

REPORT OF SURVEY FOR REPAIRS, &c., OF ENGINES AND BOILERS

(Received at London Office 30 NOV 1946)

Date of writing Report 10 When handed in at Local Office 20. 11. 46 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book 61225 Survey held at Hebburn & Jarrow Date First Survey Jan 29 Last Survey 7th Nov 1946 (No. of Visits 38)

on the Machinery of the Wood, Iron or Steel S/T "NORTHERN DUKE"

Tonnage Gross 622 Net 243 233 Vessel built at Westmünd-G By whom Deutsche Sch-u-ffsch. A.G. Seebeck When 1936. 11

Nominal Horse Power 164 MN Engines made at Westmünd G By whom Deutsche Schiff-u-ffsch. A.G. Seebeck When 1936

No. of Main Boilers 1 SB (SA) Owners Northern Sawlars Ltd. Managers H. Markham book. Owners' Address London Voyage

No. of Donkey Boilers - Steam Pressure in Main Boilers 224 lb If Surveyed Afloat & in Dry Dock Palmer's (Hebburn) S.S. & alongside at Palmer's (Jarrow)

Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

Last Report No. Port

Particulars of Examination and Repairs (if any) +LMC & Cons. to O.F.

(Periodical Surveys, when held, must be reported in detail and seriatim in the terms of the Rules. State clearly the cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.

In damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined

Was a damage report made by anyone else? If so, by whom?

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? Yes.

Did the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time? No.

If this was not done, state for what reasons

And what parts of the Boilers could not be thus thoroughly examined?

Also what special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler?

State latest date of internal examination of each boiler 14.9.46

Did the Surveyor examine the Safety Valves of the Main Boiler? Yes To what pressure were they afterwards adjusted under steam? 224 lbs/sq"

Did the Surveyor examine the Safety Valves of Donkey Boiler? No To what pressure were they afterwards adjusted under steam?

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? Yes, and of the Donkey Boilers?

Did the Surveyor examine the drain plugs of the Main Boilers? No, and of the Donkey Boilers?

Did the Surveyor examine all the mountings of the Main Boilers? Yes, and of the Donkey Boilers?

Has the screw shaft now been drawn and examined? Yes Is it fitted with continuous liner? Yes Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated?

Has shaft now been changed? No LINER RENEWED If so, state reasons

Has the shaft now fitted been previously used? No Has it a continuous liner? No Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated?

State date of examination of Screw Shaft 26.6.46 State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft Rewooded.

Engine parts, when referred to by numbers, should be counted from forward. Is electric light and/or power fitted Yes.

If so, did the Surveyor examine the generators, motors, switchgear, cables and fuses? See separate report.

Has the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms?

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done To complete the survey, the steam smothering pipes to be further extended. Gurnsey surveyors advised. How done:-

Vessel placed in dry dock, propeller, screw shaft, stern bush, sea connections and fastenings examined & found or placed in good order. Main engines opened out & the following parts examined:- cylinders, pistons, slide valves, steam chests, crankshaft pins & journals, bottom end & main bearings (crankshaft lifted) L.P. Exhaust turbine in its entirety, thrust shaft, intermediate shaft & their bearings. Condenser opened out, examined & hydraulically tested with satisfactory results. Main engine attached pumps, independent feed, circulating, G.S. & Lub. Oil pumps. dynamo engines, steering engine & windlass opened out & examined. P.T.O.

General Observations, Opinion, and Recommendation:- The machinery of this vessel is eligible (State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, B.S. 9,11, B.&M.S. 9,11, & L.M.C. 9,11, or OS 3,34, in our opinion to remain as classed with fresh record of +LMC 11.46 and notations of TS-CL 6.46. and Oil fuel fitted 11.46. (Flash point above 150°F) when the steam smothering pipes have been extended.

Survey Fee (per Section 29) +LMC £ 9 : 0 : 0 Fees applied for

INSTALLATION OF O.F. BURNING £ 5 : 5 : 0

Special Damage or Repair Fee (if any) £

Licensed base

Travelling expenses (if claimable) £

Committee's Minute

Assigned +LMC 11.46 5.6.46

Received by me, A. Butler & Co. J. H. Lusk, Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 3 JAN 1947

CERTIFICATE WRITTEN.

003946-004002-0262



If so, is the Report sent now, or when will it be sent?

Insert Character of Ship and Machinery precisely as in the Register Book

Is a Certificate required? If so, to be sent to

Steam pipes removed, hydraulically tested to 460 lbs/sq. in. and examined internally with satisfactory results.

Main boiler opened out & examined internally and externally together with manhole doors, mountings, & superheaters, & safety valves adjusted under steam to 224 lbs/sq. in.

Main and auxiliary machinery tried under working conditions and found satisfactory.

Oil Fuel Installation

This vessel has at this time been fitted for Oil Fuel burning in accordance with the approved plans (enclosed) and Secretary's letters dated 21/6/46: 26/7/46: 29/7/46. Control of Oil Fuel suction, oil fuel unit, transfer pump & steam smothering fitted as per rule requirements, & tank heating coils, & oil fuel pipe lines tested after jointing as required by rules.

Particulars of new installation in connection with the systems are as follows:-

Oil fuel unit "White-hew" system O.F. unit. Contract No 1309. (Certificate No 22941 herewith)

"Victor" Oil Separator No 314 made by R. H. Green & Silley Weir Ltd. London.

Transfer Pump, made by Mess. Lamont, Paisley. Pump No 20342.

Diesel Oil Pump, made by Mess. Lamont, Paisley. Pump No 20341.

Pneumometer system of sounding fitted and tested on completion & found satisfactory.

On finally testing the complete installation, it was considered that the steam smothering spraying pipes had not been sufficiently extended, but in order that the vessel should not be delayed, it was arranged with the owner's superintendent to have this matter attended to on arrival at Grimsby, where the vessel is now proceeding. Grimsby surveyors have been advised accordingly.

The following repairs now effected:-

Cast iron propeller renewed. Stern bush renewed and tail shaft lines renewed. (Certificate herewith)

Main Engine L.P. piston rod renewed (Forging certificate herewith)

M.P. cylinder rebored and piston fitted with Lockwood & Bartlett type rings.

Main bearings & Bottom end bearings remetalled, crankshaft rebored, & bearings all adjusted. L.P. Exhaust turbine completely dismantled, cleaned, and reassembled, a few minor adjustments made.

Condenser tubes & tube plates removed, & cleaned. Several tubes & ferrules renewed & condenser hydraulically tested on completion.

Boiler combustion chamber sideplates cropped & part renewed & combustion chamber stays renewed as recommended.

All plain & stay tubes renewed (Advice note herewith)

All furnaces renewed. (Advice note herewith)

All Superheater elements & headers removed & overhauled, tested, and renewed as found necessary by The Superheater Co. Ltd. Manchester. (Test certificates herewith).

All auxiliary machinery completely dismantled & reconditioned - made efficient.

Other minor repairs effected.

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