

REPORT ON OIL ENGINE MACHINERY.

No. 18205.

6 FEB 1947

Received at London Office

Date of writing Report 26th Jan 1947. When handed in at Local Office 29th Jan 1947. Port of MIDDLESBROUGH.

No. in Survey held at MIDDLESBROUGH. Date, First Survey 29th Mar. 1946. Last Survey 23rd Jan. 1947. Reg. Book. Number of Visits 61.

Single on the Twin Triple Quadruple Screw vessel. m.v. "BRITISH ADMIRAL". Tons { Gross... 8738 Net... 4983

Built at Haverton Hill. By whom built Furness S.B. Co. Ltd. Yard No. 390 When built 1946

Engines made at Sunderland. By whom made Wm. Doxford & Sons Ltd. Engine No. 253 When made 1946

Donkey Boilers made at Wallsend. By whom made N.E. Marine Eng. Co. (1938) Ltd Boiler No. 2764 When made 1946

Brake Horse Power 3100 Owners British Tankers Ltd. Port belonging to London

Norm. Horse Power as per Rule 688 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended.....

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

Maximum pressure in cylinders..... Diameter of cylinders..... Length of stroke..... No. of cylinders..... No. of cranks.....

Mean Indicated Pressure..... Is there a bearing between each crank.....

Span of bearings, adjacent to the crank, measured from inner edge to inner edge.....

Revolutions per minute..... Flywheel dia..... Weight..... Means of ignition..... Kind of fuel used.....

Crank shaft, { Solid forged dia. of journals as per Rule..... Crank pin dia..... Crank webs Mid. length breadth..... Thickness parallel to axis..... Semi built as fitted..... Crank webs shrunk Mid. length thickness..... Thickness around eyehole..... All built.....

Flywheel Shaft, diameter as per Rule..... Intermediate Shafts, diameter as per Rule..... Thrust Shaft, diameter at collars as fitted..... 450 mm as fitted..... 431 mm as per Rule.....

Tube Shaft, diameter as per Rule..... Screw Shaft, diameter as per Rule..... Is the { tube screw } shaft fitted with a continuous liner { Yes.....

Bronze Liners, thickness in way of bushes as per Rule..... 27/32" Thickness between bushes as per Rule..... 21/32" 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..... Yes..... 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 tube shaft..... No..... If so, state type..... Length of bearing in Stern Bush next to and supporting propeller..... 5'11".....

Propeller, dia. 16'7" Pitch 11'5" No. of blades..... 4 Material Mang. Bronze whether moveable..... No Total developed surface..... 95 sq. feet

Method of reversing Engines..... Is a governor or other arrangement fitted to prevent racing of the engine when declutched..... Means of lubrication..... Thickness of cylinder liners..... Are the cylinders fitted with safety valves..... Are the exhaust pipes and silencers water cooled lagged with non-conducting material..... If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine.....

Cooling Water Pumps, No..... Is the sea suction provided with an efficient strainer which can be cleared within the vessel..... Yes.....

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

Pumps connected to the Main Bilge Line { No. and size..... 2 Bilge & San. 7" x 8" x 8" x 1 Ballast 10" x 12" x 10" How driven..... Steam.....

Is 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 arrangements.....

Ballast Pumps, No. and size..... 1-10" x 12" x 10" Power Driven Lubricating Oil Pumps, including spare pump, No. and size.....

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..... 3 - 3 1/2" & 2 - 2 1/2" from Trans. P to oily bilge In pump room Ford 1 - 2" Main holds, &c..... Upper hold 2-2" Lower Hold 2-2" Deep tank 2-4" Fore peak 1-4".....

Independent Power Pump Direct Suctions to the engine room bilges, No. and size..... Bilge & San. direct 1-5" & Ballast Pump bilge direct 1-8".....

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes..... Are the bilge suction 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 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..... below.....

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.....

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

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..... None..... Is it fitted with a watertight door..... worked from.....

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. 2 See London Cent. No. D. 15184 No. of stages..... 3..... diameters..... stroke..... driven by..... Steam.....

Auxiliary Air Compressors, No. None No. of stages..... diameters..... stroke..... driven by.....

Small Auxiliary Air Compressors, No. None No. of stages..... diameters..... stroke..... driven by.....

Is that provision is made for first charging the air receivers..... By own power..... Steam driven Compressor.....

