

REC'D NEW YORK Oct. 30-1918

Received at London Office

Date of writing Report

When handed in at Local Office

Port of Seattle Washington

No. in Survey held at Olympia Washington

Date, First Survey April 19/18 Last Survey 29/19 1918

Reg. Book.

on the Wood Twin Screw Motor Vessel Challambra

Tons

Gross

Net

When built 1918

Master John Holaker Built at Olympia Wash. By whom built Sloan Shipyard Corp.

Engines made at Auburn New York By whom made McIntosh & Seymour Corporation when made 1918

Boilers made at Buffalo New York By whom made Lake Erie Boiler Works when made 1917

Registered Horse Power 1000

Owners Commonwealth Government of Australia

Port belonging to Melbourne

Nom. Horse Power as per Section 28 188

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines 2-500 B.H.P. 4 Cycle Diesel No. of Cylinders 12 No. of Cranks 12

Dia. of Cylinders 16" Length of Stroke 24" Revs. per minute 185 Dia. of Screw shaft 8 1/2" Material of screw shaft Steel

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 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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Continuous Length of stern bush 2' 6"

Dia. of Tunnel shaft 9 1/2" Dia. of Crank shaft journals 9 1/2" Dia. of Crank pin 9 1/2" Size of Crank webs 5 1/4 x 13 Dia. of thrust shaft under

collars 9 1/2" Dia. of screw 8' 0" Pitch of Screw 6' 4" No. of Blades 3 State whether moveable No Total surface 15' 8"

No. of Feed pumps 1 Diameter of ditto 2 3/4" Stroke 4" Can one be overhauled while the other is at work Injector

No. of Bilge pumps 3 Diameter of ditto 10" Stroke 6" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 10 x 10 1/4 x 10-10 x 7 1/2 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3-3-1-6" In Holds, &c. 3-3-7 fore hold + 3-3 aft hold

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 6"

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 None

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & Cocks

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 No

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

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

BOILERS, &c.—(Letter for record)

Manufacturers of Steel Lukins Steel Co

Total Heating Surface of Boilers 1077.0 Is Forced Draft fitted No No. and Description of Boilers Two

Working Pressure 175 Tested by hydraulic pressure to 350 Date of test 7 10 18 No. of Certificate 103

Can each boiler be worked separately Yes Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler 1 3" Lukin's Area of each valve 7.0686 Pressure to which they are adjusted 175 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 7' 0" Length 8' 0" Material of shell plates C.H. Steel

Thickness 3/32 Range of tensile strength 60000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Single R

long. seams B.N.S. Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets Lap of plates or width of butt straps 16"

Per centages of strength of longitudinal joint rivets 1.43.5 Working pressure of shell by rules 180 Size of manhole in shell 2-11 x 15

Size of compensating ring 22 x 26 x 7/8 No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top 28 1/2 x 32 1/2 x 16 Thickness of plates crown 1/2" Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 179 Combustion chamber plates: Material C.H. Steel Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 19/32

Pitch of stays to ditto: Sides 7"x7" Back 7"x7" Top 7"x7" If stays are fitted with nuts or riveted heads R.H. Working pressure by rules 181

Material of stays Iron Area at smallest part Area supported by each stay 490 Working pressure by rules 180 End plates in steam space:

Material C.H. Steel Thickness 39 Pitch of stays 13 1/2 x 10 1/2 How are stays secured Double nut Working pressure by rules 182 Material of stays

Area at smallest part Area supported by each stay 182 1/4 Working pressure by rules 182 Material of Front plates at bottom C.H. Steel

Thickness 39 Material of Lower back plate C.H. Steel Thickness 39 Greatest pitch of stays 7"x7" Working pressure of plate by rules 180

Diameter of tubes 3" Pitch of tubes 4"x4" Material of tube plates Steel Thickness: Front 39/64 Back 39/64 Mean pitch of stays 8"x8"

Pitch across wide water spaces 12 Working pressures by rules 210 Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 5 1/2 x 5/8 x 1/2 Length as per rule 20 1/4 Distance apart 7 Number and pitch of stays in each 2-7

Working pressure by rules 213 Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded? Attached to this report

SPARE GEAR.

