

REPORT ON OIL ENGINE MACHINERY.

No. 43494

Received at London Office WED. APR 21 1924

Date of writing Report

10

When handed in at Local Office

28.3.24

Port of Glasgow.

No. in
Reg. Book.

Survey held at

Glasgow.

Date, First Survey

15th Aug 1923

Last Survey

26th March 1924

Number of Visits

54

on the ^{Single}
~~Twin~~ } Screw vessels

M/S "LUXMI"

Tons { Gross 4148
Net 2537

Master

Built at

Glasgow

By whom built

Harland & Wolff Ltd

No. 642

When built

1924

Engines made at

Glasgow

By whom made

Harland & Wolff Ltd

Engine No. 642

When made

1924

Donkey Boilers made at

Annan

By whom made

Cochran & Co Ltd

Boiler No. 9223

When made

1923

Brake Horse Power

1850

Owners

Messrs Andrew Weir & Co Ltd

Port belonging to

Nom. Horse Power as per Rule

489

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

OIL ENGINES, &c.—Type of Engines

DIESEL

2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders

500 LBS/S

No. of cylinders

6

No. of cranks

6

Diameter of cylinders

29 1/8" 740 mm

Length of stroke

1500 mm

Revolutions per minute

90

Means of ignition

COMPRESSION

Kind of fuel used

ABOVE 150°F

Is there a bearing between each crank

YES

Span of bearings (Page 92, Section 2, par. 7 of Rules)

1004 mm

Distance between centres of main bearings

1450 mm

Is a flywheel fitted

YES

Diameter of crank shaft journals

as per Rule

470 mm

Diameter of crank pins

485 mm

Breadth of crank webs

as per Rule 625 SOLID

Thickness of ditto

as per Rule

263 mm

Diameter of flywheel shaft

as per Rule

470 mm

Diameter of tunnel shaft

as per Rule

13 1/8"

Diameter of thrust shaft

as per Rule

13 1/4"

Diameter of screw shaft

as per Rule

14"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

YES

No O.G.

Is the after end of the liner made watertight 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

YES

If without liners, is the shaft arranged to run in oil

YES

Type of outer gland fitted to stern tube

WOOD LINED STERN BUSH

Length of stern bush

6'-0"

Diameter of propeller

15'-9"

Pitch of propeller

15 (VARIABLE 14 1/2 TO 16 1/2)

No. of blades

4

state whether moveable

MOVEABLE

Total surface

78

square feet

Method of reversing

AIR

Is a governor or other arrangement fitted to prevent racing of the engine

YES

Thickness of cylinder liners

80 to 10 mm

Are the cylinders fitted with safety valves

YES

Means of lubrication

SLIGHT & FORCED FEED

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

YES

No. of cooling water pumps

2

Is the sea suction provided with an efficient strainer which can be cleared

within the vessel

YES

No. of bilge pumps fitted

2 { 1 WORKING
1 EMERGENCY

Diameter of ditto

7" DUPLEX

Stroke

7"

Can one be overhauled while the other is at work

YES

No. of auxiliary pumps connected to the main bilge lines

5

How driven

ELECTRIC MOTOR

Sizes of pumps

2 CIR. 7 1/2" DIA. 100 TONS EACH

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps

—In engine room

2 1/2" DIA. 1 1/2" DIA. 1 1/2" DIA.

In hold

2 1/2" DIA. 1 1/2" DIA. 1 1/2" DIA.

Sizes of pumps

9" X 9" DUPLEX

Is the ballast pump fitted with a direct suction from the engine room bilges

YES

State size

4 1/2"

Is a separate auxiliary pump suction fitted in

Engine Room and size

YES

Are all the bilge suction pipes fitted with roses

YES, WITH TAIL PIPES

the roses in Engine Room always accessible

YES

Are the sluices on Engine Room bulkheads 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 floor 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 all pipes, cocks, valves and pumps in connection with the machinery 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 funnel watertight

YES

Is it fitted with a watertight door

YES

worked from UPPER DECK. If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

No. of main air compressors

1

No. of stages

3 (65 mm)

Diameter

750 x 675 x 50 mm

Stroke

460 mm

Driven by

MAIN ENGINE

No. of auxiliary air compressors

1

No. of stages

3

Diameter

360 x 315 x 72 mm

Stroke

230 mm

Driven by

ELECTRIC MOTOR

No. of small auxiliary air compressors

1

No. of stages

2

Diameter

106 x 134 mm

Stroke

80 mm

Driven by

STEAM

No. of scavenging air pumps

1

Diameter

as per Rule

167 mm

Stroke

as per Rule

170 mm

Driven by

as per Rule

170 mm

Diameter of auxiliary Diesel Engine crank shafts

as per Rule

167 mm

Are the air compressors and their coolers made so as to be easy of access

YES

AIR RECEIVERS:—No. of high pressure air receivers

31X

Internal diameter

295 mm

Cubic capacity of each

3 1/2 88 LITRES

material

STEEL

Seamless, lap welded or riveted longitudinal joint

SEAMLESS

Range of tensile strength

28-32 TONS

thickness

59"

working pressure by Rules

1400 LBS/S

No. of starting air receivers

TWO

Internal diameter

6'-0 3/8"

Total cubic capacity

1076 CU. FT.

Material

STEEL

Seamless, lap welded or riveted longitudinal joint

T.R.D.B.S.

