

REPORT ON MACHINERY.

No. 27616

Received at London Office

When handed in at Local Office **26 SEP 1919** Port of **Sunderland**
 Date, First Survey **7 Apr 19** Last Survey **19th Sept 1919**
 (Number of Visits **31**)
 Survey held at **Sunderland**
 on the new steel S/S **"CYPRIAN PRINCE"** Tons ^{Gross} **3110 3071** ^{Net} **1860 1853**
 Built at **Sunderland** By whom built **J. Blumer & Co S/S N^o 252** When built **1919**
 Engines made at **Sunderland** By whom made **J. Dickinson & Sons L^d (N^o 844)** when made **1919**
 Boilers made at **Sunderland** By whom made **J. Dickinson & Sons L^d (N^o 844)** when made **1919**
 Owners **Prince Line L^d (Furness Withy & Co L^d)** Port belonging to **Newcastle**
 Registered Horse Power **358** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**

ENGINES, &c.—Description of Engines **Triple expansion** No. of Cylinders **3** No. of Cranks **3**
 Dia. of Cylinders **25"-41"-68"** Length of Stroke **45"** Revs. per minute **80** Dia. of Screw shaft ^{as per rule} **13.58"** Material of screw shaft **Scraper Iron**
 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
 the propeller boss **yes** If the liner is in more than one length are the joints burned **no** 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 **no** If two
 liners are fitted, is the shaft lapped or protected between the liners **no** Length of stern bush **5'-0"**
 Dia. of Tunnel shaft ^{as per rule} **12.4"** Dia. of Crank shaft journals ^{as per rule} **13.03"** Dia. of Crank pin **13.4"** Size of Crank web **8 7/16" x 27 1/2"** Dia. of thrust shaft under
 bars **13 1/2"** Dia. of screw **16'-0"** Pitch of Screw **16'-3"** No. of Blades **4** State whether moveable **no** Total surface **75 sq ft**
 No. of Feed pumps **2** Diameter of ditto **3 1/2"** Stroke **24"** Can one be overhauled while the other is at work **yes**
 No. of Bilge pumps **2** Diameter of ditto **3 1/2"** Stroke **24"** Can one be overhauled while the other is at work **yes**
 No. of Donkey Engines **3** Sizes of Pumps **10" x 12" x 21", 20" x 9 1/2" x 7" x 18"** No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room **5 @ 3"** (the additional suction being at fore end of sea well) In Holds, &c. **N^o 1 hold - 2 @ 3" N^o 2 hold - 2 @ 3" 6 non bunkers -**
2 @ 3" N^o 3 hold - 2 @ 3" N^o 4 hold - 2 @ 2 1/2" x 1 @ 3 1/2" Tunnel well - **1 @ 3"**
 No. of Bilge Injections **2** sizes **8"** Connected to condenser, or to circulating pump **6"** Is a separate Donkey Suction fitted in Engine room & size **yes, 3 1/2"**
 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 **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 **main below, all others 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 hold suction** How are they protected **under limber boards**
 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**
 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 Spence & Sons L^d**
 Total Heating Surface of Boilers **5817 sq ft** Is Forced Draft fitted **no** No. and Description of Boilers **three, single ended marine**
 Working Pressure **180** Tested by hydraulic pressure to **360** Date of test **23-8-19** No. of Certificate **3600**
 Can each boiler be worked separately **yes** Area of fire grate in each boiler **51 sq ft** No. and Description of Safety Valves to
 each boiler **two, direct spring** Area of each valve **5.95 sq ft** Pressure to which they are adjusted **185** Are they fitted with easing gear **yes**
 Smallest distance between boilers ^{on uptakes} and bunkers ^{on woodwork} **1'-10"** Mean dia. of boilers **14'-0"** Length **11'-8 5/16"** Material of shell plates **steel**
 Thickness **1 1/8"** Range of tensile strength **28 3/4 - 33 tons** Are the shell plates welded or flanged **no** Descrip. of riveting: cir. seams **DR.**
 Long. seams **DBS. TR** Diameter of rivet holes in long. seams **1 3/16"** Pitch of rivets **8 1/2"** Lap of plates or width of butt straps **1'-6"**
 Percentages of strength of longitudinal joint ^{rivets} **86.1** Working pressure of shell by rules **187** Size of manhole in ^{end} shell **16" x 12"**
 Type of compensating ring **flanged** No. and Description of Furnaces in each boiler **3 corrugated (right)** Material **steel** Outside diameter **3'-7"**
 Length of plain part ^{top} **14"** Thickness of plates ^{bottom} **3/32"** Description of longitudinal joint **welded** No. of strengthening rings **—**
 Working pressure of furnace by the rules **190** Combustion chamber plates: Material **steel** Thickness: Sides **13/16"** Back **3/4"** Top **13/16"** Bottom **13/16"**
 Pitch of stays to ditto: Sides **9 3/8" x 12 3/8"** Back **9" x 10 1/2"** Top **9 3/8" x 12 3/8"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **194**
 Material of stays **steel** Area at smallest part **2.350 sq ft** Area supported by each stay **1140 sq ft** Working pressure by rules **185** End plates in steam space:
 Material **steel** Thickness **1 1/32"** Pitch of stays **23 1/2" x 19 1/2"** How are stays secured **DN & W** Working pressure by rules **181** Material of stays **steel**
 Area at smallest part **8290 sq ft** Area supported by each stay **4640 sq ft** Working pressure by rules **186** Material of Front plates at bottom **steel**
 Thickness **3 1/2"** Material of Lower back plate **steel** Thickness **3 1/2"** Greatest pitch of stays **13 1/2" x 9"** Working pressure of plate by rules **185**
 Diameter of tubes **3 1/2"** Pitch of tubes **4 1/2" x 4 1/2"** Material of tube plates **steel** Thickness: Front **3 1/2"** Back **3/4"** Mean pitch of stays **9 1/2"**
 Pitch across wide water spaces **14 1/2"** Working pressures by rules **189** Girders to Chamber tops: Material **steel** Depth and
 thickness of girder at centre **10 1/4" x 3/4"** Length as per rule **2'-11 1/2"** Distance apart **9 3/8"** Number and pitch of stays in each **2 @ 12 1/8"**
 Working pressure by rules **216** Steam dome: description of joint to shell **none** % of strength of joint

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