State the articles supplied: Cylinder head complete with valves, valve cages, springs etc, Exhaust valves complete, Two exhaust valves, Air valves complete, Fuel valves complete, Air starting valve complete, Safety valve for cylinder head complete, Relief valve for cylinder head complete, Piston complete with rings, Piston pin, Set of 600 Sel main piston rings, Six fuel valve needles, fuel valve guide, fuel valve lifting nut, fuel valve stopping longlands, Atomizing burner plate nut & rings, Set of gas valve for driving shaft, fuel pump complete, fuel pump sight glass, Set air compressor, Intermediate down pressure piston rings, Air compressor high intermediate and low pressure suction & relief valves, Injector, Receiver valve, disc valve connecting rod, top and bottom end bolts and nuts, main bearing bolts & nuts, Set crank shaft coupling bolts & nuts, Intermediate shaft coupling bolts & nuts, Set cylinder head studs and nuts, springs for air compressor, Intermediate & down pressure suction & delivery valves, fuel pump suction & discharge valve, several lengths of piping, various sizes for fuel & delivery air, bolts with unions, 12 bolts & nuts with packing & gaskets.

The foregoing is a correct description,

E. McEach Superintendent Manufacturer.

Dates of Survey while building: During progress of work in shops -- 17/2/17-20/8/17-19/4/18-7/5/18
During erection on board vessel -- 15/6/18-3/7/18-9/7/18-14/7/18-5/8/18-10/8/18-22/8/18-6/9/18-14/9/18
Total No. of visits 20/9/18 14
Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts: Cylinders Slides Covers Pistons Rods
Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft 19/4/18 Propeller 3-7-18
Stern tube 3/7/18 Steam pipes tested 14/9/18 Engine and boiler seatings 22/8/18 Engines holding down bolts 22/8/18
Completion of pumping arrangements 6-9-18 Boilers fixed 22-8-18 Engines tried under steam 27-9-18
Completion of fitting sea connections 3-7-18 Stern tube 3-7-18 Screw shaft and propeller 3-7-18
Main boiler safety valves adjusted 27-7-18 Thickness of adjusting washers
Material of Crank shaft Steel Identification Mark on Do. LLOYD'S 10-4-18 Material of Thrust shaft Steel Identification Mark on Do.
Material of Tunnel shafts Steel Identification Marks on Do. LLOYD'S 10-4-18 Material of Screw shafts Steel Identification Marks on Do. LLOYD'S 10-4-18
Material of Steam Pipes Steel & Copper Test pressure 600
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 Motor Vessel Culbura

General Remarks (State quality of workmanship, opinions as to class, &c.)
These oil engines built under special survey material used in accordance with the rules by a surveyor to the Society at Auburn New York. Shipped to Olympia Washington and installed onboard the vessel with all shafting, fittings & connections under special survey in accordance with the approved plans. The material and workmanship both found good. The machinery of this vessel is eligible in my opinion to be classed and have the record of oil engines * L.M.C 9 18 made in the Register Book

It is submitted that this vessel is eligible for THE RECORD + L.M.C 9. 18.

Oil Engines 4 SC SA 12 Cy 16"-24"

Mc Intosh & Seymour Auburn N.Y. 2 DB. 175 lb.

(Annual Survey)

The amount of Entry Fee ... £ : : When applied for, Oct 24/18
Installation of machy Special ... £ 50.00 : :
Donkey Boiler Fee ... : :
Travelling Expenses (if any) £ 83.00 : :
" " " 58.51 : :
Committee's Minute New York NOV 6 1918
Assigned + L.M.C 9.18

Rpt. 9a.

Port of NEW YORK N.Y.

Continuation of Report No.

dated

on the

REPORT ON MACHINERY.

