

# REPORT ON MACHINERY.

No. 10782  
SAT. AUG. 21

Received at London Office

Date of writing Report 10<sup>th</sup> Aug. 1920 When landed in at Lloyd Office 14<sup>th</sup> Aug. 1920 Port of MIDDLESBRO  
 No. in Survey held at Southbank Date, First Survey 12<sup>th</sup> January Last Survey 27<sup>th</sup> July 1920  
 Reg. Book. 33956 on the S.S. "URD" (Number of Visits 3300)  
 Master Franky Anderson Built at Middlesbrough By whom built Messrs. Smith & Co. Ltd. When built 1920  
 Engines made at Middlesbrough By whom made Messrs. Smith & Co. Ltd. when made 1920  
 Boilers made at Newcastle By whom made Messrs. Hawthorn Leslie & Co. Ltd. when made 1920  
 Registered Horse Power \_\_\_\_\_ Owners Jacob P. Olsen Port belonging to Bergen  
 Nom. Horse Power as per Section 28 316 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 24" x 30" x 65" Length of Stroke 42" Revs. per minute 65 Dia. of Screw shaft 13 1/8" 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 one length 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 Solid If two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush 5'-4"  
 Dia. of Tunnel shaft 14 1/2" Dia. of Crank shaft journals 12 3/4" Dia. of Crank pin 2 1/2" Size of Crank webs 8" x 24" Dia. of thrust shaft under collars 12 1/2" Dia. of screw 1 1/2" Pitch of Screw 16-4 1/2" No. of Blades 4 State whether moveable No Total surface 88 #  
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 18" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 1'-10" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines one Sizes of Pumps 9" dia x 10" stroke No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3-3" and 1-3 1/2" In Holds, &c. No. 1 2@3" No. 2 2@3" No. 3 2@2 1/2" No. 4 2@3"  
 No. of Bilge Injections 1 sizes 6 1/2" Connected to condenser, or to circulating pump one pump; a separate Donkey Suction fitted in Engine room of size 1-3 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 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 ceiling  
 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 13-4-20 of Stern Tube 8-5-20 Screw shaft and Propeller 8-5-20  
 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 \_\_\_\_\_  
 Total Heating Surface of Boilers 5104 Is Forced Draft fitted No No. and Description of Boilers 2 S B  
 Working Pressure 180 Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_  
 Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to each boiler \_\_\_\_\_  
 Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_  
 Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_  
 Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_  
 long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_  
 Per centages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_  
 Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_  
 Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_  
 Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_  
 Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_  
 Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space \_\_\_\_\_  
 Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_  
 Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_  
 Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_  
 Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_  
 Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_  
 Working pressure by rules \_\_\_\_\_ 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 \_\_\_\_\_

frame to will  
 33-16 ft  
 D. Bottom  
 Water Capacity  
 Tons  
 124  
 90  
 Visits 66

**IS A DONKEY BOILER FITTED?**

If so, is a report now forwarded? *Yes*

**SPARE GEAR.** State the articles supplied: - *One Cut-Dim propeller Two Connecting Rod bolts + nuts Two Piston Rod bolts + nuts Two main bearing bolts + nuts - one set coupling bolts + nuts Six pump ring bolts - one set air pump valves - one set feed pump valves One set bilge pump valves + seats One safety valve spring for main + donkey boiler assorted bolts and nuts and iron of various sizes*

The foregoing is a correct description,

FOR SMITH'S DOCK COMPANY

*J. H. Stone*  
*J. H. Stone*  
 Engineer Works Manager

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1920 Jan 12, 14, 21, 22, 29 Feb 12, 17, 25 Mar 10, 15, 22, 24, 29, 30, 31 Apr 8, 13, 16, 19, 21, 22, 24, 26, 27, 29, 30 May 10, 17, 26, 28, 31 Jun 7, 8, 10, 24  
 During erection on board vessel - 29, 30 Jul 6, 7, 12, 15, 16, 21, 22, 23, 26, 27  
 Total No. of visits *48*

Is the approved plan of main boiler forwarded herewith? *Yes*

Dates of Examination of principal parts - Cylinders *29-5-20* Slides *28-6-20* Covers *30-6-20* Pistons *28-6-20* Rods *30-6-20*  
 Connecting rods *10-5-20* Crank shaft *21-4-20* Thrust shaft *26-5-20* Tunnel shafts *26-5-20* Screw shaft *28-5-20* Propeller *28-5-20*  
 Stern tube *24-4-20* Steam pipes tested *29-6-20* Engines and boiler seatings *13-4-20* Engines holding down bolts *13-4-20*  
 Completion of pumping arrangements *24-4-20* Boilers fixed *21-4-20* Engines tried under steam *21-4-20*  
 Main boiler safety valves adjusted *21-4-20* Thickness of adjusting washers *P 1/16 P 3/8 S 1/16 P 1/2*  
 Material of Crank shaft *Steel* Identification Mark on Do. *1-10-19 J.M.* Material of Thrust shaft *Steel* Identification Mark on Do. *10-13-19 J.M.*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *10-13-19 J.M.* Material of Screw shafts *Steel* Identification Marks on Do. *8-7-19 J.M.*  
 Material of Steam Pipes *Steel* Test pressure *540 lbs*

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? *No* If so, state name of vessel

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
*The machinery of this vessel has been built under special survey and the materials and workmanship found good, and it is now fitted on board in accordance with the Rules and tried under steam and found satisfactory. The machinery of this vessel is eligible in my opinion to be classed with this Society with the record of *L.M.C. 7-20**

*See boiler report* *It is submitted that this vessel is eligible for THE RECORD. LMC 7. 20*

*ARK* *Roll*  
*30/8/20*

The amount of Entry Fee ... £ *3* : : When applied for,  
 Special ... £ *23* : *8* : } *27. 8. 1920.*  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :  
 TUE. SEP. 7 1920

*Y.P. Thomas Miller*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned *L.M.C. 7. 20*

*copy 9 8 22*



WEB-FI  
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 BRACK Web F  
 BULKI  
 W.T.BUL  
 COLI PARTII LONGII  
 Are the  
 Are the  
 FLAT P (U Bar) GARBOA  
 State a thickness way of 1 Bott  
 Write "Bridge Sheer Strake" and "Upper Deck Sheer Strake" opposite the corresponding letter.  
 TH'KNE CLEAR ( Do. DBLG. C " Length POOP & SHORT FOREC  
 Upper Strin  
 Secou Strin  
 FRA REV  
 Lowe  
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 Sails

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 oilers made at  
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 safety valves to  
 Are they fitted  
 smallest distanc  
 Material of shel  
 Descrip. of rive  
 of plates  
 ules 15  
 boiler 4 Aug  
 Description of lo  
 plates: Material  
 Top 8" x 6" A  
 smallest part  
 Pitch of stays  
 Area supported  
 Lower back pla  
 Pitch of tubes  
 water spaces  
 order at centre  
 Working pressu  
 diameter  
 pitch of rivets  
 TPERHEA  
 Date of Test  
 diameter of Safety  
 Dates During  
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