W482 - 0213

Rpt. 4a.

REPORT ON MACHINERY.

No. 13,992.

Received at London Office SAT. 17 SEP. 1921

Date of writing Report 19 When handed in at Local Office 19 Port of Leith.

No. in Reg. Book. Survey held at Kinghorn and Leith. Date, First Survey 19th Nov 1920. Last Survey 13th Sept 1921. (Number of Visits 31.)

on the S.S. "KINGHORN". Tons { Gross / Net

Master Built at Kinghorn. By whom built Kinghorn S.B. Co. When built

Engines made at Glasgow By whom made James Howden & Co. when made 1920.

Boilers made at Renfrew. By whom made Babcock & Wilcox. when made 1920.

Registered Horse Power Owners Brittania S.S. Co. Ltd. Port belonging to Bergen

Horse Power at Full Power 678 NHP Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

E ENGINES, &c.—Description of Engines Compound turbines & double reduction gears. No. of Turbines Two.

Rotor Shaft Journals, H.P. ✓ L.P. ✓ Diameter of Pinion Shaft ✓

Journals ✓ Distance between Centres of Bearings ✓ Diameter of Pitch Circle ✓

Wheel Shaft See Glasgow Report No. 40411. Distance between Centres of Bearings Diameter of Pitch Circle of Wheel ✓

e ✓ Diameter of Thrust Shaft under Collars 14 3/4". Diameter of Tunnel Shaft as per rule as fitted 13 7/8".

Shafts One. CL. See Leith ltr 24/9/21. Diameter of same as per rule as fitted 15 7/8" Diameter of Propeller 14'-6" Pitch of Propeller 16'-6"

H State whether Moveable No. Total Surface 100 ft² Diameter of Rotor Drum, H.P. ✓ L.P. ✓ astern ✓

Bottom of Groove, H.P. ✓ L.P. ✓ Astern ✓ Revs. per Minute at Full Power, Turbine 3200 Propeller 40.

ULARS OF BLADING.

	H.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
ON									
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of Feed pumps Two. Weirs. 11½" × 24". Simplex. ✓

of Bilge pumps. General service. 4" × 8" × 12". Ballast 10½" × 14" × 24". Rotary Pump. 1. ✓

of Bilge suctions in Engine Room Port 1-3½. Port centre 1-3½. Star^d 1-3½. Star^d centre 1-3½. Tunnel 1-2½. ✓

well 1-2½. Cofferdams 2-2½. In Holds, &c. N° 1. 2-3½ N° 2-3½. N° 3. 2-3½. Deep tank 2-3½

3½. N° 5. 2-3½.

Injections 1 sizes 14½" ✓ Connected ~~to condenser, or~~ to circulating pump Yes. ✓ Is a separate Donkey Suction fitted in Engine Room & size Yes. 8" ✓

Are suction pipes fitted with roses yes. ✓ Are the roses in Engine room always accessible yes. ✓

Valves with the sea direct on the skin of the ship Yes. ✓ Are they Valves or Cocks both. ✓

Are 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 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. ✓

Are carried through the bunkers How are they protected

Are Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes. ✓

Are Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes. ✓

Shaft Tunnel watertight yes. ✓ Is it fitted with a watertight door yes. ✓ worked from Top platform.

3 Watertube Boilers

&c.—(Letter for record S) Manufacturers of Steel

Heating Surface of Boilers 9636 Is Forced Draft fitted yes. No. and Description of Boilers 3. B & W. Marine type.

Pressure 200 Tested by hydraulic pressure to 400 Date of test 22-3-21. No. of Certificate

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

2 direct spring. Area of each valve 9.6" Pressure to which they are adjusted 200. Are they fitted with easing gear yes.

Space between boilers or uptakes and bunkers or woodwork 2'-0". Mean dia. of boilers Length Material of shell plates

Tensile Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

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

Efficiency of longitudinal joint rivets / plates Working pressure of shell by rules Size of manhole in shell

Stiffening ring No. and Description of Furnaces in each Boiler Material Outside diameter

Thickness of part top / bottom Thickness of plates crown / bottom Description of longitudinal joint No. of strengthening rings

Pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space

Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Lowest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Screwed water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

Stays at centre Length as per rule Distance apart Number and pitch of stays in each

Pressure by rules Steam dome: description of joint to shell % of strength of joint Diameter

Thickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets

Working pressure of shell by rules Crown plates: Thickness How stayed

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GENERAL REMARKS—(continued).

SUPERHEATER. Type ..... Date of Approval of Plan ..... ~~Tested by Hydraulic Pressure~~ to .....