SURVEY HELD AT AUBURN N.Y. DATE FIRST SURVEY 17.8.17 LAST SURVEY 16.4.18
ON THE GROSS TONS. NET

MASTER. BUILT AT BY WHAMBUILT WHEN
ENGINES MADE AT AUBURN N.Y. BY McINTOSH & SEYMOUR CORP WHEN 1918
BRAKE HORSE POWER. TOTAL 1000 (500 EACH) MAX. PRESSURE IN CYLINDERS 500 LBS. I."
ENGINES, DESCRIPTION. 2 FOUR CYCLE DIESEL TYPE N° OF CYLINDERS. 6 EACH
NUMBER OF MAIN CRANKS. 6 NUMBER OF AIR COMPRESSOR CRANKS. 1 DIAM. OF MAIN CYLINDERS 16" LENGTH OF STROKE 24" REVS. PER MIN. 185 MINIMUM REVS. PER MINUTE. 60 MAXIMUM REVS. PER MIN. 240 DIAM. OF CRANK SHAFT JOURNALS 4 1/2" DIAM. OF CRANK PIN 4 1/2" SIZE OF CRANK WEBS 13" x 5 1/2" DIAM. OF THRUST SHAFT UNDER COLLARS 9 1/2" DIAM. OF FLYWHEEL SHAFT 9 1/2" N° OF COOLING PUMPS ON MAIN ENGINE 1 AUXILIARY DIAM. OF SINGLE PLUNGER IN COOLING PUMP 6 1/2" STROKE 4"
CYLINDER LINERS OF SPECIAL HARD CLOSE GRAINED CAST IRON OF PLAIN CYLINDRICAL FORM TURNED ON THE OUTSIDE AS WELL AS BORED ON THE INSIDE AND HAVE BEEN EXAMINED AND FOUND SOUND. WATER JACKETS OF CYLINDERS AND WATER PASSAGES OF THE CYLINDER HEADS HAVE BEEN TESTED BY HYDRAULIC PRESSURE TO 80 LBS. I." AND FOUND GOOD AND TIGHT. PISTONS NOT WATER OR OIL COOLED. EXHAUST PIPES ARE WATER COOLED. NO SILENCERS ARE FURNISHED WITH THE ENGINE. CYLINDER HEADS ARE FITTED WITH SAFETY VALVES LOADED TO 20% ABOVE MAXIMUM WORKING PRESSURE IN THE CYLINDERS AND DISCHARGE WHERE NO DAMAGE CAN OCCUR. AIR COMPRESSORS AND THEIR COOLERS ARE EASY OF ACCESS FOR OVERHAULING AND ADJUSTMENT AND A UNIQUE UNLOADING CHAMBER OF APPROVED DESIGN PROVIDES FOR THE GRADUAL UNLOADING OF THE COMPRESSOR THROUGH THE COMPLETE RANGE OF OUTPUT. THE AIR COMPRESSOR IS A THREE STAGE COMPRESSOR, AND THE COMPRESSOR ON EACH ENGINE IS OF SUFFICIENT CAPACITY TO FURNISH INJECTION AIR FOR TWO ENGINES WHEN OPERATING AT THEIR MAXIMUM LOADS AND MAXIMUM SPEEDS WITH STILL SOME MARGIN OF SAFETY. A PURGE POT IS FITTED IN EACH STAGE AND ON THE AFTER COOLER. THE MAIN INJECTION AIR RECEIVERS OF THE SEAMLESS DRAWN STEEL TYPE WERE MANUFACTURED BY THE TINDELL-MORRIS CO. OF EDDYSTONE PA. THEY ARE 9 1/2" OUTSIDE DIAM. 8 1/2" IN LENGTH AND 1/2" THICK. THE PLAN OF THESE AIR RECEIVERS WAS SUBMITTED AND APPROVED AND THE RECEIVERS TESTED BY HYDRAULIC PRESSURE IN THE PRESENCE OF SURVEYOR TO 2000 LBS. I." THE MANOEUVERING AIR RECEIVERS ARE CONSTRUCTED OF RIVETED STEEL PLATES AND MANUFACTURED BY THE RITER-CONLEY CO. OF PITTSBURGH PA. THEY ARE 4'-6" INSIDE DIAM. 11'-3 3/4" OVERALL LENGTH AND 1" IN THICKNESS. THE PLAN OF THESE TANKS WAS SUBMITTED AND APPROVED AND TESTED BY HYDRAULIC PRESSURE TO 500 LBS. I." IN THE PRESENCE OF THE SURVEYOR. CAPACITY ON TEST PROVIDED FOR FORTY SIX STARTS IN EACH TANK. THE PLANS OF THE CRANK AND THRUST SHAFTS HAVE BEEN SUBMITTED AND APPROVED AND HAVE BEEN EXAMINED AND TESTED AS REQUIRED BY THE RULES. THE ENGINES HAVE BEEN TESTED IN THE SHOP UNDER FULL POWER AND FOUND TO GIVE AN EFFECT AT NORMAL LOAD AND REVOLUTIONS OF 500 B.H.P. THE MOTORS HAVE BEEN OVERLOADED AT THEIR NORMAL SPEED TO 640 B.H.P. BUT THE MANUFACTURERS MAKE NO GUARANTEE WHATEVER ON OVERLOAD, AND REFUSE ANY RESPONSIBILITY IF

No 14936

Lloyd's Register
WS92601493

THE MOTORS ARE OPERATED UNDER OVERLOAD CONDITIONS.

