

REPORT ON MACHINERY.

No. 16254

Received at London Office

Date of writing Report 30 May 1912 When handed in at Local Office

1st June 1912 Port of Greenock

Survey held at Greenock

Date, First Survey 20th July 1911. Last Survey 23rd May 1912

on the SCREW STEAMER "KIRKOSWALD."

(Number of Visits 5)

Tons { Gross
Net

Williamson Built at Dumbarton

By whom built A. McMillan & Son

When built 1912

made at Greenock

By whom made Rankin & Blackmore

when made 1912

made at Greenock

By whom made Rankin & Blackmore

when made 1912

Horse Power

Owners Kyle Transport Coy. Ltd.

Port belonging to Liverpool

Horse Power as per Section 28 362

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

ES, &c.—Description of Engines

Triple Expansion

No. of Cylinders Three No. of Cranks Three

Cylinders 25"-41"-68" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14-48 Material of steel as fitted 14-48 screw shaft

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

propeller boss Yes. If the liner is in more than one length are the joints burned one length If the liner does not fit tightly at the part

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 Length of stern bush 60"

Tunnel shaft as per rule 12-68 Dia. of Crank shaft journals as per rule 13-3 Dia. of Crank pin 13-5 Size of Crank webs 19"x8" Dia. of thrust shaft under

14" Dia. of screw 18-0" Pitch of Screw 18-0" No. of Blades 4 State whether moveable No Total surface 102 ft²

Feed pumps 2 Diameter of ditto 3-1/2" Stroke 24" Can one be overhauled while the other is at work Yes.

Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes.

Donkey Engines Three Sizes of Pumps 8"x5"x3" 9"x11"x12" 5-1/2"x3-1/2"x5" No. and size of Suctions connected to both Bilge and Donkey pumps

In Room Four 3-1/2" dia. In Holds, &c. No. 1 HOLD one 3-1/2" dia. No. 2 HOLD one 3-1/2"

3 HOLD one 3-1/2" dia. No. 4 HOLD one 3-1/2" dia. TUNNEL WELL one 3" dia.

Bilge Injections 1 sizes 5-1/2" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes. 3-1/2"

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

connections with the sea direct on the skin of the ship Yes. Are they Valves or Cocks Both

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

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

pipes are carried through the bunkers None. How are they protected

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes.

Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes.

of examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller 26/4/12

Screw Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes. worked from upper platform

ERS, &c.—(Letter for record S) Manufacturers of Steel Glasgow Iron & Steel Coy. Ltd.

Heating Surface of Boilers 5448 ft² Is Forced Draft fitted No. No. and Description of Boilers 3 Cylinders boiler Simple

Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb. Date of test 11/3/12 No. of Certificate 1041

Can each boiler be worked separately Yes. Area of fire grate in each boiler 57-6 ft² No. and Description of Safety Valves to

boiler 21 One in Spring Area of each valve 7-06" Pressure to which they are adjusted 185 lb. Are they fitted with easing gear Yes.

Minimum distance between boilers or uptakes and bunkers or woodwork about 16" Mean dia. of boilers 14-3" Length 11-0" Material of shell plates Steel

Thickness 1-1/8" Range of tensile strength 28-30 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Lap Double

Diameter of rivet holes in long. seams 1-1/16" Pitch of rivets 8-1/2" 4-1/2" Top of plates or width of butt straps 18"

Stages of strength of longitudinal joint rivets 88-4 plates 85-6 Working pressure of shell by rules 180 lb. Size of manhole in shell 16"x12"

Compensating ring 30-1/2"x26-1/2"x1-1/8" No. and Description of Furnaces in each boiler 3 Susp. Bull. Material Steel Outside diameter 4-1/2"

of plain part top 6-10 7/16 Thickness of plates crown 2-1/2 Description of longitudinal joint Weld. No. of strengthening rings None

Working pressure of furnace by the rules 180 lb. Combustion chamber plates: Material Steel Thickness: Sides 5-8" Back 5-8" Top 5-8" Bottom 4-1/2"

of stays to ditto: Sides 8-1/2"x8-1/2" Back 9-1/2"x8-1/2" Top 9-1/2"x8-1/2" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 180 lb.

