

# REPORT ON MACHINERY.

Received at London Office

FRI. FEB. 23 1912

Date of writing Report 15-2-1912 When handed in at Local Office 21-2-1912 Port of Hull  
 No. in Survey held at Hull & Selby Date, First Survey Oct 2nd Last Survey Feb. 7th 1912  
 Reg. Book. 790 on the Steel S.S.K. "ALNMOUTH" (Number of Visits 30)  
 Master Selby Built at Selby By whom built Cochrane & Sons When built 1912  
 Engines made at } Hull By whom made } Messrs. Charles R. Holmes & Coy. Ltd. when made 1912  
 Boilers made at } Hull By whom made } Messrs. Charles R. Holmes & Coy. Ltd. when made 1912  
 Registered Horse Power 66 Owners Western Steam Trawling Co. Ltd. Port belonging to Bristol  
 Nom. Horse Power as per Section 28 66 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

Gross Tons 236  
 Net Tons 92

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 12" - 21" - 34" Length of Stroke 24" Revs. per minute 110 Dia. of Screw shaft 4.04" Material of screw shaft 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 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 No  
 If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 3'-0"  
 Dia. of Tunnel shaft 6.26" Dia. of Crank shaft journals 6.54" Dia. of Crank pin 6.7" Size of Crank webs 3x4 1/2 x 4 1/2" Dia. of thrust shaft under collars 6 3/4" Dia. of screw 8'-4 1/2" Pitch of Screw 11'-3" / 10'-3" No. of Blades 4 State whether moveable No Total surface 24 1/2 sq ft  
 No. of Feed pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work No  
 No. of Donkey Engines 1 Sizes of Pumps 5" x 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2", one 2 1/2", & one 3" In Holds, &c. One 2" to main hold.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2" dia.  
 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 Yes  
 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 suction 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 4.12.11 of Stern Tube 4.12.11 Screw shaft and Propeller 4.12.11  
 Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door Yes worked from Yes

**BOILERS, &c.**—(Letter for record S. (7)) Manufacturers of Steel Phoenix Akt. Gesellschaft of Hörde

Total Heating Surface of Boilers 1045 sq ft Is Forced Draft fitted No No. and Description of Boilers 1 Cyl. mult. single ended  
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 12.1.12 No. of Certificate 1864  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 35 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 3.94 sq in Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 6" Mean dia. of boilers 12'-6" Length 10'-3" Material of shell plates S.  
 Thickness 1" Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. D. P. long. seams O. B. S. J. P. Diameter of rivet holes in long. seams 1 3/32" Pitch of rivets 4 3/16" Lap of plates or width of butt straps 15"  
 Per centages of strength of longitudinal joint rivets 86.4 plate 85.6 Working pressure of shell by rules 182 lbs. Size of manhole in shell 16" x 12"  
 Size of compensating ring 4" x 1" No. and Description of Furnaces in each boiler Two plain Material S. Outside diameter 3'-4"  
 Length of plain part top 6'-4 1/2" bottom 6'-4 1/2" Thickness of plates crown 3/32" bottom 3/32" Description of longitudinal joint Welded No. of strengthening rings 0  
 Working pressure of furnace by the rules 183 lbs. Combustion chamber plates: Material S. Thickness: Sides 7/16" Back 7/16" Top 7/16" Bottom 1"  
 Pitch of stays to ditto: Sides 9' x 10" Back 9' x 10" Top 10' x 8 1/2" If stays are fitted with nuts or riveted heads No Working pressure by rules 180 lbs.  
 Material of stays Iron Diameter at smallest part 1 1/8" Area supported by each stay 90 sq in Working pressure by rules 195 lbs. End plates in steam space: Material S. Thickness 1/16" Pitch of stays 14" x 14" How are stays secured O. N. & W. Working pressure by rules 185 lbs. Material of stays S.  
 Diameter at smallest part 2 1/8" Area supported by each stay 289 sq in Working pressure by rules 208 lbs. Material of Front plates at bottom S.  
 Thickness 3/8" Material of Lower back plate S. Thickness 3/8" Greatest pitch of stays 14 1/2" x 9" Working pressure of plate by rules 181 lbs.  
 Diameter of tubes 3 1/2" Pitch of tubes 5' x 5" Material of tube plates S. Thickness: Front 3/8" Back 3/8" Mean pitch of stays 10" x 10"  
 Pitch across wide water spaces 15" Working pressures by rules 249 lbs. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 2'-9 1/16" Distance apart 8 1/2" Number and pitch of stays in each 2 - 10"  
 Working pressure by rules 202 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 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

If not, state whether, and when, one will be sent

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		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets 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 each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,  
**P. CHARLES D. HOLMES & Co. Ltd.**  
*W. C. Holmes* Manufacturer.

Dates of Survey while building: 1910:— Oct. 2, 19, 30. Nov. 2, 17, 24, 27, 28. Dec. 2, 4, 7, 11, 14, 18, 20. 1912: Jan. 1, 3, 5, 8, 9, 12, 16, 18, 23, 27, 29, 30. Feb. 1, 2, 7.  
 Total No. of visits 30  
 Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 18.12.11 Slides 16.1.12 Covers 9.1.12 Pistons 16.1.12 Rods 14.12.11  
 Connecting rods 14.1.12 Crank shaft 8.1.12 Thrust shaft 9.1.12 Tunnel shafts - Screw shaft 14.11.11 Propeller 14.11.11  
 Stern tube 14.11.11 Steam pipes tested 30.1.12 Engine and boiler seatings 4.12.11 Engines holding down bolts 29.1.12  
 Completion of pumping arrangements 7.2.12 Boilers fixed 29.1.12 Engines tried under steam 2.2.12  
 Main boiler safety valves adjusted 2.2.12 Thickness of adjusting washers Forward  $\frac{3}{16}$ " Aft  $\frac{3}{8}$ "  
 Material of Crank shaft I Identification Mark on Do. N<sup>o</sup> 868742 Material of Thrust shaft S Identification Mark on Do. 9.1.12 T.G.D. N<sup>o</sup> 868  
 Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts I Identification Marks on Do. 14.11.11 T.G.D.  
 Material of Steam Pipes Solid drawn copper Test pressure 360 lbs.

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 **L.M.C. 2-12** in the Register's Book.

It is submitted that this vessel is eligible for **THE RECORD + LMC 2.12.**

*J.W.D.*  
 23/2/12  
*J.P.R.*

*J.P.R.*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1 : 0 :  
 Special .. £ 9 : 18 :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : 8/2 :  
 When applied for, 22.2.12  
 When received, 29.2.12

Committee's Minute  
 Assigned TUE. FEB. 27. 1912  
 + L.M.C. 2.12

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