

REPORT ON OIL ENGINE MACHINERY.

No. 105673

1 NOV 1948

te of writing Report 30-10-1948 When handed in at Local Office

9-NOV 1948

Received at London Office

Port of NEWCASTLE-ON-TYNE

Survey held at Newcastle

Date, First Survey 18th JUNE 1947

Last Survey 27th OCT 1948

1948

Single on the Triple Quadruple

Screw vessel ATHELKNIGHT.

Tons Gross Net

uilt at Sunderland

By whom built Sir James Laing & Co. Ltd

Yard No 779 When built 1948-

Engines made at Wallsend

By whom made N.E. Mar. Eng. Co. (1938) Ltd.

Engine No 3153 When made 1948

onkey Boilers made at ditto

By whom made ditto

Boiler No 3153 When made 1948

ake Horse Power 4350.

Owners ATHEL LINE

Port belonging to LONDON.

N. Power as per Rule 902

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ade for which vessel is intended Ocean going

L ENGINES, &c. —Type of Engines Opposed piston type 2 or 4 stroke cycle 2 St. Single or double acting Single acting

aximum pressure in cylinders 640 lb/sq in Diameter of cylinders 670 m.m. Length of stroke 2320 m.m. No. of cylinders 4. No. of cranks Three-throw

ean Indicated Pressure 189 lb. Ahead Firing Order in Cylinders 1.3.4.2. Span of bearings, adjacent to the crank, measured bet. each 3-throw

om inner edge to inner edge 1300 m.m. Is there a bearing between each crank 3-throw Heat of Kind of fuel used Heavy oil fuel

Wheel dia. 1710. Weight 3.75 tons Moment of inertia of flywheel 16165.42 or Kg cm. 2. Means of ignition Compression Kind of fuel used Heavy oil fuel

ank shaft, Solid forged dia. of journals 500 Crank pin dia. 500 SIDE Crank webs SOLID Mid. length breadth 910. CENTREWEBS shrunk Thickness parallel to axis 285.

Wheel Shaft, diameter as per Rule as fitted 22 3/4" Thrust Shaft, diameter at collars as fitted 500.

be Shaft, diameter as per Rule as fitted 20" Is the tube screw shaft fitted with a continuous liner Yes

ronze Liners, thickness in way of bushes as fitted 13" Thickness between bushes as per Rule as fitted 5/8" Is the after end of the liner made watertight in the

opeller boss. Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner.

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-erosive. a close fit.

If two liners are fitted, is the shaft lapped or protected between the liners. Yes Is an approved Oil Gland or other appliance fitted at the after

d of tube shaft No If so, state type. Length of bearing in Stern Bush next to and supporting propeller 62 1/2"

opeller, dia. 16'6" Pitch 13'10" No. of blades 4. Material Brge. whether moveable No Total developed surface 106 sq. feet

oment of inertia of propeller 16165.42 or Kg cm. 2. Kind of damper, if fitted Bobby De-tuner.

ethod of reversing Engines Compressed air by hand lever. Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched Yes Means of

abrication Forced Thickness of cylinder liners 25 m.m. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

agged with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

uck to the engine. Cooling Water Pumps, No. 2 for Jacket C.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel. Yes

ilge Pumps worked from the Main Engines, No. NIL Diameter Stroke Can one be overhauled while the other is at work.

umps connected to the Main Bilge Line No. and size 3 PUMPS:- Ballast 12 1/2 x 15 1/2 x 24; Bilge 7 1/2 x 8 x 18; Bilge 7 1/2 x 8 x 18. 100 tons/hr

the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

rangements. Ballast Pumps, No. and size One 12 1/2 x 15 1/2 x 24 Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 by M. Eng. 130 x 450 = 42 tons/hr

re two independent means arranged for circulating water through the Oil Cooler. Yes Suctions, connected to both main bilge pumps and auxiliary

lge pumps, No. and size:—In machinery spaces 3 of 3 1/2"; 1 of 2 1/2" at the bottom; 2 of 2 1/2" at the top. In pump room 2 of 2 1/2" at 2 ft. + 1 of 3"

holds, &c. Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 of 5 1/2" (one Port + one Starboard).

re all the bilge suction pipes in holds and tunnel well fitted with strum-boxes. Yes Are the bilge suction in the machinery spaces led from easily

ccessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges. Yes

re all Sea Connections fitted direct on the skin of the Ship. Yes Are they fitted with valves or cocks. With both. Are they fixed

efficiently 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.

re 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

That pipes pass through the bunkers. NIL How are they protected.

That pipes pass through the deep tanks. NIL Have they been tested as per Rule.

re all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times. Yes

s 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

paces, or from one compartment to another. Yes Is the shaft tunnel watertight. NIL Is it fitted with a watertight door. worked from.