Range of tensile strength

27-32 TONS

thickness

1 1/2"

Working pressure by rules

358 LBS/S

Is each receiver, which can be isolated,

fitted with a safety valve as per Rule

YES

What means are provided for cleaning their

inner surfaces

DETACHABLE HEADS & MANHOLE DOORS

YES

Is there a drain arrangement fitted at the lowest part of each receiver

YES

004364-004368-0371

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
COVERS	5-11-23 to 14-11-23	15 LBS/SQ	50 LBS/SQ	HMB.	
JACKETS	5-11-23 to 14-12-23	15 LBS/SQ	50 LBS/SQ	HMB.	
PISTON WATER PASSAGES	17-10-23 to 23-11-23	15 LBS/SQ	50 LBS/SQ	HMB.	
MAIN COMPRESSORS—1st STAGE	30-11-23	71 LBS/SQ	150 LBS/SQ	HMB.	
2nd	31-10-23	220 LBS/SQ	500 LBS/SQ	HMB.	
3rd	7-11-23	1000 LBS/SQ	2000 LBS/SQ	HMB.	
AIR RECEIVERS—STARTING	5-11-23	366 LBS/SQ	585 LBS/SQ	N.B.	BELFAST REPORT N° 999.
INJECTION	19-10-23 to 12-11-23	1000 LBS/SQ	2000 LBS/SQ	HMB.	A.V.N° 542, 3, 4, 6, 7.
AIR PIPES <i>STARTING</i>	18-12-23 to 3-2-24	356 LBS/SQ	712 LBS/SQ	HMB.	
FUEL PIPES <i>SUCKING & FILLING</i>	27-2-24 to 29-2-24	✓	30 LBS	✓	
FUEL PUMPS					
SILENCER					
WATER JACKET					
SEPARATE FUEL TANKS	26-12-23	✓	15 LBS/SQ	HMB.	

PLANS. Are approved plans forwarded herewith for shafting *Feb. 1921*
(If not, state date of approval)

Receivers *Belfast*

Separate Tanks *Yes*

SPARE GEAR *Supplied as per attached list.*

The foregoing is a correct description.

A. C. Green

Manufacturer.

MANAGER FINNIESTON WORKS

Dates of Survey while building	During progress of work in shops—	1923 Aug 15, 28 Sep 4, 14, 17, 19, 26, 27, 28 Oct 3, 12, 16, 17, 18, 19, 22, 23, 26, 30, 31 Nov 3, 5, 8, 12, 13, 14, 19, 20, 21, 22, 23 Dec 3, 4, 5, 6
	During erection on board vessel—	14, 18, 21, 26, 1924 Jan 9, 11, 18, 21, 22, 24, 5, 8, 12, 26, 27, 29 Mar 8, 7, 19, 25
	Total No. of visits	54

Dates of Examination of principal parts—Cylinders *4/12/23* Covers *5/12/23* Pistons *17/10/23* Rods *18/1/24* Connecting rods *2/1/24*
Crank shaft *1/11/23* Thrust shaft *4/12/23* Tunnel shafts *23/10/23* Screw shaft *4/12/23* Propeller *3/12/23* Stern tube *4/12/23* Engine seatings *11/1/24*
Engines holding down bolts *12/2/24* Completion of pumping arrangements *7/3/24* Engines tried under working conditions *26/3/24*
Completion of fitting sea connections *11/1/24* Stern tube *10/1/24* Screw shaft and propeller *10/1/24*

Material of crank shaft *STEEL* Identification Mark on Do. *SEE UNDER* Material of thrust shaft *STEEL* Identification Mark on Do. *2430 2405 2403 2402 2401 2400 2399 2398 2397 2396 2395 2394 2393 2392 2391 2390 2389 2388 2387 2386 2385 2384 2383 2382 2381 2380 2379 2378 2377 2376 2375 2374 2373 2372 2371 2370 2369 2368 2367 2366 2365 2364 2363 2362 2361 2360 2359 2358 2357 2356 2355 2354 2353 2352 2351 2350 2349 2348 2347 2346 2345 2344 2343 2342 2341 2340 2339 2338 2337 2336 2335 2334 2333 2332 2331 2330 2329 2328 2327 2326 2325 2324 2323 2322 2321 2320 2319 2318 2317 2316 2315 2314 2313 2312 2311 2310 2309 2308 2307 2306 2305 2304 2303 2302 2301 2300 2299 2298 2297 2296 2295 2294 2293 2292 2291 2290 2289 2288 2287 2286 2285 2284 2283 2282 2281 2280 2279 2278 2277 2276 2275 2274 2273 2272 2271 2270 2269 2268 2267 2266 2265 2264 2263 2262 2261 2260 2259 2258 2257 2256 2255 2254 2253 2252 2251 2250 2249 2248 2247 2246 2245 2244 2243 2242 2241 2240 2239 2238 2237 2236 2235 2234 2233 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