

# REPORT ON MACHINERY.

No. 2606

Received at London Office

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Date of writing Report 9-2-14 When handed in at Local Office 10-2-14 Port of Sunderland

No. in Survey held at **SUNDERLAND.**

Date, First Survey 26th August 1913 Last Survey 9-2-1914

Reg. Book.

(Number of Visits 30

Supplies on the new steel S/S "KAPARA".

Gross 842

Net 405

Master J. Forrest Built at Sunderland By whom built John Brown & Sons Ltd (No. 1752) When built 1914

Engines made at Sunderland By whom made Macboll & Pollock Ltd (No. 248) when made 1914

Boilers made at Sunderland By whom made Macboll & Pollock Ltd (No. 248) when made 1914

Registered Horse Power Owners Adelaide Steam Tug Co Port belonging to Port Adelaide

Nom. Horse Power as per Section 28 98 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

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

Dia. of Cylinders 14 1/2, 24, 39 Length of Stroke 24 Revs. per minute 88 Dia. of Screw shaft as per rule 8.37" Material of steel as fitted 8 1/2" screw shaft

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 2-10"

Dia. of Tunnel shaft as per rule 7.29" Dia. of Crank shaft journals as per rule 7.65" Dia. of Crank pin 7 7/8" Size of Crank webs 11 1/2" Dia. of thrust shaft under

collars 7 7/8" Dia. of screw 10-6 Pitch of Screw 11-6 No. of Blades 4 State whether moveable no Total surface 44 1/2

No. of Feed pumps 2 Diameter of ditto 2 1/4" Stroke 13 1/2" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 1/4" Stroke 13 1/2" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps BALLAST FEED 6x7x7 5x4x3x5 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 @ 2 1/4" In Holds, &c. 2 @ 2 1/4"

No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump B.P. Is a separate Donkey Suction fitted in Engine room & size yes, 2 1/4"

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 valves

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 forward pipes How are they protected under wood ceiling

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 30-12-13 of Stern Tube 30-12-14 Screw shaft and Propeller 26-1-14

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door Machinery worked from

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel John Spence & Sons Ltd

Total Heating Surface of Boilers 10924 Is Forced Draft fitted no No. and Description of Boilers one single ended marine

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 23-12-13 No. of Certificate 3180

Can each boiler be worked separately Area of fire grate in each boiler 52 1/2 No. and Description of Safety Valves to

each boiler two direct spring Area of each valve 5940 Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork (DB) 3-3 Mean dia. of boilers 13-6 Length 10-6 Material of shell plates steel

Thickness 1 1/16 Range of tensile strength 29-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 10.R

long. seams 10.B.S.T.R Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 1/4 Lap of plates or width of butt straps 1-5 1/2

Per centages of strength of longitudinal joint rivets 93.9 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"

plate 85.6 Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3-4 1/2

Size of compensating ring 27" x 29" x 1 1/16 Length of plain part top 78" Thickness of plates crown 2 1/2" Description of longitudinal joint welded No. of strengthening rings none

bottom 85 1/2 Thickness of plates bottom 2 1/2 Working pressure of furnace by the rules 183 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 23/32" Top 5/8" Bottom 7/8"

Pitch of stays to ditto: Sides 8 3/4" x 8 1/2" Back 9 1/8" x 9 3/4" Top 8 5/8" x 9" If stays are fitted with nuts or riveted heads nuts in use Working pressure by rules 181

Material of stays steel Diameter at smallest part 2.03" Area supported by each stay 96.40" Working pressure by rules 189 End plates in steam space:

Material steel Thickness 1 1/4" Pitch of stays 19 1/8" x 19 1/4" How are stays secured 10.N. Working pressure by rules 182 Material of stays steel

Diameter at smallest part 7.240" Area supported by each stay 382.0" Working pressure by rules 197 Material of Front plates at bottom steel

Thickness 13/16 Material of Lower back plate steel Thickness 2 1/2" Greatest pitch of stays 13 3/8" x 9 3/4" Working pressure of plate by rules 184

Diameter of tubes 3 1/4" Pitch of tubes 4 9/16" x 4 1/2" Material of tube plates steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 11 3/8"

