

REPORT ON MACHINERY.

No. 4192

Date of writing Report *Dec. 26* 1926 When made in a Local Office *Dec. 26* 1926 Port of *Newport News, Va.*
No. in Survey held at *Newport News, Va.* Date, First Survey *April 26* Last Survey *Dec. 11* 1926
Reg. Book. *57938* on the *Machinery & Boilers for the Steel Steam Ship "ALGONQUIN."* (Number of Visits *41*)
Master *Newport News, Va.* Built at *Newport News, Va.* By whom built *Newport News S. B. & D. Co.* When built *1926-12*
Engines made at *Newport News, Va.* By whom made *Newport News S. B. & D. Co.* when made *1926-12*
Boilers made at *Newport News, Va.* By whom made *Newport News S. B. & D. Co.* when made *1926-12*
Registered Horse Power *981* Owners *Chesapeake & Atlantic S. S. Co.* Port belonging to *New York*
Shaft Horse Power at Full Power *4200* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

TURBINE ENGINES, &c.—Description of Engines

Newport News-Curtis Engine Room Turbines No. of Turbines *2*
Diameter of Rotor Shaft Journals, H.P. *7* L.P. *7* Diameter of Pinion Shaft *7 1/2*
Diameter of Journals *7 1/2* Distance between Centres of Bearings *2-4* Diameter of Pitch Circle *8-8 1/2*
Diameter of Wheel Shaft *15* Distance between Centres of Bearings *6-2 1/2* Diameter of Pitch Circle of Wheel *14-4 1/2*
Width of Face *2-20-40 in. max* Diameter of Thrust Shaft under Collars *14 3/8 (Ruffing Thrust)* Diameter of Tunnel Shaft as per rule *13-6 1/2*
No. of Screw Shafts *One* Diameter of same as per rule *15-03* Diameter of Propeller *16-3* Pitch of Propeller *16-9*
No. of Blades *4* State whether Moveable *No* Total Surface *93 sq* Diameter of Rotor Drum, H.P. *✓* L.P. *✓* Astern *✓*
Thickness at Bottom of Groove, H.P. *✓* L.P. *✓* Astern *✓* Revs. per Minute at Full Power, Turbine *1800* Propeller *105*

PARTICULARS OF BLADING.

	H. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION	<i>1 1/4 2 1/4</i>	<i>41 3/8 42 3/8</i>	<i>2</i>	<i>2 3/8</i>	<i>54 1/8</i>	<i>1</i>	<i>1 3/8 2 1/8 2 3/4</i>	<i>45 1/2 46 3/8 46 7/8</i>	<i>3</i>
2ND	<i>1 1/8</i>	<i>45 3/4</i>	<i>1</i>	<i>2 1/8</i>	<i>55 1/8</i>	<i>1</i>	<i>2 1/8 4</i>	<i>55 1/2 57</i>	<i>2</i>
3RD	<i>1 3/8</i>	<i>46</i>	<i>1</i>	<i>3 3/8</i>	<i>56 1/8</i>	<i>1</i>	<i>4 3/4 7</i>	<i>58 1/8 62 3/8</i>	<i>2</i>
4TH	<i>1 5/8</i>	<i>46 1/4</i>	<i>1</i>	<i>4 1/8</i>	<i>58 1/8</i>	<i>1</i>			
5TH	<i>1 1/2</i>	<i>46 1/2</i>	<i>1</i>	<i>6 1/8</i>	<i>60 1/4</i>	<i>1</i>			
6TH	<i>1 1/4</i>	<i>46 1/8</i>	<i>1</i>	<i>7 1/2</i>	<i>63</i>	<i>1</i>			
7TH	<i>1 7/8</i>	<i>47 1/4</i>	<i>1</i>	<i>8</i>	<i>64</i>	<i>1</i>			
8TH	<i>1 7/8</i>	<i>47 1/4</i>	<i>1</i>	<i>8</i>	<i>64</i>	<i>1</i>			