Scavenging Air Pumps, No. See Sunderland Rpt. diameter..... stroke..... driven by.....

Auxiliary Engines crank shafts, diameter as per Rule..... No..... as fitted..... Position.....

Have the auxiliary engines been constructed under special survey..... Is a report sent herewith.....



002471-002476-0115

List of
 36
 412
 257
 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

AIR RECEIVERS:—Have they been made under survey... Yes ✓ State No. of report or certificate... C.1208
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule... Yes ✓
 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, lap welded or riveted longitudinal joint... Material... Range of tensile strength... Working pressure...
Starting Air Receivers, No. 2 ✓ Total cubic capacity... 300 c.ft. Internal diameter... 4' 1 1/2" thickness... 1.5/32"
 Seamless, lap welded or riveted longitudinal joint... Yes ✓ Material... OH Steel Range of tensile strength... 28/32 Working pressure...
 by Rules... 601.8 Actual... 600.1

IS A DONKEY BOILER FITTED Yes 2 ✓ If so, is a report now forwarded... Yes (No. N^o 103886)
 Is the donkey boiler intended to be used for domestic purposes only... No
PLANS. Are approved plans forwarded herewith for shafting... 3/1/46 30/1/46 Receivers... 8/5/46 Separate fuel tanks...
 (If not, state date of approval)
 Donkey boilers... - General pumping arrangements... 17/10/45 Pumping arrangements in machinery space... 21/9/46
 Oil fuel burning arrangements... 7/8/46 ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied... Yes ✓
 State the principal additional spare gear supplied... See attached list.

For RICHARDSONS, WESTGARTH & Co. LIMITED

The foregoing is a correct description... W.E. Dowridge Manufacturer.
 DIRECTOR

Dates of Survey while building { During progress of work in shops - - } 1946. Mar. 29, May 13, 15, June 27, July 2, 4, 8, 11, 17, 19, 22, 24, Aug. 6, 8, 12, 14, 15, 17, 20
 { During erection on board vessel - - } 22, 27, Sept. 2, 6, 10, 12, 17, 23, Oct. 4, 7, 9, 11, 16, 18, 22, 28, 30, Nov. 1, 4, 7, 12, 14, 18, 20, 25, 27, 28, 29, Dec. 2, 3, 4, 6, 10, 13, 24, 30, 1947 Jan. 3, 16, 21, 22, 28.
 Total No. of visits... 61.

Dates of examination of principal parts—Cylinders... - Covers... - Pistons... - Rods... - Connecting rods... -
 Crank shaft... - Flywheel shaft... - Thrust shaft... - Intermediate shafts... - Tube shaft... -
 Screw shaft... - Propeller... 8/7/46 Stern tube... 4/7/46 Engine seatings... 17/7/46 Engine holding down bolts... 4/10/46
 Completion of fitting sea connections... 11/7/46 Completion of pumping arrangements... 16.1.47 Engines tried under working conditions...
 Crank shaft, material... - Identification mark... - Flywheel shaft, material... - Identification mark... -
 Thrust shaft, material... - Identification mark... - Intermediate shafts, material... OH Steel Identification marks... 9220 J.
 Tube shaft, material... - Identification mark... - Screw shaft, material... OH Steel. Identification mark... 9221 J.D.
 Identification marks on air receivers... 21/8/46 and 4/9/46 S.W. ✓

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 smothering and perforated water pipes and Phomane, Hand Fire
 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... -
 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...
These engines and boilers were fitted on board this vessel, in accordance with the approved plans and Rule Requirements and on completion the machinery was tried out under working conditions and found satisfactory and in my opinion is now eligible for record of S.M.C. 1.47. and notation of T.S. (C.L.) 1.47. Forced draught fitted.

Journal characteristics approved in Sec. 2 of 30/1/46 E. W. M.B.C.

The amount of Entry Fee ...
1/3rd Special ... £ 36 : 9:0 : When applied for 5:2: 19 47.
 Donkey Boiler Fee... £ : : When received... 19
 Travelling Expenses (if any) £ : :
 Committee's Minute... FRI. 28 FEB 1947

S. Norman Stuart
 Engineer Surveyor to Lloyd's Register of Shipping

 Lloyd's Register Foundation

Assigned 7 LMC 147 Oil Eng.
C.L. 22A. 150/6

ML-2 (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)