Pitch across wide water spaces 1-2+9/16 Working pressures by rules 218 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 20 7/8" x 13 1/16 Length as per rule 27 1/2" Distance apart 9" Number and pitch of stays in each 2 @ 8 1/2"

Working pressure by rules 193 Superheater or Steam chest; how connected to boiler none 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

Lloyd's Register Foundation  
2020  
W183-0213

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 casing 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 \_\_\_\_\_

SEE SEPARATE REPORT

SPARE GEAR. State the articles supplied:— Two connecting rod top & bottom end bolts & nuts, two main bearing bolts, one set of coupling bolts one set of feed, bilge, air & circulating pump valves, one set of valves for each engine room donkey, one feed check valve, iron & bolts of various sizes, one pair of top end brasses, one bottom end bearing, one eccentric strap, one air pump rod, one circulating pump rod, tail shaft & propeller.

The foregoing is a correct description,  
**MAC COLL & POLLUCK LTD.** Manufacturer.

Dates of Survey while building	During progress of work in shops	1913 Aug. 26	Sep. 12-14	Oct. 17-20-28-30	Nov. 3-7-11-12
		18-24-26	Dec. 11-12-15-22-23-30	Jan. 5-8-26-27-30	Feb. 2-3-4-5-9
		Total No. of visits 30			

Dates of Examination of principal parts—Cylinders 12-11-13 Slides 24-11-13 Covers 20-10-13 Pistons 3-11-13 Rods 11-12-13

Connecting rods 26-11-13 Crank shaft 15-10-13 Thrust shaft 28-10-13 Tunnel shafts none Screw shafts 12-23-5-14 Propeller 18-11-13

Stern tube 12-12-13 Steam pipes tested 24-1-14 Engine and boiler seatings 8-1-14 Engines holding down bolts 3-2-14

Completion of pumping arrangements 9-2-14 M Boilers fixed 3-2-14, 5-2-14 Engines tried under steam 4-2-14

Main boiler safety valves adjusted 4-2-14 Thickness of adjusting washers P 5/16 S 1/4

Material of Crank shaft Steel Identification Mark on Do. 3532 W.D.H. Material of Thrust shaft Steel Identification Mark on Do. 8958 K.H.

Material of Tunnel shafts none Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. 8960 K.H. (WORKING) 8959 K.H. (SPARE)

Material of Steam Pipes solid drawn copper 10 1/4 x 6 Test pressure 400 lbs per square inch

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

The materials and workmanship are good.

The machinery has been made under special survey and is eligible in my opinion for classification and the record + LMC 2.14.

It is submitted that this vessel is eligible for THE RECORD. + LMC 2.14.

*Handwritten signature and date*  
 12-2-14 13/2/14

The amount of Entry Fee .. £	1 : -	When applied for.
Special .. .. .	£ 14 . 14	11-2-14
Donkey Boiler Fee .. .. .	£ :	When received.
Travelling Expenses (if any) £	:	12/2/14

*Handwritten signature*  
 Lewis Davis  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned + LMC 2.14  
 MACHINERY CERTIFICATE WRITTEN.

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Date of writing \_\_\_\_\_

No. in Reg. Book. 55 on

Master \_\_\_\_\_

Boiler made \_\_\_\_\_

Owners \_\_\_\_\_

VERTICAL

Made at \_\_\_\_\_

tested by hydraulic pressure to \_\_\_\_\_

No. of safety valves \_\_\_\_\_

enter the donkey boiler \_\_\_\_\_

strength 28-32

Lap of plating \_\_\_\_\_

Radius of do. 3

Thickness of furnace plates \_\_\_\_\_

979 Port

We request

For boilers above 200 H.P. the fee is £2 2s.

MEM.—In all cases where the fee is to be defrayed by the shipper.

6384

request is made for the vessel to be registered for Foreign Shipping, which the Committee use the fact that neither the Committee nor the Registrar are responsible for any error of judgment in the issue of a certificate or certificate issued by the Registrar.

REGISTER OF SHIPING  
 1913  
 Lloyd's Register of Shipping  
 GLASGOW

Certificate (if required) to be sent to the Registrar of Shipping, Glasgow, or to the Registrar of Shipping, London.