Rpt. 4.

REPORT ON MACHINERY.

No. 69705

Received at London Office MON. MAY 13 1907 SAT. 8 JUN 1907

Date of writing Report ____ 19__ When handed in at Local Office ____ 19__ Port of London Rel. June 14/07

No. in Reg. Book. 138 Duff Survey held at Luton Date, First Survey Feb 4 Last Survey May 7 1907 (Number of Visits 9)

on the Screw S.S. "City of Perth" Tons Gross 88 Net 14

Master ____ Built at Selby By whom built Cochrane Sons When built 1907

Engines made at Luton By whom made The Vauxhall & West Hydraulic Eng Co Ltd when made 1907

Boilers made at Newcastle By whom made Riley Bros R Stephenson & Co Ltd when made 1907

Registered Horse Power ____ Owners London & Peterhead S.F. Co Ltd Port belonging to Peterhead

Nom. Horse Power as per Section 28 35 ✓ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Comp. Surface Engine No. of Cylinders 2 ✓ No. of Cranks 2

Dia. of Cylinders 11" ✓ 24" ✓ Length of Stroke 16" Revs. per minute 150 Dia. of Screw shaft as per rule 5.367" as fitted 5½" ✓ Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No ✓ 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 Yes Length of stern bush 1'-10" ✓

Dia. of Tunnel shaft as per rule 4.711" as fitted 4⅜" ✓ Dia. of Crank shaft journals as per rule 4.94" as fitted 5" ✓ Dia. of Crank pin 5"-1/4 ✓ Size of Crank webs 3¼ x 2⅛" Dia. of thrust shaft under collars 5"-1/4 ✓ Dia. of screw 6'-0" ✓ Pitch of Screw 7'-9" ✓ No. of Blades 4 State whether moveable No Total surface 15.55 ft²

No. of Feed pumps One ✓ Diameter of ditto 2" Stroke 9" ✓ Can one be overhauled while the other is at work ✓

No. of Bilge pumps One ✓ Diameter of ditto 2" ✓ Stroke 9" ✓ Can one be overhauled while the other is at work ✓

No. of Donkey Engines One Sizes of Pumps 6" Steam Cyl. 2½" fuel Cyl. 3" water pump } x 6" Stroke No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 2" one 2½" ✓ In Holds, &c. One 2" ✓

No. of Bilge Injections 1 sizes 2½" ✓ Connected to condenser, or to circulating pump pump ✓ Is a separate Donkey Suction fitted in Engine room & size Yes 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 O

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 just awash

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 None ✓ How are they protected —

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 26.4.07 of Stern Tube 26.4.07 Screw shaft and Propeller 26.4.07

Is 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 750 sq ft Is Forced Draft fitted ____ No. and Description of Boilers ____

Working Pressure 140 lbs 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 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 ____

long. seams ____ Diameter of rivet holes in long. seams ____ Pitch of rivets ____ Lap of plates or width of butt straps ____

Per centages of strength of longitudinal joint rivets ____ plate ____ Working pressure of shell by rules ____ Size of manhole in shell ____

Size of compensating ring ____ No. and Description of Furnaces in each boiler ____ Material ____ Outside diameter ____

Length of plain part top ____ bottom ____ Thickness of plates crown ____ bottom ____ 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 ____ Number 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 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 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 and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set — coupling bolts and nuts, one set each air, circulating, feed, and bilge pump valves, and a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

Manufacturer. Wm. E. Cash. WORKS MANAGER & DIRECTOR.

THE VAUXHALL & WEST HYDRAULIC ENGINEERING CO. LTD.

Dates of Survey while building — During progress of work in shops— Feb 4 March 6 - 13 - 20 - Apr 5 - 16 - 26 - 30 May 7

During erection on board vessel — Hull. 1907:- Apr 9. 19. 26. May 7. 23. 25. 28. 30. 31 June 4.

Total No. of visits 17.

Is the approved plan of main boiler forwarded herewith No

" " " donkey " " "

Dates of Examination of principal parts— Cylinders 20.3.07 Slides 20.3.07 Covers 20.3.07 Pistons 20.3.07 Rods 20.3.07

Connecting rods 20.3.07 Crank shaft 16.4.07 Thrust shaft ✓ Tunnel shafts 20.3.07 Screw shaft 20.3.07 Propeller 20.3.07

Stern tube 20.3.07 Steam pipes tested 25.5.07 Engine and boiler seatings 8.5.07 Engines holding down bolts 30.5.07

Completion of pumping arrangements 3.6.07 Boilers fixed 3.6.07 Engines tried under steam 31.5.07

Main boiler safety valves adjusted 31.5.07 Thickness of adjusting washers 5/16" 9/32" 9/32"

Material of Crank shaft Steel Identification Mark on Do. No 2 Material of Thrust shaft ✓ Identification Mark on Do. ✓

Material of Tunnel shafts Steel Identification Marks on Do. 413 Material of Screw shafts Steel Identification Marks on Do. No 416

Material of Steam Pipes Solid drawn copper Test pressure 280 lbs □"

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines have been constructed under special survey, the material has been tested & the workmanship is good, they have been sent to Selby for the purpose of fitting on board.

These engines have been fitted on board, tested under steam and found satisfactory, and are now eligible in my opinion to be classed with the notation of ✠ L.M.C. 6.07 in the Register Book.

James Barclay
4.6.07

It is submitted that this vessel is eligible for THE RECORD.

✠LMC 6.07. 8/6

8/6/07

The Amount of Entry Fee £ 1 : 0 : 0 When applied for, 12/5 1907

Special £ 2 : 13 : 4 3/6/07

Donkey Boiler Fee £ 2 : 18 : 6 When received,

Travelling Expenses (if any) £ — : 18 : 2 17.6.07 1907

Hull — 13 - 0 £4-11-6 paid 18.6.07 JHW

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

Committee's Minute TUES. 11 JUN 1907

Assigned ✠LMC 6.07

MACHINERY CERTIFICATE WRITTEN.

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

Certificate (if required) to be sent to