

REPORT ON MACHINERY.

No. 25304
MON. NOV. 25. 1912

Received at London Office

Date of writing Report 22-11-12 When handed in at Local Office 22-11-12 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 17 May Last Survey 22-11-1912
Reg. Book. (Number of Visits 28)

new on the steel S/S "COVE". Tons Gross 2734 Net 1597
Master J. Howard Built at Sunderland By whom built S.P. Austin & Son Ltd When built 1912

Engines made at Sunderland By whom made George Blake Ltd (No. 970) when made 1912

Boilers made at Sunderland By whom made George Blake Ltd (No. 970) when made 1912

Registered Horse Power Owners Wm. Lowy & Son Ltd Port belonging to London

Nom. Horse Power as per Section 28 264 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 22½, 37, 61" Length of Stroke 42" Revs. per minute 65 Dia. of Screw shaft as per rule 12.9" Material of screw shaft as fitted 13½" steel
 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 4-4½"
 Dia. of Tunnel shaft as per rule 11.31" as fitted 11.31" Dia. of Crank shaft journals as per rule 11.875" as fitted 12" Dia. of Crank pin 12" Size of Crank webs 17½ x 8½ Dia. of thrust shaft under collars 12½" Dia. of screw 16-0" Pitch of Screw 16-6" No. of Blades 4 State whether moveable No Total surface 45 #
 No. of Feed pumps 2 Diameter of ditto 2½" Stroke 25" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4½" Stroke 25" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 Sizes of Pumps 9 x 10 x 10 & 7½ x 4½ x 4 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two @ 3" and one @ 3½" In Holds, &c. No. 1, - one @ 3½". No. 2, - one @ 3½". No. 3, - one @ 3½". Tunnel Well, - 1 @ 3".
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size yes 3½"
 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 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 18-10-12 of Stern Tube 11-10-12 Screw shaft and Propeller 30-11-12
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons Ltd
 Total Heating Surface of Boilers 4082 Is Forced Draft fitted No No. and Description of Boilers 2 Single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 30-10-12 No. of Certificate 3051
 Can each boiler be worked separately yes Area of fire grate in each boiler 62.5 # No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 8.90" Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers 15-3" Length 10-6" Material of shell plates steel
 Thickness 1½" Range of tensile strength 28½-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams B.R. long. seams B.R.S.F.R. Diameter of rivet holes in long. seams 1½" Pitch of rivets 8 13/32" Lap of plates or width of butt straps 18½"
 Per centages of strength of longitudinal joint rivets 90.2 plate 85.1 Working pressure of shell by rules 182 Size of manhole in end 16 x 13"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 4 plain Material steel Outside diameter 39"
 Length of plain part top 37½" bottom 37½" Thickness of plates crown 23" bottom 23" Description of longitudinal joint welded No. of strengthening rings none
 Working pressure of furnace by the rules 184 Combustion chamber plates: Material steel Thickness: Sides 16 11/16" Back 3/4" Top 16 11/16" Bottom 1"
 Pitch of stays to ditto: Sides 8 5/8 x 10 1/4" Back 9 x 11" Top 9 1/2 x 9 1/8" If stays are fitted with nuts or riveted heads none Working pressure by rules 182
 Material of stays steel Diameter at smallest part 2.030" Area supported by each stay 1140" Working pressure by rules 183 End plates in steam space: Material steel Thickness 1 9/32" Pitch of stays 22 x 18 How are stays secured R.N. Working pressure by rules 182 Material of stays steel
 Diameter at smallest part 6-0" Area supported by each stay 374 Working pressure by rules 185 Material of Front plates at bottom steel
 Thickness 13/16" Material of Lower back plate steel Thickness 29/32" Greatest pitch of stays 14 7/8" Working pressure of plate by rules 182
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/8" Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 10"
 Pitch across wide water spaces 15" Working pressures by rules 235 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2 @ 8 1/2 x 13/4" Length as per rule 2.715" Distance apart 9 7/8" Number and pitch of stays in each 2 @ 9 1/2"
 Working pressure by rules 189 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

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 _____ 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:— Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed air, bilge and circulating pump valves, iron and bolts of various sizes

The foregoing is a correct description,
FOR GEORGE CLARK, LIMITED;
 James C. Clark Manufacturer.

Dates of Survey while building	During progress of work in shops --	9/12 May 17 Jun 5-19-21 Jul 2-19-25 Aug 9 Sept 2-16-19-20-25 Oct. 1-3-9-11-14
	During erection on board vessel ---	17-18-31 Nov. 4-6-7-8-14-19-22
	Total No. of visits	28

Is the approved plan of main boiler forwarded herewith **yes**
 " " " donkey " " " **none**

Dates of Examination of principal parts—Cylinders 2-9-12 Slides 25-9-12 Covers 1-10-12 Pistons 19-9-12 Rods 19-9-12
 Connecting rods 20-9-12 Crank shaft 19-7-12 Thrust shaft 19-7-12 Tunnel shafts 16-9-12 Screw shaft 1-10-12 Propeller 17-10-12
 Stern tube 25-9-12 Steam pipes tested 6-11-12 Engine and boiler seatings 9-10-12 Engines holding down bolts 7-11-12
 Completion of pumping arrangements 22-11-12 Boilers fixed 7-11-12 Engines tried under steam 8-11-12
 Main boiler safety valves adjusted 8-11-12 Thickness of adjusting washers Port. sh. - P 1 1/2 - 5 1/16; Star. sh. - P 3 1/8 - 5 1/32.
 Material of Crank shaft **S. Steel** Identification Mark on Do. **4685 PA** Material of Thrust shaft **S. Steel** Identification Mark on Do. **1665 MB**
 Material of Tunnel shafts **(5) S. Steel** Identification Marks on Do. **3864-7-BNK. 3928 HK & 1761 MB** Material of Screw shaft **S. Steel** Identification Marks on Do. **1643 MB**
 Material of Steam Pipes **solid drawn copper** 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 11, 12.

It is submitted that
 this vessel is eligible for
THE RECORD + LMC 11, 12.

JWR 25/11/12
JWR 25/11/12

Certificate (if required) to be sent to
 Committee's Minute
 Assigned
 The Surveyors are required to write on or below the space for Committee's Minute.

The amount of Entry Fee .. £	2	When applied for,	23/11/12
Special .. £	33	4	19/12
Donkey Boiler Fee .. £		When received,	29/12/12
Travelling Expenses (if any) £			31/12/12

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

Committee's Minute TUE NOV 26 1912
 Assigned + LMC 11, 12

