

REC'D NEW YORK 30-11-1920
Date of writing Report July 4-1920 When handed in at Local Office July 5th 1920 Port of Seattle Wash USA

To. in Survey held at Seattle Date, First Survey November 1st 1919 Last Survey January 23rd 1920
(Number of Visits 17)

Reg. Book. T ENTRY on the Steel Screw Steamer "ROBIN GRAY" (Builders yard N°C-75) Tons { Gross 6859.9
Net 5120.7

Master H K Mills Built at Seattle By whom built Skinner & Eddy Corporation When built 1920

Engines made at Erie Pa. By whom made General Electric Company when made 1919

Boilers made at Seattle By whom made Commercial Boilers Works when made 1919

Registered Horse Power Owners Robin Line Steamship Co. (D E Skinner Mgr) Port belonging to San Francisco, Cal.

Net Horse Power as per Section 28 637.20 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

GINES, &c.—Description of Engines *Curtis Turbine with double reduction gear* No. of Cylinders _____ No. of Cranks _____

of Cylinders _____ Length of Stroke _____ Revs. per minute *90* Dia. of Screw shaft *as per rule 14.47* Material of *Steel*
as fitted 15 screw shaft

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

Is the propeller boss *yes* If the liner is in more than one length are the joints burned *yes* 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

are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush *61"*

of Tunnel shaft *as per rule 13.27* Dia. of Crank shaft journals *as per rule* Dia. of Crank pin _____ Size of Crank webs _____ Dia. of thrust shaft under
as fitted 13.5 *as fitted*

14 1/2 Dia. of screw *17'-0"* Pitch of Screw *14'-3"* No. of Blades *4* State whether moveable *yes* Total surface *89.5 sq ft*

of Feed pumps *2* Diameter of ditto *9"* Stroke *24"* Can one be overhauled while the other is at work *yes*

for service of Bilge pumps *3 Duplex* Diameter of ditto *6 x 5 3/4 x 6* Stroke *24"* Can one be overhauled while the other is at work *yes*
2 x 8 1/2 x 12 *12 x 10 1/2 x 12*

of Donkey Engines *As Above* Sizes of Pumps *As Above* No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *5-3 1/2"* Fire Room *4-3 1/2"* In Holds, &c. *10-3 1/2"* Deep Tank *4-4 1/2"* Shaft Tunnel *1-3 1/2"*

of Bilge Injections / sizes 10" Connected to ~~condenser, and~~ circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3 1/2
 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 None
 all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves
 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
 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
 & pipes are carried through the bunkers Tank Air Pipes How are they protected Wood Casings
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Engine Room Casing at upper deck.

10 Screw Shaft Tunnel watertight *yes* Is it joined with a watertight
New York (R)
 LERS, &c. — (Letter for record *Aug 12 1909*) Manufacturers of Steel *Illinois Steel Co. and Carnegie Steel Co.*
J. S. B.

Heating Surface of Boilers 8346 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single End Scotch Marine
 Working Pressure 210 Tested by hydraulic pressure to 315 Date of test Nov. 28-1919 No. of Certificate ✓
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63 sq No. and Description of Safety Valves to
 each boiler Two 3" dia Spring loaded Area of each valve 9.6 Pressure to which they are adjusted 210 Are they fitted with easing gear Yes
 Minimum distance between boilers or uptakes and bunkers or woodwork Boilers 39 Mean dia. of boilers 14'-9" Length 11'-9" Material of shell plates Steel
 Thickness 1 7/16 Range of tensile strength 60,000 Min Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double Lap
 longitudinal seams Triple Butt Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 10 1/2 ~~Top of plates~~ width of butt straps 22 3/8
 Percentages of strength of longitudinal joint rivets 86.2 Working pressure of shell by rules 229 Size of manhole in shell Upper Back Head 12" x 16"
 plate 84.5 of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Marine Material Steel Outside diameter 48 1/16
 Thickness of plain part top Thickness of plates crown 2 1/32 Description of longitudinal joint Welded No. of strengthening rings ✓
 bottom bottom Working pressure of furnace by the rules 222 Combustion chamber plates: Material Steel Thickness: Sides 4 1/16 Back 4 1/16 Top 4 1/16 Bottom 15 1/16
 No. of stays to ditto: Sides 7 x 7 3/4 Back 7 1/2 x 7 3/4 Top 7 x 7 3/4 If stays are fitted with nuts or riveted heads Others Riveted Working pressure by rules Back 234
 Material of stays Iron Area at smallest part 2.07 Area supported by each stay Others 56 Working pressure by rules Others 247 End plates in steam space
 Material Steel Thickness 1 1/2 Pitch of stays 18 x 18 1/2 How are stays secured Double Nuts Working pressure by rules 210 Material of stays Steel
 Area at smallest part 8.29 sq Area supported by each stay 333 sq Working pressure by rules 258 Material of Front plates at bottom Steel
 Thickness 1 3/16 Material of Lower back plate Steel Thickness 13 + 5/16 Greatest pitch of stays 7 3/4 x 12 1/2 Working pressure of plate by rules 300
 Outside diameter of tubes 22 1/2 Pitch of tubes 3 3/4 x 3 7/8 Material of tube plates Steel Thickness: Front 1 3/16 Back 1 3/16 Mean pitch of stays tubes 9.56
 Distance across wide water spaces 13 1/2 Working pressures by rules 248 Girders to Chamber tops: Material Steel Depth and
 Thickness of girder at centre 11 1/2 x 12 Length as per rule 34 Distance apart 9 1/2 Number and pitch of stays in each 4-7"
 Working pressure by rules 234 Steam dome: description of joint to shell None % of strength of joint
 Material Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 No. of rivets Working pressure of shell by rules Crown plates Thickness How stayed
 SUPERHEATER. Type Local Superheater Date of Approval of Plan September 19-1919 Tested by Hydraulic Pressure to 630 lbs
 Date of Test January 12th 1920 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve 1 1/2" Pressure to which each is adjusted 210 Is Easing Gear fitted Yes

IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

TURBINE GEARS

- 1 Complete set of turbine and gear bearings.
- 1 Complete set of packing rings for turbine heads and diaphragms.
- 1 High speed pinion with leaf coupling.
- 1 Set turbine thrust collars.
- 1 Emergency governor complete.
- 1 Set pins and bushings for each size of slip couplings.
- 1 Set bolts and nuts for rotor bearings.
- 1 Set bolts and nuts for gear wheel and pinion bearings.
- 1 Set bolts and nuts for turbine and gear end joints.
- 6 Thermometers. 25 Condenser tubes and 50 ferrules.

PROPELLER & SHAFTS

- 1 Propeller shaft complete. 2 Propeller blades.

- 6 Coupling bolts for intermediate shafts.
- 2 Thrust shaft for main thrust block.

AUXILIARIES, ETC.

- 1 Set trasses and piston rings for circulating pump.
- 1/2 Set valves, guards, springs and studs for main auxiliary pumps, oil cooling and gear, since for lubricating oil pumps and large pumps.
- 1 Set valves, guards, springs and studs for feed pumps.
- 2 Feed check valves.

BOILERS

- 2 Safety valve springs.
- 24 Plain boiler tubes.
- 1 Complete set of fire bars and liners for one boiler.
- 3 Fuel oil burners complete.
- a quantity of assorted bolts, nuts, pipe and of various sizes.

1 Bucket & rod for lubricating oil pump.
Lu N.Y. Ltr. 2/6/20

The foregoing is a correct description,

Skinner & Eddy Corporation
by C. N. McCallum, Ch. Engr. Manufacturer.

Dates of Survey while building
During progress of work in shops -- Oct 27. Nov. 1-12-28 Dec. 12-16-20-26-29 (9)
During erection on board vessel -- Dec. 16-20-30 Jan. 5-12-14-15-16-20-23 (10)
Total No. of visits 17.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods

Connecting rods Crank shaft Thrust shaft Dec 12-29 Tunnel shafts Nov 28 Dec 26 Screw shaft Dec 12-20 Propeller Dec 12-

Stern tube Nov. 1 Steam pipes tested Jan. 12-16 Engine and boiler seatings Dec 16 Engines holding down bolts Jan. 16

Completion of pumping arrangements Jan. 20 Boilers fixed Dec. 30 Engines tried under steam Jan. 20

Completion of fitting sea connections Dec 16 Stern tube Dec 16 Screw shaft and propeller Dec-20-30

Main boiler safety valves adjusted Jan. 16 Thickness of adjusting washers P. 641-723. C. 742-687. S. 747-657

Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. CH 2-12

Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. CH 2-12

Material of Steam Pipes Steel Test pressure 630

Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150° F. yes

Have the requirements of Section 49 of the Rules been complied with yes

Is this machinery duplicate of a previous case yes If so, state name of vessel "ROBIN HOOD" - "ROBIN ADAIR".

General Remarks (State quality of workmanship, opinions as to class, &c. The turbine and reduction gears made by the General Electric Co. Erie Pa. surveyed during construction by a Surveyor to the Board

installed on board the vessel with all shafting, auxiliaries, pipes, fittings and connections under special survey in accordance with the approved plans.

The Boilers built by the Commercial Boiler Works, Seattle under special survey and installed with all mountings, fittings and connections in accordance with the approved plans.

The material tested as required by the rules of the Society and together with the work found of good quality, tested by hydraulic pressure and found sound and tight.

The machinery seen tested under working conditions and found satisfactory.

The machinery eligible, in my opinion, to leave the record of LMC 1.20 made in

Register Book in the case of this vessel.

Erie Pa. Report No. 121 forwarded herewith. Turbine case No. 21824. Gear case

No. 4401. Rotor worked 140152. High speed pinion 140152. Low speed pinion 140151 High speed gear

140151. Low speed gear 140151

The amount of Entry Fee ... \$ 15 : 00 :
Credit Cleveland Office \$ 86 : 43 :
Special Seattle Office ... \$ 172 : 87 :

When applied for,
February 1920

Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) \$ 57 : 50 :

When received,
19/4/20

James Fowler
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute New York FEB 17 1920

Assigned + LMC 1.20 Subject

MACHINERY CERT.
WRITTEN
2/3/20

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Foundation