

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 94605

20 JAN 1937

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report

19

When handed in at Local Office

1911 1937 Port of

No. in Survey held at  
Reg. Book.

Wallsend

Date, First Survey

2 March 1936

Last Survey

12 Jan 1937

Number of Visits

91

Single  
on the  
Triple  
Screw vessel

HYLTON

Tons  
Gross  
Net

Built at

Sunderland

By whom built

Pickersill &amp; Sons (Ld)

Yard No. 232

When built 1937

Engines made at

Wallsend

By whom made

North Eastern Marine Eng Co. Ld

Engine No. 284

When made 1937

Donkey Boilers made at

Wallsend

By whom made

North Eastern Marine Eng Co. Ld

Boiler No. 284

When made 1937

Brake Horse Power

2110

Owners

W. A. Souther &amp; Co Ld.

Port belonging to

Newcastle on Tyne

Nom. Horse Power as per Rule

343

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Trade for which vessel is intended

24 3/8

51 1/8"

## OIL ENGINES, &amp;c.

Type of Engines

Diesel

Airless Injection

2 or 4 stroke cycle

4

Single or double acting

Single

Maximum pressure in cylinders

700 lbs

Diameter of cylinders

620 mm

Length of stroke

1300 mm

No. of cylinders

6

No. of cranks

6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

860 mm

Is there a bearing between each crank

Yes

Revolutions per minute

106.5

Flywheel dia.

8' 11"

Weight

11.57 tons

Means of ignition

Compressor

Kind of fuel used

Heavy oil

Crank Shaft, dia. of journals

as per Rule

app 4 25 mm

Crank pin dia.

4 25 mm

Crank Webs

Mid. length thickness

850 mm

shrink

Thickness parallel to axis

265 mm

Thickness around eye-hole

210 mm

Flywheel Shaft, diameter

as per Rule

4 25 mm

Intermediate Shafts, diameter

as per Rule

11 5/8"

Thrust Shaft, diameter at collars

as per Rule

12 1/4"

as fitted

12 1/4"

as fitted

12 1/4"

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

12 7/8"

as fitted

13"

Is the

screw

shaft fitted with a continuous liner

Yes

Bronze Liners, thickness in way of bushes

as per Rule

as fitted

11/16"

Thickness between bushes

as per rule

9/16"

as fitted

23/32"

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 junctions made by fusion through the whole thickness of the liner

—

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 liners are fitted, is the shaft lapped or protected between the liners

—

Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft

No

If so, state type

—

Length of Bearing in Stern Bush next to and supporting propeller

4'-6"

Propeller, dia.

15'-0"

Pitch

Varying 12 ft at tip

No. of blades

4

Material

Bronze

whether Moveable

No

Total Developed Surface

88

sq. feet

Method of reversing Engines

Compressed Air

Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched

Yes

Means of lubrication

Forced

Thickness of cylinder liners

50 mm

Are the cylinders fitted with safety valves

Yes

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

lagged

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

To funnel

Cooling Water Pumps, No. one

on Main Engines

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

Yes

What special arrangements are made for dealing with cooling water if discharged into bilges

Overboard.

Bilge Pumps worked from the Main Engines, No. one

Diameter

140 mm

Stroke

254 mm

Can one be overhauled while the other is at work

—

Pumps connected to the Main Bilge Line

No. and Size

1-9x11x10

How driven

Steam

Steam

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

1-7x7x8

1 on Main Engines and

two others

27.1.37

Are two independent means arranged for circulating water through the Oil Cooler

Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces

4-3" diameter

In Engine Room

Cofferdams

Forward

1 @ 2 1/2"

In Pump Room

1 @ 2 1/2"

In Tunnel Well

1-@ 3"

In Holds, &amp;c.

No 1-2 @ 3"

No 2-2 @ 2 1/2"

No 3-2 @ 3 1/2"

No 4-2 @ 3"

No 5-2 @ 3"

Tunnel well

1-@ 3"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

2-5" dia.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Yes

Are the Bilge Suctions in the Machinery Spaces

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Yes

Are all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted with Valves or Cocks

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates

Yes

Are the Overboard Discharges above or below the deep water line

Both

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 pass through the bunkers

None

How are they protected

Yes

What pipes pass through the deep tanks

Forward Bilge suction

Have they been tested as per Rule

Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

compartment to another

Yes

Is the Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from upper deck level

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

Main Air Compressors, No.

Airless injection

No. of stages

2

Diameters

HP 3 1/2" LP 8 1/4"

Stroke

7"

Driven by

Steam

Auxiliary Air Compressors, No.

Two

No. of stages

2

Diameters

HP 3 1/2" LP 8 1/4"

Stroke

7"

Driven by

Steam

Small Auxiliary Air Compressors, No.

—

No. of stages

—

Diameters

—

Stroke

—

Driven by

—

Scavenging Air Pumps, No.

—

Diameter

—

Stroke

—

Driven by

—

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

—

Position

—

—

—

—

—

—

—

—

—

—

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Yes

fitted on compressor

Can the internal surfaces of the receivers be examined and cleaned

Yes

Is a drain fitted at the lowest part of each receiver

Yes

High Pressure Air Receivers, No.