Area of stays Steel Diameter at smallest part 1-1/2" Area supported by each stay 7-4" Working pressure by rules 214 lb. End plates in steam space:

Material Steel Thickness 1-1/4" Pitch of stays 20"x19" How are stays secured Nuts. Working pressure by rules 184 lb. Material of stays Steel

Area at smallest part 3-1/2" Area supported by each stay 380 sq. in. Working pressure by rules 188 lb. Material of Front plates at bottom Steel

Thickness 1-1/8" Material of Lower back plate Steel Thickness 3-1/2" Greatest pitch of stays 13-1/2" Working pressure of plate by rules 181 lb.

Pitch of tubes 3-1/4" Pitch of tubes 4-1/2"x4-1/2" Material of tube plates Steel Thickness: Front 16-1/8" Back 4-1/2" Mean pitch of stays 8-1/4"

across wide water spaces 13-1/4" Working pressures by rules 227 lb. 263 lb. Girders to Chamber tops: Material Steel Depth and

Pitch of girder at centre 10"x1-1/8" Length as per rule 26-6" Distance apart 9-5" Number and pitch of stays in each 3:8-1/2"

Working pressure by rules 182 lb. Superheater or Steam chest; how connected to boiler None. Can the superheater be shut off and the boiler worked

Completely 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

Lloyd's Register

W1642 Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *None* 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 Rivets
 Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint 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 main bearing Bolts, 2 Crosshead Bolts, 2 Crank pin Bolts,
 1 set Coupling Bolts, 1 set S. Rambottom Rups., 1 set D. Springs 10 piston, 1 set feed pump valves, 1 set Belge pump
 valves, 1 set Air pump valves, 1 set Air pump valves, 1 safety valve spring, 1 main check valve, 1 anchor
 valve, 4 Boiler tubes, 6 Condenser tubes, 22 Junk Ring Bolts, 1 set Crank pin Bushes, 1 Propeller 24" dia.
 The foregoing is a correct description, valve Rimp, 5 bars of iron, 50 Bolt truck etc.

Robert Macmillan Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 1911. July 20-25 Aug. 1-3-10-15-25-29-31 Sept. 5-15-16-25-29 Oct. 3-6-11-16-25-31 Nov. 6-9-11
 During erection on board vessel -- 23-25 Dec. 4-11-15-21-24 1912 Jan. 10-15-18-25-29 Feb. 2-14-16-21-27 Mar. 5-11-16-25-26-28 May 8-9-11-13-16-21
 Total No. of visits 59 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 23/10/11 Slides 23/10/11 Covers 29/5/12 Pistons 14/12/12 Rods 14/12/12
 Connecting rods 13/9/11 Crank shaft 11/11 Thrust shaft 14/12/12 Tunnel shafts 14/12/12 Screw shaft 14/12/12 Propeller 14/12/12
 Stern tube 4/4/12 Steam pipes tested 22/5/12 Engine and boiler seatings 66. Report Engines holding down bolts 24/5/12
 Completion of pumping arrangements 24/5/12 Boilers fixed 24/5/12 Engines tried under steam 29/5/12
 Main boiler safety valves adjusted 23/5/12 Thickness of adjusting washers Port Fl 3.81 1/2" Centre Fl 6.51 1/2" Star Fl 6.51 1/2"
 Material of Crank shaft Steel Identification Mark on Do. 2255 Material of Thrust shaft Steel Identification Mark on Do. 2317
 Material of Tunnel shafts Steel Identification Marks on Do. 2323 2324 2325 Material of Screw shafts Steel Identification Marks on Do. 2316
 Material of Steam Pipes Copper Test pressure 400 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Engines and Boilers of this vessel were built under Special Survey and the materials and workmanship are good. On complete they were examined while running full power trials and found work satisfactorily. The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC 512** marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 512.

J.M. 6.6.12

The amount of Entry Fee .. £ 3 : : When applied for, 1/6/1912
 Special .. £ 38 : : When received, 5.6.1912
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 Committee's Minute

Assigned + LMC 512.

GLASGOW 4-JUN. 1912

MACHINERY CERTIFICATE WRITTEN 5/4/12

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



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