

## REPORT ON MACHINERY.

No. 4745

Writing Report Jan 25 1938 When handed in at Local Office Jan 25 1938 Port of Vancouver B.C.  
 Survey held at N. Vancouver Date, First Survey Nov 18. 37. Last Survey Jan 24 1938  
 Book. T.S.S. CHELOHSIN (Number of Visits 12)  
 Built at Dublin. By whom built Dublin Dock Yard Tons Gross 1134  
Belfast By whom made M<sup>c</sup>Coll & Co Ltd Net 597  
Sunderland. By whom made do Maccoll & Pollock Ltd When built 1911  
 Horse Power 182 Owners Union Steamships Ltd Port belonging to Vancouver  
 Horse Power as per Section 28 182 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted yes

INES, &c.—Description of Engines Twin Triple Inverted Cylinders No. of Cylinders 2 x 3 No. of Cranks 3  
 of Cylinders 13.5 22. 36 Length of Stroke 24 Revs. per minute 140 Dia. of Screw shaft as per rule 7.34 Material of 04HS  
as fitted 7.5 screw shaft  
 Is the after end of the liner made water tight yes  
 If the liner is in more than one length are the joints burned yes  
 If the liner does not fit tightly at the part  
 on the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive light pi  
 If two  
 are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 3.4 1/2  
 of Tunnel shaft as per rule 6.63 Dia. of Crank shaft journals as per rule 6.96 Dia. of Crank pin 7 Size of Crank webs 3.75 x 5.625 Dia. of thrust shaft under  
as fitted 6.94 as fitted 7  
 Dia. of screw 8.25 Pitch of Screw 11 No. of Blades 4 State whether moveable no Total surface 22 feet  
 of Feed pumps 1 Diameter of ditto 2.5 Stroke 12 Can one be overhauled while the other is at work on each engine  
 of Bilge pumps 1 Diameter of ditto 2.5 Stroke 12 Can one be overhauled while the other is at work " "  
 of Donkey Engines Two Sizes of Pumps 6 x 4.25 x 6 Lamm's Duplex No. and size of Suctions connected to both Bilge and Donkey pumps  
3 x 4 Two 6 x 4 x 6 Worthington do  
 In Holds, &c. 3" - 4"  
 General Weir pump fitted 8 x 6 x 21 (Single) on starting platform  
 Bilge Injections 1 sizes 5 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 3"  
 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 no  
 All connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves (Blow down are cocks)  
 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  
 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  
 Pipes are carried through the bunkers hold & peak Suctions through tank space How are they protected wood covering in hold.  
 All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
 The Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes  
 The Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from main deck  
 LERS, &c.—(Letter for record 25.8) Manufacturers of Steel Spencer - Hawthorn & Sons - Furness & Highgate & Co Ltd  
 Heating Surface of Boilers 4400 Is Forced Draft fitted no No. and Description of Boilers Two Cylindrical Multitubular.  
 Working Pressure 185 Tested by hydraulic pressure to 265 Date of test Oct 2. 1937 No. of Certificate  
 Each boiler be worked separately yes Area of fire grate in each boiler 52 No. and Description of Safety Valves to  
 boiler Two Spring loaded Area of each valve 5.94 Pressure to which they are adjusted 185 Are they fitted with easing gear yes  
 Test distance between boilers or uptakes 7 1/2 bulkhead Mean dia. of boilers 14.9 Length 11.6 Material of shell plates 04HS  
 Tensile strength 29.5 1/2 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams ✓  
 Range of tensile strength 29.5 1/2 32 Diameter of rivet holes in long. seams 1.31 Pitch of rivets 9 width of butt straps 21"  
 seams Two straps rivets 84.2 Working pressure of shell by rules 203 Size of manhole in shell 16 x 12  
 Percentages of strength of longitudinal joint 85.42 plate 85.42 No. and Description of Furnaces in each boiler 3 Nightingale Material 04HS Outside diameter 43.2  
 of compensating ring 30 x 33 x 1.31 top ✓ Thickness of plates 19 Description of longitudinal joint needed No. of strengthening rings 4 longitudinal  
 of plain part bottom 32  
 Working pressure of furnace by the rules 200 Combustion chamber plates: Material 04HS Thickness: Sides .687 Back .687 Top .687 Bottom .76  
 of stays to ditto: Sides 9 x 9 Back 8 1/2 x 9 3/8 Top ✓ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 197  
 Material of stays 04HS Area at smallest part 2 Area supported by each stay 81 Working pressure by rules 222 End plates in steam space:  
 Material 04HS Thickness 1.25 Pitch of stays 19 x 19 How are stays secured nuts & washers Working pressure by rules 185 Material of stays 04HS  
 at smallest part 7.49 Area supported by each stay 361 Working pressure by rules 185 Material of Front plates at bottom 04HS  
 Tensile strength 87.5 Material of Lower back plate 04HS Thickness .812 Greatest pitch of stays 17 x 12 Working pressure of plate by rules 200  
 Diameter of tubes 3.5 Pitch of tubes 4.5 Material of tube plates 04HS Thickness: Front 1.25 Back .875 Mean pitch of stays 8.5 x 12.75  
 across wide water spaces 14 Working pressures by rules 195 Girders to Chamber tops: Material 04HS Depth and  
 thickness of girder at centre 9 x 2 Length as per rule 37 Distance apart 9.5 Number and pitch of stays in each 3 x 8.625  
 Working pressure by rules 187 Steam dome: description of joint to shell ✓ % of strength of joint  
 Material ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓  
 of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓  
 SUPERHEATER. Type none Date of Approval of Plan ✓ Tested by Hydraulic Pressure to ✓  
 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 ✓

