

## REPORT ON MACHINERY.

No. 66025

Received at London Office

FRI MAY 8 1914

THU JUL 16 1914

Date of writing Report *4<sup>th</sup> May 1914* When handed in at Local Office *7<sup>th</sup> May 1914* Port of *NEWCASTLE-ON-TYNE*  
 No. in Survey held at *Newcastle* Date, First Survey *7<sup>th</sup> Jul 1913* Last Survey *24<sup>th</sup> Apr 1914*  
 Reg. Book. *101* on the Machinery of the *S.S. Michael* (Number of Visits *45-13*)  
 Master *Built at Middlesbrough* By whom built *W. R. Dixon & Co. Ltd* Tons { Gross *1914*  
 Engines made at *Newcastle* By whom made *North Eastern Marine Eng. Co.* when made *1914*  
 Boilers made at *"* By whom made *"* when made *1914*  
 Registered Horse Power *306* Owners *Booth & Co. Ltd* Port belonging to *Liverpool*  
 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

## ENGINES, &amp;c.—Description of Engines

*Triple*No. of Cylinders *3* No. of Cranks *3*Dia. of Cylinders *23", 38", 63"* Length of Stroke *42"* Revs. per minute *74* Dia. of Screw shaft *12.8"* Material of *steel*  
 as per rule *12.8"* as fitted *14"* screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube *1 liner at fore end the after end of the liner made water tight*  
 in the propeller boss *Secured by gland* the liner is in more than one length are the joints burned *✓* 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 *✓* If two  
 Length of stern bush *5'-1 1/2"*

Is the shaft lapped or protected between the liners

as per rule *11-5"* as per rule *11-9 1/2"* Dia. of Crank pin *12 3/4"* Size of Crank webs *8 1/4" x 20"* Dia. of thrust shaft under  
 as fitted *12"* Dia. of Crank shaft journals *12 3/4"* as fitted *12 3/4"* No. of Blades *4* State whether moveable *no* Total surface *76 sq.*  
 a. of screw *15'-6"* Pitch of Screw *15'-6"*

2 Diameter of ditto *3 1/2"* Stroke *21"* Can one be overhauled while the other is at work *Yes*2 Diameter of ditto *3 3/4"* Stroke *21"* Can one be overhauled while the other is at work *Yes*

Sizes of Pumps *9" x 10" x 10" & 8" x 5 1/2" x 8" & 6" x 4 1/2" x 10"* No. and size of Suctions connected to both Bilge and Donkey pumps  
*4 of 3"* In Holds, &c. *Two 3" in each hold & in*

One 3" in Tunnel well. Two 4 1/2" in Deep tank with portable shut off arrangement.  
 Connected to condenser, or to circulating pump *Is a separate Donkey Suction fitted in Engine room & size 2 of 3"*

on pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the shuttles on Engine room bulkheads always accessible *no*  
 with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *both*

ntly 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*  
 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*

ried through the bunkers *no* How are they protected *✓*  
 s, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*

in Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *Yes*  
 on of completion of fitting of Sea Connections *10. 3, 14* of Stern Tube *10. 3, 14* Screw shaft and Propeller *23/3/14*

Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *top platform*  
 (Letter for record *(r)*) Manufacturers of Steel *J. & S. Spencer & Sons*

face of Boilers *5067* Is Forced Draft fitted *no* No. and Description of Boilers *3 Single-ended*  
*180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *9/12/13* No. of Certificate *8596*

worked separately *Yes* Area of fire grate in each boiler *51 sq.* No. and Description of Safety Valves to  
 out spring *Area of each valve 5.93* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*

ween boilers or uptakes and bunkers or woodwork *15"* Mean dia. of boilers *13'-4"* Length *10'-11 1/8"* Material of shell plates *steel*  
 Range of tensile strength *28 3/4"-32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *d. r. lap*

