

REPORT ON MACHINERY.

No. 14839
THU. FEB. 26, 1914

Received at London Office

Date of writing Report 19 When handed in at Local Office 25/2/14 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 2nd July 1913 Last Survey 25th Feb. 1914
Reg. Book. on the Steel steamer Baraka (Number of Visits)

Master G. J. Terwiel Built at West Hartlepool By whom built W Gray & Co. Tons {Gross 6630 1/2
Net 4245 81
When built 1914

Engines made at West Hartlepool By whom made Central Marine & Works when made 1914

Boilers made at West Hartlepool By whom made Central Marine & Works when made 1914

Registered Horse Power Owners "Nederland" Stoomvaart Maats. Port belonging to Amsterdam

Nom. Horse Power as per Section 28 656 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 28.46.77 Length of Stroke 54 Revs. per minute 65 Dia. of Screw shaft as per rule 15.51 Material of screw shaft as fitted 16 1/2 10 diam

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 No 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 65

Dia. of Tunnel shaft as per rule 14.25 Dia. of Crank shaft journals as per rule 14.96 Dia. of Crank pin 15 1/2 Size of Crank webs 2 1/4 8 7/8 Dia. of thrust shaft under collars 15 1/2 Dia. of screw 19.0 Pitch of Screw 17.6 No. of Blades 4 State whether moveable Yes Total surface 115 sq ft

No. of Feed pumps Two Diameter of ditto 4 1/2 Stroke 32 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 3/4 Stroke 32 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps 5.6-5 1/2-12-11 1/2-10 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Four 3 1/2 In Holds, &c. Two 3 1/2 Tunnel 3 1/2

No. of Bilge Injections six sizes 10 Connected to condenser, or to circulating pump No Is a separate Donkey Suction fitted in Engine room & size Yes 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 How are they protected

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 23/12/13 of Stern Tube 14/1/14 Screw shaft and Propeller 30/1/14

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Spencer & Co.

Total Heating Surface of Boilers 10121 Is Forced Draft fitted Yes No. and Description of Boilers Four single ended

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 13/12/13 31/12/13 No. of Certificate 3350 + 3352

Can each boiler be worked separately Yes Area of fire grate in each boiler 58 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 12.56 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24 Mean dia. of boilers 15.0 Length 11.6 Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 27-30 Are the shell plates welded or flanged both Descrip. of riveting: cir. seams all in long. seams all in long. Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9.5 Lap of plates or width of butt straps 20 1/2

Per centages of strength of longitudinal joint rivets 91.8 plate 85.7 Working pressure of shell by rules 181 lb Size of manhole in shell 16 x 12

Size of compensating ring 32-28-1 1/2 No. and Description of Furnaces in each boiler 3 bughton Material Steel Outside diameter 46 1/2

Length of plain part top Thickness of plates crown 9/16 Description of longitudinal joint welded No. of strengthening rings 6 bottom

Working pressure of furnace by the rules 191 lb Combustion chamber plates: Material Steel Thickness: Sides 10/16 Back 10/16 Top 10/16 Bottom 14/16

Pitch of stays to ditto: Sides 8.5 Back 8 1/2-8 1/2 Top 9 1/2-7 1/2 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 181 lb

Material of stays Steel Diameter at smallest part 1 1/2 Area supported by each stay 8.5 Working pressure by rules 192 lb End plates in steam space: Material Steel Thickness 15/16 Pitch of stays 21-19 1/2 How are stays secured all nut Working pressure by rules 187 lb Material of stays Steel

Diameter at smallest part 3.03 Area supported by each stay 21-19 1/2 Working pressure by rules 189 lb Material of Front plates at bottom Steel

Thickness 15/16 Material of Lower back plate Steel Thickness 15/16 Greatest pitch of stays 15 Working pressure of plate by rules 180 lb

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 Material of tube plates Steel Thickness: Front 15/16 Back 12/16 Mean pitch of stays 7 1/2

