

REPORT ON MACHINERY. No. 2476.

REC'D NEW YORK April 4, 1917

Received at London Office THE 24 APR 1917

Date of writing Report March 24 17 When handed in at Local Office 10 Port of SAN FRANCISCO,

No. in Survey held at Oakland, California. Date, First Survey April 26/16 Last Survey March 9th 1917

Reg. Book. - on the s/s "THORDIS", Yard No.110. (Number of Visits 20)

Tons { Gross 4768
Net 3523

Master O. Jensen Built at Oakland, Cal. By whom built Moore & Scott Iron Works When built 1917

Engines made at Schnectady, NY. By whom made General Electric Co. when made 1917

Boilers made at Seattle, Wash. By whom made Commercial Boiler Works. when made 1917

Registered Horse Power - Owners Atkieselskabet "Thelma" Port belonging to Grimstad, Norway.

Shaft Horse Power at Full Power 2400 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

TURBINE ENGINES, &c.—Description of Engines Geared Turbines ✓ No. of Turbines 1

Diameter of Rotor Shaft Journals, H.P. 8 L.P. ✓ Diameter of Pinion Shaft 7

Diameter of Journals - Distance between Centres of Bearings - Diameter of Pitch Circle -

Diameter of Wheel Shaft - Distance between Centres of Bearings - Diameter of Pitch Circle of Wheel -

Width of Face - Diameter of Thrust Shaft under Collars 14" Diameter of Tunnel Shaft as per rule 12.31
as fitted 13" ✓

No. of Screw Shafts - Diameter of same as per rule 13.17 Diameter of Propeller 15'10" Pitch of Propeller 14'9" ✓
as fitted 14" ✓

No. of Blades 4 ✓ State whether Moveable yes ✓ Total Surface 83.3 sq.ft. ✓ 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 3380 Propeller 90 ✓

PARTICULARS OF BLADING. (See New York 1st Entry Report.)

	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.
EXPANSION									
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and size of Feed pumps 2-DeLaval Turbine 3-stage. ✓

and size of Bilge pumps 1-Duplex 6x5½x6 1-Duplex 12x8½x12 1-Ballast pump Duplex 12x10½x12 ✓

and size of Bilge suction in Engine Room & Boiler room 4-3½" ✓

In Holds, &c. F.P. 1-3" ✓ No.1 hold 2-3½" ✓ No.2 hold 2-3½" ✓

Deep tank 2-3½" ✓ No.3 hold 2-3½" ✓ No.4 hold 2-3½" ✓ After well 1-3½" ✓ After Peak 1-3" ✓

of Bilge Injections 1 sizes 12" ✓ Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine Room & size yes, 3½"

All the bilge suction pipes fitted with roses yes ✓ Are the roses in Engine room always accessible yes ✓

All connections with the sea direct on the skin of the ship yes ✓ Are they Valves or Cocks valves ✓

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 ✓

Are all pipes 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 ✓

Is the Screw Shaft Tunnel watertight yes ✓ Is it fitted with a watertight door yes ✓ worked from deck. ✓

BOILERS, &c.—(Letter for record (r) Manufacturers of Steel S.S.B.)

Total Heating Surface of Boilers 7509 Is Forced Draft fitted no No. and Description of Boilers (See Seattle 1st Entry Rpt.)

Working Pressure 210 lbs. Tested by hydraulic pressure to - Date of test - No. of Certificate -

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

Is each boiler 2-spring loaded. ✓ Area of each valve 9'6" ✓ Pressure to which they are adjusted 210 lbs. ✓ Are they fitted with easing gear yes ✓

Smallest distance between boilers or uptakes and bunkers or woodwork - Mean dia. of boilers - Length - Material of shell plates -

Thickness - Range of tensile strength - Are the shell plates welded or flanged - Descrip. of riveting: cir. seams -

Are seams - Diameter of rivet holes in long. seams - Pitch of rivets - Lap of plates or width of butt straps -

Percentages of strength of longitudinal joint - Working pressure of shell by rules - Size of manhole in shell -

Are there compensating rings - No. and Description of Furnaces in each Boiler - Material - Outside diameter -

Length of plain part - Thickness of plates - Description of longitudinal joint - No. of strengthening rings -

Working pressure of furnace by the rules - Combustion chamber plates: Material - Thickness: Sides - Back - Top - Bottom -

Number of stays to ditto: Sides - Back - Top - If stays are fitted with nuts or riveted heads - Working pressure by rules -

Material of stays - Diameter at smallest part - Area supported by each stay - Working pressure by rules - End plates in steam space -

Material - Thickness - Pitch of stays - How are stays secured - Working pressure by rules - Material of stays -

Diameter at smallest part - Area supported by each stay - Working pressure by rules - Material of Front plates at bottom -

Thickness - Material of Lower back plate - Thickness - Greatest pitch of stays - Working pressure of plate by rules -

Diameter of tubes - Pitch of tubes - Material of tube plates - Thickness: Front - Back - Mean pitch of stays -