—

Cubic capacity of each

—

Internal diameter

—

Thickness

—

Seamless, lap welded or riveted longitudinal joint

Material

—

Range of tensile strength

—

Working pressure

by Rules

Actual

Starting Air Receivers, No.

Two

Total cubic capacity

350 Cubic feet

Internal diameter

5'-3"

Thickness

1 1/2"

by Rules

Actual

Seamless, lap welded or riveted longitudinal joint

Material

T.R.D.B.S.

Stal

Range of tensile strength

29/33 tons

Working pressure

by Rules



IS A DONKEY BOILER FITTED? *Yes* If so, is a report now forwarded? *Yes*  
Is the donkey boiler intended to be used for domestic purposes only? *No*  
PLANS. Are approved plans forwarded herewith for Shafting *Yes* Receivers *Yes* Separate Tanks *Yes*  
Donkey Boilers *Yes* General Pumping Arrangements *Yes* Oil Fuel Burning Arrangements *No*

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Yes To Rule*  
State the principal additional spare gear supplied: 1 set of studs & nuts for valves on 1 cylinder, 1 set of bearings Top & bottom ends & main bearing, 6 exhaust valves, 2 inlet valves, 2 cylinder relief valves, 1 fuel pump with complete, 3 Reversing Engine piston rings, 6 camshaft coupling bolts, 1 cast iron propeller, 1 propeller shaft, spare links for cam shaft chain, 1 piston, 2 starting air valves, 1 Piston cooling from bore pipe.  
Compressors. 1 pair top & bottom end brasses & bolts & nuts, 1 set of piston rings for steam cylinders & for air cylinders, 2 sets each of valve plates & springs.  
Auxiliary pumps. 1 set of piston rings for each size fitted, 1 set of bucket rings for each size fitted, 1 set each of valves for each size.  
Oil burning Installation. 4 burner bodies & caps, 16 nozzles, 16 diaphragms, 1 set of valves & springs.  
Air engine 1 set of piston rings, 1 pair each of top & bottom end bolts.  
Boilers - 1 safety valve spring.

The foregoing is a correct description,

for THE NORTH EASTERN MARINE ENGINEERING CO LTD

John Neill

Manufacturer.

1936  
Dates of Survey while building: During progress of work in shops - Mar. 2, 10, 12, 16, 30, Apr. 1, 6, 15, 17, 21, 23, 27, May 4, 5, 13, 18, June 5, 10, 11, July 7, 10, 14, 16, 21, 24, 28, 29, 30, Aug. 4, 10, 12, 14, 18, 19, 20, 21, 24, 25, 26, 27, 28, 31, Sep. 1, 3, 7, 8, 9, 11, 15, 17, 18, 22, 23, 30, Oct. 5, 13, 15, 16, 21, 22, 23, 26, 29, Nov. 3, 4, 5, 6, 9, 10, 11, 12, 18, 24, 25, 30, Dec. 3, 4, 8, 9, 18, 22, 23, 28, 29, 30, 1937 Jan. 5, 6, 7, 8, 11, 12.  
During erection on board vessel -  
Total No. of visits 91

Dates of Examination of principal parts - Cylinders 21-8-36 Covers 12-8-36 Pistons 31-8-36 Rods 1-9-36 Connecting rods 1-9-36

Crank shaft 26-8-36 Flywheel shaft 9-12-36 Thrust shaft 28-6-36 Intermediate shafts 23-9-36 Tube shaft -

Screw shaft 8-9-36 Propeller 8-9-36 Stern tube 3-9-36 Engine seatings 18-11-36 Engines holding down bolts 23-12-36

Completion of fitting sea connections 8-10-36 Completion of pumping arrangements 12-1-37 Engines tried under working conditions 12-1-37

Crank shaft, Material *Steel* Identification Mark *N° 2541 H.C.F. 26-8-36* Flywheel shaft, Material *Steel* Identification Mark *N° 6626 WEL J.E.S. 25-9-36 9-12-36*

Thrust shaft, Material *Steel* Identification Mark *N° 8737 J.D. H.C.F. 25-8-36 26-8-36* Intermediate shafts, Material *Steel* Identification Marks *N° 8738 J.D. H.C.F. 23-9-36*

Tube shaft, Material *-* Identification Mark *-* Screw shaft, Material *Steel* Identification Mark *N° 8739 W.F. H.C.F. 8-9-36*

Is the flash point of the oil to be used over 150° F. *Yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* If so, have the requirements of the Rules been complied with *Yes*

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *Yes*

Is this machinery duplicate of a previous case *No* If so, state name of vessel *Yes*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved plans; the materials and workmanship are good. The machinery has been efficiently installed in the vessel, examined under working conditions and found satisfactory, and is eligible, in our opinion, for classification, and to have the Records L.M.C. 1-37 - C.L. in the Register Book.

The amount of Entry Fee .. £ 5 : 0 : 0 When applied for, 19 JAN 1937  
Special ... .. £ 76 : 9 : 0  
Donkey Boiler Fee .. £ 13 : 18 : 0  
2 Reversed Air Receivers .. £ 4 : 4 : 0  
Travelling Expenses (if any) £ : : 29.1.1937  
When received, 29.1.1937

Committee's Minute  
Assigned + Lmbs 1-37 258-15010  
Oct. 1937

