

# REPORT ON MACHINERY

No. 27185

Date of writing Report

10

When handed in at Local Office

11/2 in 14 Port of Hull

Received at London Office

THU. FEB. 12. 1914

No. in Survey held at Reg. Book. Hull

Date, First Survey Oct. 30<sup>th</sup>

Last Survey

Jan. 30<sup>th</sup> 1914.

4 Yards on the Ship S.S.K. "BERYL"

(Number of Visits)

Master Built at Selby By whom built Cochran & Sons Ltd. Tons Gross 248 Net 98 When built 1913-14

Engines made at } By whom made } Boilers made at } Hull. By whom made } when made 1913-14

Registered Horse Power Owners: Himpson & Co. Ltd. Port belonging to Hull. when made 1913-14

Nom. Horse Power as per Section 28 45. 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 13"-21 1/2"-35" Length of Stroke 24" Revs. per minute

Dia. of Screw shaft as per rule 4.48 Material of screw shaft 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 in the propeller boss 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 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 36"

Dia. of Tunnel shaft as per rule 6.74 Dia. of Crank shaft journals as per rule 4.08 Dia. of Crank pin 4 1/2" Size of Crank webs 4 3/4" x 14" Dia. of thrust shaft under collars 4 1/2" Dia. of screw 9'-0" Pitch of Screw 10'-6" No. of Blades 4 State whether moveable No. Total surface 3 ft

No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 14 1/2" Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 14 1/2" Can one be overhauled while the other is at work

No. of Donkey Engines 1 Sizes of Pumps 6" x 4 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2 1/2" One forward & one aft. In Holds, &c. One 2 1/2" forward, one 2 1/2" to fish work.

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

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

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 Hold endings. How are they protected Wood casing.

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 14.11.13 of Stern Tube 14.11.13 Screw shaft and Propeller 14.11.13

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

## BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel Tubes Phoenix & Co. Ltd. Under Working of Hoists.

Total Heating Surface of Boilers 12500 sq ft Is Forced Draft fitted No. No. and Description of Boilers One up. mult. single ended.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 31.12.13 No. of Certificate 2046.

Can each boiler be worked separately Area of fire grate in each boiler 43 sq ft No. and Description of Safety Valves to each boiler Two spring.

Smallest distance between boilers on supports and bunkers or woodwork 5" Int. dia. of boilers 12'-6" Length 10'-3" Material of shell plates S.

Thickness 1 1/8" Range of tensile strength 29 tons. Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams R.P.L.

Long. seams S.P.S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 4 1/2" Lap of plates or width of butt straps 14"

Per centages of strength of longitudinal joint rivets 86.16 Working pressure of shell by rules 204 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 4' x 1 1/2" No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 36"

Length of plain part top 6'-4 1/2" Thickness of plates crown 13" Description of longitudinal joint Weld. No. of strengthening rings

Working pressure of furnace by the rules 232 lbs. Combustion chamber plates: Material S. Thickness: Sides 11" Back 11 3/4" Top 11 3/4" Bottom 11"

Pitch of stays to ditto: Sides 9 1/2" x 8" Back 8" x 10" Top 8" x 8 1/2" If stays are fitted with nuts or riveted heads Yes. Working pressure by rules 230 lbs.

Material of stays S. Diameter at smallest part 2.40" Area supported by each stay 92 sq in Working pressure by rules 234 lbs. End plates in steam space:

Material S. Thickness 1 1/2" Pitch of stays 16 1/2" x 14" How are stays secured R.P.S. Working pressure by rules 236 lbs. Material of stays S.

Diameter at smallest part 6.48" Area supported by each stay 280.5 sq in Working pressure by rules 236 lbs. Material of Front plates at bottom S.

Thickness 1" Material of Lower back plate S. Thickness 1 1/2" Greatest pitch of stays 13" x 8" Working pressure of plate by rules 200 lbs.

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 5" Material of tube plates S. Thickness: Front 1" Back 3/4" Mean pitch of stays 9 1/2"

Thickness across wide water spaces 1 3/4" Working pressures by rules 212 lbs. Girders to Chamber tops: Material S. Depth and

Thickness of girder at centre 10" - 1 3/4" Length as per rule 2'-9 3/8" Distance apart 8 1/2" Number and pitch of stays in each 3 - 8" x 10"

Working pressure by rules 220 lbs. Superheater or Steam chest; how connected to boiler 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

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness 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



IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each fuel & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts & washers.*

The foregoing is a correct description,

*p. pro* CHARLES D. HOLMES & CO. LTD.

*S. Arthur Holmes*

DIRECTOR.

Manufacturer.

Dates of Survey while building: During progress of work in shops - - - *1913: - Oct. 30. 31. Nov. 11. 14. 20. 26. 26. Dec. 4. 9. 15. 17. 20. 23. 31 1914: Jan. 1. 6. 1.*  
During erection on board vessel - - - *Jan. 17. 21. 22. 26. 30.*  
Total No. of visits *22*

Is the approved plan of main boiler forwarded herewith *Ref. 2700*

" " " donkey " " " *s/s. Onys*

Dates of Examination of principal parts—Cylinders *17. 12. 13* Slides *12. 1. 14* Covers *12. 1. 14* Pistons *6. 1. 14* Rods *6. 1. 14*

Connecting rods *12. 1. 14* Crank shaft *1. 1. 14* Thrust shaft *11. 11. 13* Tunnel shafts  Screw shaft *11. 11. 13* Propeller *11. 11. 13*

Stern tube *11. 11. 13* Steam pipes tested *22. 1. 14* Engine and boiler seatings *14. 11. 13* Engines holding down bolts *17. 1. 14*

Completion of pumping arrangements *30. 1. 14* Boilers fixed *26. 1. 14* Engines tried under steam *26. 1. 14*

Main boiler safety valves adjusted *26. 1. 14* Thickness of adjusting washers *Forward  $\frac{5}{16}$  aft  $\frac{3}{8}$*

Material of Crank shaft *Iron* Identification Mark on Do. *1097 T. G. D.* Material of Thrust shaft *Steel* Identification Mark on Do. *1094 T. G. D.*

Material of Tunnel shafts  Identification Marks on Do.  Material of Screw shafts *Iron* Identification Marks on Do. *1094 T. G. D.*

Material of Steam Pipes *Solid drawn copper.* Test pressure *400 lbs. per sq. inch hydraulic.*

Is an installation fitted for burning oil fuel *No.* Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *Yes.* If so, state name of vessel *Steam trawler "AGATE".*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure, & with the engines secured on board & tested under steam, they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of i.e. M. C. 1. 14 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 1. 14.

*J. W. D. 10/2/14*

*H. D. D. 10/2/14*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ *1 : 0 :* When applied for, *11-2 1914*  
Special ... £ *11 : 5 :*  
Donkey Boiler Fee ... £ *:*  
Travelling Expenses (if any) £ *4/1 :* When received, *28/2/14*

Committee's Minute *FRI. FEB. 13. 1914*

Assigned *+ Lmb 1. 14*

MACHINERY CERTIFICATE WRITTEN.



© 2020

Lloyd's Register Foundation

*Hull*

Certificate (if required) to be sent to the Surveyors or other persons named in the space for Committee's Minute.

Vertical text on the right edge of the page, including "No. of sets of Engines", "No. of Shafts", "Undershafts", "Spa...", "Tur...", "Fore...", "Bric...", "Pee...", "Rem...", "Dec...", "Cha...", "Spa...", "Se...", "18", "Exec...", "Dedu...", "NOTE", "NOTE", "No. of Name", "The", "brin", "and", "m.", "Date", "(830) (6", "(81"