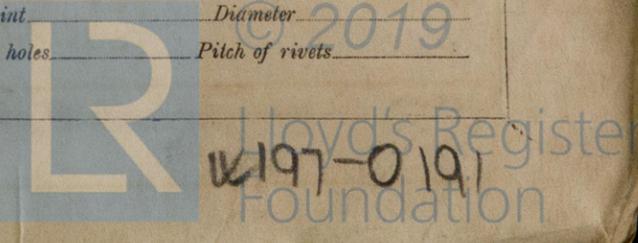
Pitch across wide water spaces - Working pressures by rules - Girders to Chamber tops: Material - Depth and -

Thickness of girder at centre - Length as per rule - Distance apart - Number and pitch of stays in each -

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

Thickness of shell plates - Material - Description of longitudinal joint - Diameter of rivet holes - Pitch of rivets -

Working pressure of shell by rules - Crown plates: Thickness - How stayed -



4197-0191

SUPERHEATER. Type Foster Date of Approval of Plan Type approved 1915. Tested by Hydraulic Pressure to 630 lbs pt. 4.

Date of Test Feb. 26th 1917 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 250 lbs. Is Easing Gear fitted no

IS A DONKEY BOILER FITTED? no. If so, is a report now forwarded? -

SPARE GEAR. State the articles supplied:— 1-tail shaft and nut complete. 1-set bilge pump valves.

1-set air pump valves. 1-steam chest with valve and stem complete for air pump.

50-condenser tubes. 1-propeller blades. 2-boiler tubes. 6-superheater tubes.

1-set of coupling bolts. Assorted bolts and nuts and bar iron.

The foregoing is a correct description,
MOORE & SCOTT IRON WORKS,
By [Signature] Manufacturer.

Dates of Survey while building { During progress of work in shops - - } Apr. 26th, Sept. 22nd, Oct 12th, Dec. 15th, 20th, 29th 1916.
{ During erection on board vessel - - - } Nov 27th, Dec. 29th/16 Jan 5th, 23rd, Feb. 5, 16, 19, 21, 24, 26 Mar. 1, 5, 6, 9th 1917.
Total No. of visits twenty (20) Is the approved plan of main boiler forwarded herewith copy.

Dates of Examination of principal parts—Casings _____ Rotors _____ Blading _____ Gearing _____

Rotor shaft _____ Thrust shaft Feb. 21st Tunnel shafts _____ Screw shaft Feb. 19th Propeller Feb. 24th

Stern tube Oct 12th Steam pipes tested Feb. 26th Engine and boiler seatings Jan 23rd Engines holding down bolts Mar. 6th

Completion of pumping arrangements Feb. 16th Boilers fixed Jan 23rd Engines tried under steam Mar 6th

Main boiler safety valves adjusted Mar 6th Thickness of adjusting washers Lock nuts.

Material and tensile strength of Rotor shaft _____ Identification Mark on Do. _____

Material and tensile strength of Pinion shaft _____ Identification Mark on Do. _____

Material of Wheel shaft _____ Identification Mark on Do. _____ Material of Thrust shaft steel Identification Mark on Do. No. 31, 23

Material of Tunnel shafts steel Identification Marks on Do. No. 2030 JB, 59, 29, 1, 17 Material of Screw shafts steel Identification Marks on Do. No. 31, 23, 39, 29

Material of Steam Pipes steel Test pressure 630 lbs.

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 a duplicate of a previous case yes If so, state name of vessel "CAPTO" - S.Fc. Rpt. No. 2436.

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery & Boilers were constructed under

Special Survey, of materials tested to rule requirements. Workmanship sound throughout.

On completion the Machinery was thoroughly tested under working conditions with satisfactory results.

In the opinion of the undersigned the Machinery is eligible to be classed in the Register Book with

notation of *LMC 3,17 Fitted for oil fuel 3,17 F.P. above 150°F. Electric Light.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 3. 17.

1 Geared Steam Turbine

Fitted for oil fuel 3.17. F.P. above 150°F

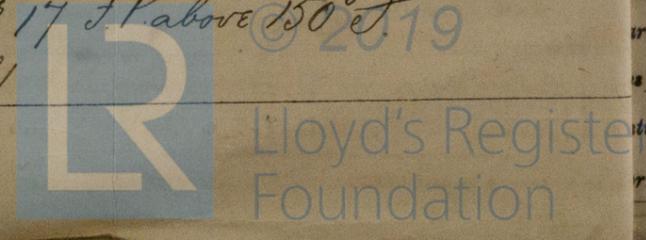
The amount of Entry Fee ... \$ 15.00 :
Special ... \$ 220.00 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) N Y £ 1.25 :
1/3 fee, credit N.Y.

When applied for, Mar. 28 1917
When received, 19/5/17

[Signature]
[Signature]
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York APR 5 1917

Assigned + Lmc 3.17 Fitted for oil fuel 3.17 F.P. above 150°F
Elec Light



Certificate (if required) to be sent to _____

MACHINERY ... 24.4.17