Pitch across wide water spaces 13 1/2 Working pressures by rules 185 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2-1 1/2 Length as per rule 29.5 Distance apart 7 1/2 Number and pitch of stays in each bay 9 1/2

Working pressure by rules 186 lb 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



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—*The top end bolts. The bottom end bolts. The main leeway bolts. One cut-coupling bolts. One cut for piston springs cut feed pump valves cut Bridge pump valves. One Savelle's clip. 1/3 part Crank Shaft. One cut down Savelle's blades, one for Savelle's clip, Air pump latched, head valve, rod and guide. One main check valve one donkey check valve. 1 pair armature and brass. One cut safety valve springs. Slides, Bolts, nuts. Same etc.*

FOR THE CENTRAL MARINE ENGINE WORKS,
(W. Gray & Co. Ltd.)

The foregoing is a correct description,

Francis S. Gibb
DIRECTOR.

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1913. July 2, 7, 8, 9, 11, 14, 15, 16, 18. Aug 12, 13, 14, 20, 26. Sep 1, 4, 11, 16, 17, 19, 22, 23, 24, 25, 26, 27, 30. Oct 1, 3, 6, 7, 8, 9, 10, 13, 14, 15, 17, 20, 21, 22, 23, 24, 27, 28, 30, 31. Nov 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 24, 27, 28, 29, 30, 31. Dec 1, 3, 5, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 22, 23, 24, 29, 30, 31. 1914. Jan 5, 6, 8, 9, 12, 13, 14, 15, 19, 20, 21, 22, 23, 27, 28, 29, 30. Feb 2, 3, 4, 9, 11, 12, 13, 17, 19, 25. Total No. of visits *112*. Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *15/12/13* Slides *19/12/13* Covers *16/12/13* Pistons *19/12/13* Rods *9/12/13*

Connecting rods *15/12/13* Crank shaft *5/12/13* Thrust shaft *5/12/13* Tunnel shafts *19/1/14* Screw shaft *28/11/13* Propeller *6/1/14*

Stern tube *30/12/13* Steam pipes tested *Jan 6, 9, 10, 11, 12, 13 and at Hargraves. February* Engine and boiler seatings *8/1/14* Engines holding down bolts *4/2/14*

Completion of pumping arrangements *17/2/14* Boilers fixed *4/2/14* Engines tried under steam *17/2/14*

Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shaft *Steel* Identification Mark on Do. *5443* Material of Thrust shaft *Steel* Identification Mark on Do. *5443*

Material of Tunnel shafts *Steel* Identification Marks on Do. *5443* Material of Screw shafts *Steel* Identification Marks on Do. *5443*

Material of Steam Pipes *Steel* *1 lb welded* Test pressure *600 lb*

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. *Workmanship good.*)

Wagon and coils tested to 400 lbs and today to 50 lbs. Critical feed handle tested to 50 lbs.

A. C. M. C. W. Superheater as per approved photo print, consisting of 16 elements, in sets of four to each boiler, fitted in the uptakes.

The superheater, cast steel clip valves, junction piece, and leads have all been tested to 360 lbs per square inch and found good. A three inch safety valve is fitted to each of the four boiler sections. The superheater are so arranged, that all steam from the boilers must go through them to the boiler.

To complete the survey the superheater safety valve to be adjusted to 190 lbs and main boiler safety valve to 185 lbs. Amundson Overways advised.

The machinery and boilers of this vessel have been constructed under special survey, and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition, and the case is respectfully submitted for the notification + L.M.C. in the Register Book, upon completion of the survey.

The amount of Entry Fee ... £ 3 : 0 : When applied for, 24/2/14

Special ... £ 52 : 16 : When received, 25/2/14

Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : :

Committee's Minute *27 MAR 27 1914*

Assigned *L.M.C. 2. 14 F.D.*

MACHINERY CERTIFICATE WRITTEN.



WEST HARTLEPOOL

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

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