

# REPORT ON MACHINERY

No. 16504

WED. JUL. 2 - 1913

Received at London Office

Date of writing Report 27 June 1913 When handed in at Local Office 30/6/1913 Port of Greenock

No. in Survey held at Greenock Date, First Survey 27 March/12 Last Survey 25 June 1913  
Reg. Book. (Number of Visits 69)

on the TWIN SCREW STEAMER NELLORE

Tons } Gross 6853  
Net 4250

Master Built at Greenock By whom built Caird & Co. Ltd. When built 1913

Engines made at Greenock By whom made Caird & Co. Ltd. when made 1913.

Boilers made at Greenock By whom made Caird & Co. Ltd. when made 1913.

Registered Horse Power Owners Peninsula & Oriental Steam Navigation Co. Ltd. Port belonging to Greenock

Nom. Horse Power as per Section 28 628 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

## ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 8 Four No. of Cranks 8 Four

Dia. of Cylinders 19" 27" 38" 54" Length of Stroke 48" Revs. per minute 85 Dia. of Screw shaft as per rule 12.4" Material of screw shaft Steel as fitted 12.5"

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 the 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

If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5' 2"

Dia. of Tunnel shaft as per rule 11.1" Dia. of Crank shaft journals as per rule 11.4" Dia. of Crank pin 11.5" Size of Crank webs 16" x 8.25" Dia. of thrust shaft under collars 11.3" Dia. of screw 15' 0" Pitch of Screw 16' 6" No. of Blades 3 State whether moveable Yes Total surface

No. of Feed pumps 2 Diameter of ditto 9" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 1 Diameter of ditto 9" Stroke 18" Can one be overhauled while the other is at work

No. of Donkey Engines Sizes of Pumps 9x6x10, 10x12x24 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three - 3 1/2" dia. In Holds, &c. No. 1 HOLD. 2-3 1/2" dia. No. 2 HOLD. 2-3 1/2" dia. No. 3 HOLD. 2-3 1/2" dia. No. 4 HOLD. 2-3 1/2" dia. TUNNEL WELLS. 2-3" dia.

No. of Bilge Injections 2 sizes 6" Connected to condenser, or to circulating pump C. P. 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

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 Below

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 none 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 15/4/13 of Stern Tube 18/4/13 Screw shaft and Propeller 21/5/13

Is the Screw Shaft Tunnels watertight Yes Is it fitted with a watertight doors Yes worked from upper platform

## BOILERS, &c.—(Letter for record S.) Manufacturers of Steel & Colville Irons.

Total Heating Surface of Boilers 9180 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 2 Cylindrical Tubes 4' 6" dia.

Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 18/4/13 No. of Certificate 1108

Can each boiler be worked separately Yes Area of fire grate in each boiler 114 sq. ft. No. and Description of Safety Valves to each boiler 2 Ancei Spring loaded Area of each valve 14.19 sq. in. Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers 14' 8" Length 20' 0" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 50 tons per sq. in. Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams butt straps

long. seams & Butt Straps Diameter of rivet holes in long. seams 1 9/16" Pitch of rivets 10 1/16" Lap of plates or width of butt straps 2 2 3/4"

Per centages of strength of longitudinal joint rivets 94.4% plate 84.4% Working pressure of shell by rules 268 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 28" x 1 1/2" No. and Description of Furnaces in each boiler 6 Morrison's Material Steel Outside diameter 45 3/4"

Length of plain part top 8 feet bottom 8 feet Thickness of plates crown 3/32" bottom 3/32" Description of longitudinal joint Weld. No. of strengthening rings 23

Working pressure of furnace by the rules 233 lbs. Combustion chamber plates: Material Steel. Thickness: Sides 5" Back 3" Top 3/32" Bottom 3/32"

Pitch of stays to ditto: Sides 8 1/2" x 4 1/2" Back 9 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads No. Working pressure by rules 217 lbs

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 62 sq. in. Working pressure by rules 232 lbs End plates in steam space:

Material Steel Thickness 1 1/2" Pitch of stays 14" x 15 3/4" How are stays secured With nuts Working pressure by rules 225 lbs Material of stays Steel

Diameter at smallest part 2 1/8" Area supported by each stay 268 sq. in. Working pressure by rules 248 lbs Material of Front plates at bottom Steel

Thickness 3/16" Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1 1/2" Back 3/4" Mean pitch of stays 8"

Pitch across wide water spaces 13 1/2" Working pressures by rules 263 lbs 315 lbs Girders to Chamber tops: Material Steel. Depth and

thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 50 1/2" Distance apart 8 1/2" Number and pitch of stays in each 4: 9 1/2"

Working pressure by rules 264 lbs Superheater or Steam chest; how connected to boiler none 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