W1067-0040



IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Crosshead brasses & bolts. Bottom end brasses & bolts. 2 main bearing bolts. 1 set coupling bolts. Feed & bilge pump valves. Air pump rod & bucket. 1 set piston springs. Assorted bolts & nuts. set of various sizes. Also spares kept in owner's workshop at Vancouver. including screw shaft & 2 propellers.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey  
while building  
Total No. of visits

*During progress of work in shops - - -*  
*During erection on board vessel - - -*  
*Nov 18. 19. 21. 23. 24. Dec 2. 7. 31. Jan 6. 11. 17. 19. 23. 1938*  
*12.*

Is the approved plan of main boiler forwarded herewith No.

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *Nov 19. Dec 2* Slides *Nov 19. Dec 2* Covers *Nov 19. Dec 2* Pistons *Nov 19. Dec 2* Rods *Nov 19. Dec 2*  
Connecting rods *Nov 19. Dec 2* Crank shaft *Nov 19. Dec 2* Thrust shaft *Dec 9* Tunnel shafts *Dec 9* Screw shaft *Dec 9* Propeller *Nov 18*  
Stern tube *✓* Steam pipes tested *Nov 19. Dec 7* Engine and boiler seatings *Dec 9* Engines holding down bolts *Dec 9*  
Completion of pumping arrangements *Dec 9* Boilers fixed Engines tried under steam *23. 1. 38*  
Completion of fitting sea connections *Nov 19* Stern tube Screw shaft and propeller  
Main boiler safety valves adjusted *Jan 6. 38* Thickness of adjusting washers *P  $\frac{5}{16}$   $\frac{3}{4}$  S.  $\frac{1}{16}$   $\frac{1}{2}$*

Material of Crank shaft *no marks* Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.  
Material of Tunnel shafts *no marks* Identification Marks on Do. Material of Screw shafts Identification Marks on Do.

Material of Steam Pipes *Copper & Steel* Test pressure *Copper 400 Steel 555 ✓*

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

Have the requirements of Section 49 of the Rules been complied with *yes ✓*

Is this machinery duplicate of a previous case No. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery and boilers were built and installed under the Special Survey of the British Corporation. Now examined All cylinders covers. pistons. Slides piston & Connecting rods - Crank pins & brasses. all main bearings and frames. - Crank shaft. Thrust shafts and line shafting. Main Condenser opened. Examined & tested. Attached air-feed & bilge pumps Examined. Separate Circulating pump. and Separate feed pump examined. Examined headplate. Seatings and holding down bolts. Bilge and pumping arrangements and connections examined and found to comply with rules and in good condition. Holding down bolts Examined Engines tested under working conditions. Main steam. Air steam & feed pipes. removed. annealed & tested to rule requirements. Note Both screw shafts were drawn and Examined Jan 15. 1937. and in my opinion this may be accepted (Letter from Canadian Steamship Inspector attached) vessel was placed on dry dock. All sea connections opened up & Examined and the fastenings of sea connections. Stern tube and propeller Examined. near down. S. to P. line & The main boilers have been opened up. cleaned & Examined on fire and water side. and found in good working condition. All mountings opened up & Examined.*

The amount of Entry Fee ... £ *15.00* : When applied for, *Jan 25 38*  
Special ... £ *120.00* :  
Donkey Boiler Fee ... £ : When received, *16. 3 19. 38*  
Travelling Expenses (if any) £ *12.50* : *£ 73.5*

*A. Scott & R. Knorr (acting)*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 4 MAR 1938*

Assigned *Dec 1. 38*  
*Fitted for oil fuel*  
*2. above 150° F*  
*2 SB 185 lb*