Date of Test ..... ~~Is a Safety Valve fitted~~ to each Section of the Superheater which can be shut off from the Boiler .....

Diameter of Safety Valve ..... Pressure to which each is adjusted ..... Is Easing Gear fitted .....

IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two Bolts and nuts for each size of Rotor bearing. Two [illegible] and nuts for each size of Main gear wheel bearing. Two Bolts and nuts for each size of pinion [illegible] 1/20 total number of bolts and nuts for each gear case joint and turbine casing. 1 Set of [illegible] each for 1 gear wheel shaft. 1 Rotor shaft. 1 Pinion Shaft. 2 Thermometers for [illegible] Circulating system. 1/2 set of packing rings and springs for each rotor gland and 1/2 the s[illegible] fitted. Pads for 1 face of Michell main thrust. 1 Turbine Thrust complete. 1 Set [illegible] Adjusting liners. 1 Set each of Feed. Bilge and Lubricating Oil pump valves 1 Escape val[illegible] of each size used. Assorted bolts and nuts. Iron of various size. 1 Bucket and [illegible] Lubricating Oil Pu[illegible]

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops - - ; During erection on board vessel - - - ; Total No. of visits — 1920 Nov 19. Dec 13. 1921 Jan 10. 20. Feb 13. 9. 10. 16. 22. 25. 28. March 3. 10. 14. 16. 18. 22. 25. 28. 31. Apl 5. 8. 11. 25 May 9. 25. June [illegible] Aug 31. Sept 2. 13 = 31 VISITS.

Is the approved plan of main boiler forwarded herewith ✓

" " " donkey " " "

Dates of Examination of principal parts—Casings ..... Rotors ..... Blading ..... Gearing .....

Rotor shaft 3-9-18. Thrust shaft 5-9-18. Tunnel shafts 14-8-20. Screw shaft 30-7-19. Propeller .....

Stern tube 19 Nov 1920. Steam pipes tested 19-3-21. Engine and boiler seatings 1 Feb 1921. Engines holding down bolts 14 [illegible]

Completion of pumping arrangements 25 May 1921. Boilers fixed 18 March 1921. Engines tried under steam 2nd Sept [illegible]

Main boiler safety valves adjusted 18 July 1921. Thickness of adjusting washers All 3/8" FULL.

Material and tensile strength of Rotor shaft Nickel Steel. 49.0 tons. 20%. 180° B. Identification Mark on Do. 1636

Material and tensile strength of Pinion shaft ~~Mild Steel. 25/32 tons~~ Nickel Chrome Identification Mark on Do. 101.

Material of Wheel shaft Steel. Identification Mark on Do. 101 A.C. Material of Thrust shaft Steel Identification Mark on Do. [illegible]

Material of Tunnel shafts Steel Identification Marks on Do. H4787. JRW. EEB. Material of Screw shafts Steel. Identification Marks on Do. [illegible]

Material of Steam Pipes Solid drawn steel. Test pressure 600.

Is an installation fitted for burning oil fuel ~~yes~~ ft. Is the flash point of the oil to be used over 150°F. ~~yes~~ ft.

Have the requirements of Section 49 of the Rules been complied with ~~yes~~ ft.

Is this machinery a duplicate of a previous case Yes. If so, state name of vessel Standard "N" Type.

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel [illegible] been well fitted. the boilers were tested by hydraulic pres[illegible] 400 lbs □" and found tight, and the machinery tested und[illegible] steam to full power and found satisfactory. The wor[illegible] and materials are good. This vessel is eligible, in my opi[illegible] to have the record of + LMC 9-21, ~~with no~~ in the Reg[illegible] Book.

It is submitted that this vessel is eligible for THE RECORD, + LMC. 9.21. FD. CL

2 Steam turbines geared to 1 Screw Shaft

3 Watertube Boilers

Subject to the Water Tube Boilers being surveyed annually.

Rell 19/9/[illegible]

J. Davey

Engineer Surveyor to Lloyd's Register of S[illegible]

The amount of Entry Fee ...	£	:	:
Special (as Standard Vessel) Fitting on board ...	£ 36	: 2	: 10
Donkey Boiler Fee ...	£	:	:
Travelling Expenses (if any)	£ —	: 6	:

When applied for, To Bot. T. ~~X. X.~~ 19 ~~X~~ 20/9/21

When received, 15.10.19 21 Ebb

FRI. 23 SEP. 1921

Committee's Minute

Assigned + L.M.C. 9.21. F.D. C.L. subject

Certificate (if required) to be sent to Leith.

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

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