No. and size of Feed pumps *2* Vertical *Nothing* *14 x 14 x 24*
No. and size of Bilge pumps *1* *10 x 12 x 2* *1* *12 x 8 1/2 x 2* *1* *10 x 12 x 12*
No. and size of Bilge suction in Engine Room *3* *3 1/2 in.*
In Holds, &c. *1-3" Hold 1-3" Tunnel 1-3" dia.* *1-3" Hold 2-3" 1-2" Hold 2-3" 1-3" Hold 2-3"*
No. of Bilge Injections *One* sizes *12* Connected *to circulating pump* *Yes* 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 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 *the deep water line* *Yes*
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 *Yes*
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*
Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Top platform in E. Room*

BOILERS, &c.—(Letter for record *S*)

Manufacturers of Steel *L. H. & C. Co. Coatesville, Pa.*
Total Heating Surface of Boilers *3600* Is Forced Draft fitted *Yes* No. and Description of Boilers *4 Single Vertical Cylindrical*
Working Pressure *210 lbs. per sq. in.* Tested by hydraulic pressure to *315 lbs. per sq. in.* Date of test *Nov. 4, 1926* No. of Certificate *215*
Can each boiler be worked separately *Yes* Area of fire grate in each boiler *64 sq. ft.* No. and Description of Safety Valves to each boiler *Two from main loader* Area of each valve *12.56 sq. in.* Pressure to which they are adjusted *210 lbs.* Are they fitted with easing gear *Yes*
Smallest distance between boilers or uptakes and bunkers *24* Mean dia. of boilers *16-9* Length *12-0* Material of shell plates *Steel*
Thickness *1 3/8* Range of tensile strength *73000 lbs.* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *D. R. L. A. R.*
long. seams *T. R. D. B. S.* Diameter of rivet holes in long. seams *1 3/8* Pitch of rivets *9 1/2* *1 3/4* width of butt straps *23 3/4*
rivets *86* Per centages of strength of longitudinal joint plates *83.3* Working pressure of shell by rules *222 lbs.* Size of manhole in shell *19 x 23*
Size of compensating ring *39 x 35 x 1 5/8* No. and Description of Furnaces in each Boiler *4 Cornish* Material *Steel* Outside diameter *44 1/4*
Length of plain part *top* *bottom* Thickness of plates *crown* *3 5/8* *bottom* *3 5/8* Description of longitudinal joint *Welded* No. of strengthening ring *Compartments*
Working pressure of furnace by the rules *221* Combustion chamber plates: Material *Steel* Thickness: Sides *4 7/8* Back *4 7/8* Top *2 1/2* Bottom *1 5/8*
Pitch of stays to ditto: Sides *7 x 7 1/2* Back *7 1/2 x 7 1/2* Top *9 1/4 x 7 1/2* If stays are fitted with nuts or riveted heads *R. Heads* Working pressure by rules *232 lbs.*
Material of stays *Steel* Diameter at smallest part *1 1/2* Area supported by each stay *54 3/8 sq. in.* Working pressure by rules *230 lbs.* End plates in steam space *Steel*
Material *Steel* Thickness *1 3/8* Pitch of stays *7 1/2 x 6 3/4* How are stays secured *D. Nuts* Working pressure by rules *225 lbs.* Material of stays *Steel*
Diameter at smallest part *3* Area supported by each stay *293 1/8 sq. in.* Working pressure by rules *257 lbs.* Material of Front plates at bottom *Steel*
Thickness *1* Material of Lower back plate *Steel* Thickness *1* Greatest pitch of stays *1 3/2 x 7 1/2* Working pressure of plate by rules *232 lbs.*
Diameter of tubes *2 1/2* Pitch of tubes *3 1/2 x 3 1/8* Material of tube plates *Steel* Thickness: Front *2 1/2* Back *2 1/2* Mean pitch of stays *1 1/8 x 7*
Pitch across wide water spaces *1 3/2 x 7 1/2* Working pressures by rules *216 lbs.* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *11 x 1 3/8* Length as per rule *3-2* Distance apart *8 1/4* Number and pitch of stays in each *4* *7 1/2*
Working pressure by rules *249 lbs.* Steam dome: description of joint to shell *Weld* of strength of joint *✓* Diameter *✓*
Thickness of shell plates *Material* Description of longitudinal joint *Weld* Diameter of rivet holes *✓* Pitch of rivets *✓*
Working pressure of shell by rules *Crown plates: Thickness* *How stayed* *Weld*

