816

Received at London Office FRI. FEB. 9-1912

Site of writing Report 10 When handed in at Local Office 8/27 10/12 Port of Grimsby

No. in Survey held at Grimsby Date, First Survey 31 Dec/10 Last Survey 13th 1912

Reg. Book. on the Steam trawler Elysian (Number of Visits 60)

Master Built at Seely By whom built Cochrane & Sons Tons Gross 1912

Engines made at Grimsby By whom made St. Pauls Co. op. Eng. Ship Repair Co. when made 1912

Boilers made at do. By whom made do. when made 1912

Registered Horse Power Owners St. Pauls Co. op. Eng. Ship Repair Co. Port belonging to Grimsby

Nom. Horse Power as per Section 28 45 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion inverted No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 12 2 1/2 13 4 Length of Stroke 24 Revs. per minute Dia. of Screw shaft as per rule 7.05 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 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 yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 35

Dia. of Tunnel shaft as per rule 6.3 Dia. of Crank shaft journals as per rule 6.6 Dia. of Crank pin 4 Size of Crank webs 4 1/2 13 Dia. of thrust shaft under

collars 4 Dia. of screw 8-6 Pitch of Screw 10-9 No. of Blades 4 State whether moveable no Total surface 280

No. of Feed pumps 1 Diameter of ditto 2 1/8 Stroke 24 Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 1/8 Stroke 24 Can one be overhauled while the other is at work

No. of Donkey Engines 1 Sizes of Pumps 6 x 3 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 sea hotwell bilge In Holds, &c. 2 forehold 4 fishroom

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 inch

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 which steam exhaust clean to midless How are they protected wood 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 sea at Hull of Stern Tube sea at Hull Screw shaft and Propeller at Hull

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 Phoenix & Co. Ltd. Jos. Abt. Hoelder & Rein. Hoelder

Total Heating Surface of Boilers 1340 Is Forced Draft fitted no No. and Description of Boilers one S.E. return tube

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 29.9.11 No. of Certificate 97

Can each boiler be worked separately Area of fire grate in each boiler 34.70 No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 3.98 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 4 Mean dia. of boilers 12-6 Length 10-0 Material of shell plates

Thickness 13/32 Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double

long. seams treble butt Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 4 1/4 Lap of plates or width of butt straps 16 1/8

Per centages of strength of longitudinal joint rivets 87.0 plate 88.5 Working pressure of shell by rules 194 Size of manhole in shell 12x16

Size of compensating ring 16x16x1 1/8 No. and Description of Furnaces in each boiler 2 plain Material S Outside diameter 43

Length of plain part top 370 Thickness of plates crown 3/4 Description of longitudinal joint welded No. of strengthening rings none

bottom 370 Working pressure of furnace by the rules 181 Combustion chamber plates: Material S Thickness: Sides 2/32 Back 2/32 Top 2/32 Bottom 13/16

Pitch of stays to ditto: Sides 9/16 8 3/4 Back 9/16 8 3/4 Top 9/16 8 3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 184 lbs.

Material of stays S Diameter at smallest part 2.10 Area supported by each stay 81 Working pressure by rules 207 End plates in steam space:

Material S Thickness 1/8 Pitch of stays 17 1/2 x 18 How are stays secured d. nuts + washers Working pressure by rules 190 Material of stays S

Diameter at smallest part 6.69 Area supported by each stay 320 Working pressure by rules 215 Material of Front plates at bottom S

Thickness 1 Material of Lower back plate S Thickness 15/16 Greatest pitch of stays 16 Working pressure of plate by rules 180

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates S Thickness: Front 1 Back 3/4 Mean pitch of stays 9

Pitch across wide water spaces 14 1/4 Working pressures by rules 190 Girders to Chamber tops: Material S Depth and

thickness of girder at centre (2) 9 x 3 1/4 Length as per rule 31.5 Distance apart 8 1/4 Number and pitch of stays in each 2-9 1/4

Working pressure by rules 228 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 _____

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 Safety _____

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 _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 2 Top and bottom end and main bearing bolts, a set of coupling bolts nuts, feed blge, air pump, safety, and cylinders escape valves, and assorted bolts, nuts, & iron.

The foregoing is a correct description, *Per Pro W Central Co of Eng Co Ltd*
W W Stungle
 Manufacturer.

Dates of Survey while building { During progress of work in shops— 1910 Dec 31 Jan 13 17 21 26 31 Feb 7 16 22 23 28 Mar 6 11 14 17 24 April 5 6 13 20 21 May 5 8 15 19 27 30 June 1 7 9 14 19 26 29 July 3 5 8 19 29 Aug 1 3 9 23 31 Sep 4 12 20 25 29 Oct 9 20 Nov 3 16
 During erection on board vessel— Jan 2 4 6 8 9 11 31.
 Total No. of visits 60

Is the approved plan of main boiler forwarded herewith *no.*
forwarded with report 7463

Dates of Examination of principal parts—Cylinders *LP 19.7.11* Slides *15/12/11* Covers *25/8/11* Pistons *25/8/11* Rods *29/7/11*
 Connecting rods *20/10/11* Crank shaft *27/11/11* Thrust shaft *30/12/11* Tunnel shafts ✓ Screw shaft *3/11/11* Propeller *3/11/11*
 Stern tube *3/11/11* Steam pipes tested *9/1/12* Engine and boiler seatings *as at Hull* Engines holding down bolts *8/1/12*
 Completion of pumping arrangements *8/1/12* Boilers fixed *9/1/12* Engines tried under steam *11/1/12*
 Main boiler safety valves adjusted *11/1/12* Thickness of adjusting washers *both 5/16"*
 Material of Crank shaft *Iron* Identification Mark on Do. *440* Material of Thrust shaft *Iron* Identification Mark on Do. *452*
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *432*
 Material of Steam Pipes *Solid drawn Copper - 6 SWG.* Test pressure *360 lb.*

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery has been built under special survey & the materials workmanship are good.*

The boiler has been constructed in accordance with the approved plan, and on completion was tested by water to twice the working pressure and found tight sound. The steel tested as required by the rules.

This machinery has been fitted on board the vessel in an efficient manner, and in my opinion is eligible for record of + LMC 2.12.

This vessel is a sister to the Gr. Berrian. No. 6846. Hayman - 7463

It is submitted that this vessel is eligible for THE RECORD + LMC 2.12.

The amount of Entry Fee .. £ 1 : : : When applied for, *8/2/12 CM.*
 Special .. £ 11 : 5 : : :
 Donkey Boiler Fee .. £ : : : When received, *10/6/12*
 Travelling Expenses (if any) £ : : : *Sh*

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

Committee's Minute

TUE. FEB. 13, 1912

Assigned

+ LMC 2.12



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MINISTRY CERTIFICATE
 BRITISH

Certificate (if required) to be sent to