

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 19 When handed in at Local Office 6 JAN 1928 19 Port of Sunderland - 7 JAN 1928

No. in Survey held at Sunderland Date, First Survey Apr. 23 '27 Last Survey Dec. 28 1927  
 Reg. Book. 41133 on the S. S. "HOLYSTONE" (Number of Visits 51) Tons { Gross 5462  
 Net 3336

Built at Sunderland By whom built Messrs Short Bros Yard No. 427 When built 1927

Engines made at Sunderland By whom made Messrs John Dickinson & Sons Engine No. 885 when made 1927

Boilers made at Sunderland By whom made Messrs John Dickinson & Sons Boiler No. 885 when made 1927

Registered Horse Power Owners Northumbrian Shipping Co. Ltd Port belonging to Newcastle

Nom. Horse Power as per Rule 332 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended General Cargo.

**ENGINES, &c.**—Description of Engines Double Compound Lentz type - Single Screw. Revs. per minute 70

Dia. of Cylinders 2 - 20 1/8" 2 - 43 3/8" Length of Stroke 43 3/8" No. of Cylinders 4 No. of Cranks 4

Crank shaft, dia. of journals as approved 12.06" Crank pin dia. 13 3/8" Crank webs Mid. length breadth 25 7/8" Thickness parallel to axis 8 3/8"

Intermediate Shafts, diameter as approved 12.06" as fitted 12 3/4" Thrust shaft, diameter at collars as approved 12.06" as fitted 13 3/8"

Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule 13.48" as fitted 14 1/4" Is the tube shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .713" as fitted 13/16" Thickness between bushes as per Rule .535" as fitted 3/4" 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 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 Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes

Length of Bearing in Stern Bush next to and supporting propeller 4' 9"

Propeller, dia. 17' 0" Pitch 14' 6" No. of Blades 4 Material Bronze whether Moveable No Total Developed Surface 91 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Bilge Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Feed Pumps { No. and size 2 - Weir's 6" x 8 1/2" x 18" Pumps connected to the Main Bilge Line { No. and size 1 - Ballant 9" x 11" x 10"; 1 - Bilge 7" x 7" x 8"  
 How driven Steam How driven Steam

Ballast Pumps, No. and size 1 - 9" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size ✓

Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 @ 2 1/2" Dia.

In Holds, &c. No 1 Hold 2 @ 2 3/4" Dia; Cross Bunkers 2 @ 3 1/2" Dia; Dup Tank 2 @ 3" Dia; aft main Hold 2 @ 2 3/4" Dia; aft Hold 2 @ 2 3/4" Dia; Tunnel Well 1 @ 2 1/4" Dia.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 7" Dia Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 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 Space 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 stokehold plates Yes Are the Overboard Discharges 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 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 None 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 Yes Is it fitted with a watertight door Yes worked from Top Platform

**MAIN BOILERS, &c.**—(Letter for record (S)) Total Heating Surface of Boilers 258,500 sq ft

Is Forced Draft fitted No No. and Description of Boilers Two Single ended Mamm type Working Pressure 220 lbs sq"

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes

PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers ✓ Donkey Boilers Yes

(If not state date of approval)

Superheaters Yes General Pumping Arrangements Yes (with Shipport) Oil fuel Burning Piping Arrangements ✓

**SPARE GEAR.** State the articles supplied:— One C.I. Propeller, One set of Coupling Bolts & Nuts, Two main Bearing Bolts & Nuts, Two Bottom End Bolts & Nuts, Two Top End Bolts & Nuts, 100 Assorted Bolts & Nuts, 100 Condenser Screws, Bars of assorted Iron, Steel Plate, Six Tube Stoppers (ordinary), Six Tube Stoppers (Patent), 12 Cylinder boiler Studs, One Propeller Shaft, 12 Tank Ring bolts & nuts, 12 Condenser tubes, & 3 pipes for Oil fuel Installation.

The foregoing is a correct description,  
 for  
John Dickinson & Sons, Limited.  
Director.

Manufacturer.



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 Foundation

W 1014

1927. Apr. 23. May 20. June 8, 15, 24. July 2, 7, 20, 22, 26, 27. Aug. 3, 5, 8, 20. Sep. 15, 20, 27. Oct. 3, 4.  
 During progress of work in shops -- 7, 11, 12, 13, 14, 17, 19, 20, 24, 25, 27. Nov. 3, 4, 7, 16, 22, 23, 24, 28. Dec. 2, 5, 6, 7, 9, 12, 17, 19, 20, 21, 28.  
 Dates of Survey while building During erection on board vessel ---  
 Total No. of visits 51

Dates of Examination of principal parts—Cylinders 3-10-27 Piston Valves Slides 22-11-27 Covers 6-10-27.  
 Pistons 20-9-27 Piston Rods 4-10-27 Connecting rods 4-10-27.  
 Crank shaft 3-10-27 Thrust shaft 7-10-27 Intermediate shafts 7-10-27.  
 Tube shaft ✓ Screw shaft 12-10-27 Propeller 24-10-27.  
 Stern tube 27-10-27 Engine and boiler seatings 23-11-27 Engines holding down bolts 9-12-27.  
 Completion of fitting sea connections 25-10-27.  
 Completion of pumping arrangements 28-12-27 Boilers fixed 5-12-27 Engines tried under steam 28-12-27.  
 Main boiler safety valves adjusted 12-12-27. Thickness of adjusting washers P.F. 3/8" P.A. 3/8" Superheater 5/16" S.F. 1/4" S.A. 1/4" S.P. 1/4"  
 Crank shaft material Ingot Steel Identification Mark 3-10-27 A.T.G. Thrust shaft material Ingot Steel Identification Mark A.T.G. 7-10-27  
 Intermediate shafts, material Ingot Steel Identification Marks (A) 2090, (B) 2975, (C) 771, (D) 2100, (E) 2550, (F) 1152, (G) 2922 Working LLOYDS No. 1110 A.T.G. 7-10-27 Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material Ingot Steel Identification Marks 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 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.  
 Is an installation fitted for burning oil fuel No ✓ A.T.G. 12-10-27. Is the flash point of the oil to be used over 150°F. ✓  
 Have the requirements of the Rules for carrying and burning oil fuel 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.)

The materials and workmanship are good.  
 The Machinery has been constructed under Special Survey, and satisfactorily fitted in the vessel, and is eligible in my opinion for classification and the notation  
 ✠ L.M.C. 12, 27.

It is submitted that  
 this vessel is eligible for  
**THE RECORD. + LMC 12.27. CL.**  
 C.4 Cy. (2) 20 1/8" & (2) 43 3/8" - 43 3/8"

*[Signature]*  
 10/11/28.

*[Signature]*  
 Engineer (Surveyor to Lloyd's Register of Shipping).

The amount of Entry Fee ... £ 5: : When applied for,  
 Special ... £ 74: 16: 6 JAN 1928  
 Donkey Boiler Fee ... £ 7: 2: When received,  
 Travelling Expenses (if any) £ : : 12-1-1928

Committee's Minute TUES. 17 JAN 1928

Assigned + L.M.C. 12.27 Cl.

CERTIFICATE WRITTEN.



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SUNDERLAND.  
 Certificate to be sent to  
 The Surveyors are requested not to write on or below the space for Committee's Minute.