6. but Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *8 5/8"* Lap of plates or width of butt straps *18 3/4"*  
 gth of longitudinal joint *8 1/2"* Working pressure of shell by rules *205 lbs* Size of manhole in shell *16" x 12"*

ring *flanged* No. and Description of Furnaces in each boiler *3 Brighton* Material *steel* Outside diameter *40"*  
 rt top *Thickness of plates crown 1 1/2"* Description of longitudinal joint *welded* No. of strengthening rings *✓*

rt bottom *Thickness of plates bottom 1 1/2"* furnace by the rules *204 lbs* Combustion chamber plates: Material *steel* Thickness: Sides *2 1/2"* Back *2 1/2"* Top *2 1/2"* Bottom *2 3/32"*

to: Sides *8 1/4" x 9"* Back *8 1/4" x 9"* Top *8 1/4" x 9"* If stays are fitted with nuts or riveted heads *no* Working pressure by rules *194 lbs*  
 iron *Diameter at smallest part 2.03* Area supported by each stay *78.8* Working pressure by rules *193 lbs* End plates in steam space:

Thickness *1 3/8"* Pitch of stays *20 3/4" x 23"* How are stays secured *d. r. & n.* Working pressure by rules *187 lbs* Material of stays *steel*  
 est part *9.62* Area supported by each stay *415* Working pressure by rules *210 lbs* Material of Front plates at bottom *steel*

Material of Lower back plate *steel* Thickness *2 3/2"* Greatest pitch of stays *14 3/4" x 9"* Working pressure of plate by rules *190 lbs*  
*3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *steel* Thickness: Front *1"* Back *3 1/4"* Mean pitch of stays *9"*

Pitch across wide water spaces *14 3/4"* Working pressures by rules *189 lbs* Girders to Chamber tops: Material *steel* Depth and  
 thickness of girder at centre *8" x 1 1/2"* Length as per rule *28 1/2"* Distance apart *9"* Number and pitch of stays in each *2 of 8 1/4"*

Working pressure by rules *182 lbs* Superheater or Steam chest; how connected to boiler *no* 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 *✓*

W638-0215



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—

*Two top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, a quantity of assorted bolts nuts & iron, 1/3 crank shaft, 1 propeller shaft, 1 piston rod, 1 set bottom end brasses, 3 valve spindles, 1 spare propeller, 1 air pump bucket, rod, & head valves & minor details.*

The foregoing is a correct description,  
NORTH EASTERN MARINE ENGINEERING CO., LTD.

*Johnston*

Manufacturer.

Dates of Survey while building  
During progress of work in shops - *1913 Jul. 7-15-17-18-31 Aug. 7-14 Sep. 9-15-16-17-25-26-30 Oct. 2-3-16-17-20-23-24 Nov. 10-17*  
During erection on board vessel - *1914 Jan. 6-19-29 Feb. 6-16-19 Mar. 3-9-23-27 Apr. 3-6-15-17-24*  
Total No. of visits *45*

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

Dates of Examination of principal parts—Cylinders *17/10/13* Slides *9/3/14* Covers *24/10/13* Pistons *19/1/14* Rods *25/9/13*  
Connecting rods *25/9/13* Crank shaft *7/8/13* Thrust shaft *29/6/13* Tunnel shafts *4/7/13* Screw shaft *18/7/13* Propeller *23/9/13*  
Stern tube *3/10/13* Steam pipes tested *2/4/14* Engine and boiler seatings *23/3/14* Engines holding down bolts *6/4/14*  
Completion of pumping arrangements *26.5.14* Boilers fixed *6/4/14* Engines tried under steam *24/4/14*  
Main boiler safety valves adjusted *24/4/14* Thickness of adjusting washers *1/8" P.F. 3/8" A 3/8" P.F. 1/2" A 1/2" Rod F 1/2" A 3/8"*  
Material of Crank shaft *Steel* Identification Mark on Do. *6/1/14* Material of Thrust shaft *Steel* Identification Mark on Do. *29/6/13*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *7/7/13* Material of Screw shafts *Steel* Identification Marks on Do. *7/8/13*  
Material of Steam Pipes *Weldless 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, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under full power. In my opinion this vessel is eligible for the record of L.M.C. when the pumping arrangement is seen completed.*

*The survey has now been satisfactorily completed as above required.*

*J. Kent*

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 7.14

The amount of Entry Fee ... £ 3: : When applied for,  
Special ... £ 35: 6 : MAY 7 1914  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 19-57-12 on 9/5/14

Committee's Minute

Assigned

*+ L.M.C. 7.14*

*Charles Cooper*

Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Name of Master *William*

of Owners

Residence, and Description of

*Booth Steam Ship Co*

Building, Water Street

Manager: *John Rae*

*6 July 1914*

*862) Wt. 28981 1/2 1000 11-12 W B & L*

*1762) 20349/8 2007 3-13*



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