	LLOYD'S		LLOYD'S
ONE ENGINE MARKED	N ^o 258	AND ONE	N ^o 259
	3.4.18		ON CRANK AND THRUST
	T.G.D.		16.4.18
			SHAFT COUPLINGS—
			T.G.D.

SPARE GEAR :- CYLINDER HEAD COMPLETE WITH VALVES, VALVE CAGES, SPRINGS ETC, EXHAUST VALVE COMPLETE, TWO EXHAUST VALVES, AIR VALVE COMPLETE, FUEL VALVE COMPLETE, AIR STARTING VALVE COMPLETE, SAFETY VALVE FOR CYLINDER HEAD COMPLETE, RELIEF VALVE FOR CYLINDER HEAD COMPLETE, PISTON COMPLETE WITH RINGS, PISTON PIN, SET SCREWS ETC, SET MAIN PISTON RINGS, SIX FUEL VALVE NEEDLES, FUEL VALVE GUIDE, FUEL VALVE LIFTING NUT, FUEL VALVE STUFFING BOX, FUEL VALVE STUFFING BOX GLAND, ATOMIZER, BURNER PLATE, NUT, AND RING, SET GEAR WHEEL FOR DRIVING CAM SHAFT, FUEL PUMP COMPLETE, FUEL PUMP SIGHT GLASS, SET AIR COMPRESSOR HIGH, INTERMEDIATE, AND LOW PRESSURE PISTON RINGS, AIR COMPRESSOR HIGH, INTERMEDIATE, AND LOW PRESSURE SUCTION AND DELIVERY VALVES, INJECTION AIR RECEIVER-CHIEF USE, TWO CONNECTING ROD TOP AND BOTTOM END BOLTS AND NUTS, TWO MAIN BEARING BOLTS AND NUTS, SET CRANK SHAFT COUPLING BOLTS AND NUTS, SET INTERMEDIATE SHAFT COUPLING BOLTS AND NUTS, SET CYLINDER HEAD STUDS AND NUTS, SPRINGS FOR AIR COMPRESSOR HIGH, INTERMEDIATE AND LOW PRESSURE SUCTION AND DELIVERY VALVES, FUEL PUMP SUCTION AND DISCHARGE VALVES, SEVERAL LENGTHS OF PIPING VARIOUS SIZES FOR FUEL DELIVERY, AIR EJECTS ETC, WITH UNIONS, BOLTS AND NUTS, PACKING AND GASKETS.

THE FOREGOING IS A CORRECT DESCRIPTION—

Mc Intosh & Seymour Ref. MANUFACTURER—
Harold Cooke
Lawson

THE SOCIETY'S RULES AS TO THE DETAILS OF CONSTRUCTION, FITTING OF VALVES, LUBRICATION, ACCESSIBILITY, ETC, HAVE BEEN FULLY COMPLIED WITH AS FAR AS THE CONSTRUCTION OF THESE MAIN ENGINES ARE CONCERNED. THE REMAINING REQUIREMENTS WILL HAVE TO BE ATTENDED TO AT THE FITTING OF THE MACHINERY IN THE VESSEL. IN MY OPINION THESE ENGINES ARE OF GOOD DESIGN, THE MATERIALS AND WORKMANSHIP ARE SOUND AND GOOD AND ARE ELIGIBLE TO BE CLASSED IN THE SOCIETY'S REGISTER BOOK PROVIDED ALL THE REQUIREMENTS OF THE RULES ARE CARRIED OUT WHEN FITTED ABOARD SHIP.

DATES OF SURVEY WHILE BUILDING IN SHOPS—

1917 August 17. SEPT 6. OCT 2. NOV 9. DEC 12. 1918 JAN 30. FEB 15. APRIL 3. 16.

9 VISITS

BREXIT Fee. \$25.00

SURVEY. \$100.00

EXPENSES. 58.57

H. E. Dodd.

ENGINEER SURVEYOR TO LLOYD'S REGISTER

Date :-

Minute :- See Sea Rpt No 725.



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