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

ain Air Compressors, No. 2. No. of stages. diameters. stroke. driven by. Auxiliary Air Compressors, No. 2. No. of stages. diameters. stroke. driven by Steam Lugs. Small Auxiliary Air Compressors, No. NIL. No. of stages. diameters. stroke. driven by. That provision is made for first charging the air receivers. Steam driven Air Compressors. scavenging Air Pumps, No. One double acting. diameter 1550 m.m. stroke 1320 m.m. driven by Main Engine. Auxiliary Engines crank shafts, diameter as per Rule as fitted 3 sets of 50 Kw each (one Oil Lupt + Two Steam) + 2 Steam driven Air compressors. Position ALL IN MAIN ENG. ROOM. Have the auxiliary engines been constructed under special survey. Yes. Is a report sent herewith. YES FOR OIL ENG. CERTS FOR STEAM ENGS.

CONTD. OVER

2510-422400-392400

AIR RECEIVERS:—Have they been made under survey *Yes* State No. of report or certificate *✓*
Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes* *Safety valves also on Air Compressors.*
Can the internal surfaces of the receivers be examined and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*
Injection Air Receivers, No. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*
Seamless, welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *✓*
Starting Air Receivers, No. *2* Total cubic capacity *300 cu ft* Internal diameter *4'-0 1/4"* thickness *1 3/32"*
Seamless, welded or riveted longitudinal joint *Riveted* Material *M Stl* Range of tensile strength *29 to 33 tons* Working pressure *612*
ARE DONKEY BOILERS 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 *Crankshaft 10-10-46* *Sterlingdon 10-9-47* Separate fuel tanks *27-2*
(If not, state date of approval) *Line shafting 11-6-47*
Donkey boilers *17-1-47* General pumping arrangements *✓* Pumping arrangements in machinery space *14-4-48*
Oil fuel burning arrangements *14-4-48*
Have Torsional Vibration characteristics been approved *Yes* Date of approval *26th Aug. 1947*
SPARE GEAR.
Has the spare gear required by the Rules been supplied *Yes*
State the principal additional spare gear supplied *1 Cyl liner complete, 2 Piston Heads, 1 upper + 1 lower piston SKI*
1 upper + 1 lower Piston Rods, 4 Fuel Valves, etc etc.

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.
The foregoing is a correct description, and the particulars of the installation, as fitted, are as approved for torsional vibration characteristics.

DIRECTOR
During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits *111*

Dates of examination of principal parts—Cylinders *15-9-47 to 22-12-47* Pistons *9-3-48* Rods *9-3-48* Connecting rods *9-3-48*
Crank shaft *27-11-47* Flywheel shaft *27-11-47* Thrust shaft *27-11-47* Intermediate shafts *23-4-48* Tube shaft *✓*
Screw shaft *16-4-48* Propeller *at ship 11-5-48* Stern tube *at ship 10-4-48* Engine seatings *10-5-48* Engine holding down bolts *16-6-48*
Completion of fitting sea connections *23-4-48* Completion of pumping arrangements *15-7-48* Engines tried under working conditions *at sea 26th 1947*
Crank shaft, material *M. Stl* Identification mark *LLOYDS 6789 J.D* Flywheel shaft, material *M Stl* Identification mark *40 Crank S*
Thrust shaft, material *✓* Identification mark *25-7-47* Intermediate shafts, material *M Stl* Identification marks *S 1111 EB, S 1448*
Tube shaft, material *✓* Identification mark *✓* Screw shaft, material *M. Stl* Identification mark *WORKING. S 1168 EB*
Identification marks on air receivers *STARTING LLOYDS TEST 800 LBS W P 600 LBS PORT 1-4-48 STAR 2-4-48 AN.* SPARE *S 1193 EB*

Welded receivers, state Makers' Name *✓*
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*
Description of fire extinguishing apparatus fitted *Steam fire smothering in Bkr Rm. also 10 of 2 gallon Chemical + 1 of 10 gallon*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *✓* If so, have the requirements of the Rules been complied with *✓*
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with *not desired*
Is this machinery duplicate of a previous case *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed and fitted on board under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good. The machinery was tested under full working conditions at sea and found satisfactory, and is eligible in my opinion for record + LMC, 10-48, and the notations Machy aft. 2 DB WP 180 lb, TS CL.*

The amount of Entry Fee ... £ *255-8/-* When applied for *9 NOV 1948*
Special ... *255-8/-* When received *19*
Fab Constrn Bed. Intab. Colof *17-4/-*
2 Donkey Boilers Fee... *61-6/-*
2 Starting Air Recy (150 ft³) *8-0/-*
Travelling Expenses (if any) *✓*
Committee's Minute *FRI, 3 DEC 1948*
Assigned *+ LMC 10-48 Oil Eng C.L. 2 DB 180 lb.*
A Watt.
Engineer Surveyor to Lloyd's Register of Shipping
Lloyd's Register Foundation