

# REPORT ON MACHINERY.

Received at London Office

Date of writing Report Oct 28<sup>th</sup> 1919 When handed in at Local Office 1919 Port of Kobe

No. in Survey held at Kobe Date, First Survey June 13<sup>th</sup> Last Survey Oct 14<sup>th</sup> 1919

Reg. Book. \_\_\_\_\_ (Number of Visits 47.) Tons } Gross 5859  
Net 4259

on the Steel Single Screw Steamer "Italy Maru"

Master S. Orii Built at Kobe By whom built Kawasaki Dockyard Co. Ltd. When built 1919

Engines made at Kobe By whom made Kawasaki Dockyard Co. Ltd. when made 1919

Boilers made at do By whom made do when made 1919

Registered Horse Power \_\_\_\_\_ Owners Kawasaki Kisen Kabushiki Kaisha Port belonging to Kobe

Nom. Horse Power as per Section 28 440 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three  
 Dia. of Cylinders 26: 43 1/2: 72 Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15.41 Material of steel  
 as fitted 16" screw shaft }  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the liner made water tight  
 in the propeller boss ✓ If the liner is in more than one length are the joints burned ✓ 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 ✓ Length of stern bush 5'- 5/4"  
 Dia. of Tunnel shaft as per rule 13.48 Dia. of Crank shaft journals as per rule 14.15 Dia. of Crank pin 14 3/4 Size of Crank webs 9/2 + 20/8 Dia. of thrust shaft under  
 as fitted 13 3/4 as fitted 14 3/8 + 26/8 at pin + journal  
 collars 14 3/8 Dia. of screw 17'- 6" Pitch of Screw 19'- 0" mean No. of Blades 4 State whether moveable yes Total surface 100 sq. ft.  
 No. of Feed pumps One Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes (with Weir's feed).  
 No. of Bilge pumps Two Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines Three Sizes of Pumps Weir's feed 9/2 x 7 x 24 two No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three 3 1/2 Gen. Sw. 7/2 x 5 x 6 dupl. In Holds, &c. Nos. 1, 3 + 4 Hold each two 3 1/2"  
One 3 1/2 to tunnel well No. 2 Hold two 4"  
 No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump Cur. p. Is a separate Donkey Suction fitted in Engine room & size yes 3 1/2"  
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none  
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Larger valves, smaller Cocks.  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes 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 are carried through the bunkers None How are they protected ✓  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Up platform of E.R.

**BOILERS, &c.**—(Letter for record 9.) Manufacturers of Steel Illinois Steel Co, Carnegie Steel Co, & American  
2252 x 2 + 1132 (AUX. BLR) Spiral Pipe Co. (Furnaces).  
 Total Heating Surface of Boilers = 5636 Is Forced Draft fitted yes No. and Description of Boilers Two 5. to + Aux. 5. to.  
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 27-8-19 No. of Certificate 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  
 Can each boiler be worked separately yes Area of fire grate in each boiler 60 1/2" No. and Description of Safety Valves to  
 each boiler Two Spring loaded Area of each valve 3 3/4" dia Pressure to which they are adjusted 205 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 14'- 6" Length 12'- 0" Material of shell plates Steel  
 Thickness 1 3/8" Range of tensile strength 2678 to 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Double  
 long. seams Double Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9/8" + 4/16" Lap of plates or width of butt straps 20/8" + 1 3/8"  
 Per centages of strength of longitudinal joint rivets 95.84 Working pressure of shell by rules 200 lbs Size of manhole in shell 16" x 12"  
 plate 84.28  
 Size of compensating ring (7 1/2" flange) 1 5/16" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 48 1/4"  
 Length of plain part ✓ Thickness of plates 2 1/32" Description of longitudinal joint Weld No. of strengthening rings ✓  
 Working pressure of furnace by the rules 221 Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"  
 Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" Back 8 1/2" x 9" Top 8 1/2" x 9 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 203 lbs  
 Material of stays Steel Area at smallest part 2.1" Area supported by each stay 8 1/2" x 9 3/8" Working pressure by rules 230 lbs End plates in steam space:  
 Material Steel Thickness 1 5/8" Pitch of stays 19 3/4" x 20 1/2" How are stays secured Double nuts Working pressure by rules 201 lbs Material of stays Steel  
 Area at smallest part 10" Area supported by each stay 19 3/4" x 20 1/2" Working pressure by rules 260 lbs Material of Front plates at bottom Steel  
 Thickness 1 3/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2" at side Working pressure of plate by rules 200 lbs  
 Diameter of tubes 3/4" Pitch of tubes 4 1/16" x 4 5/16" Material of tube plates Steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 8 3/4"  
 Pitch across wide water spaces 13 3/4" + 3/4" doubled Working pressures by rules 210 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 10 3/4" + 1 3/16" (2) Length as per rule 34 1/2" Distance apart 9 3/8" Number and pitch of stays in each 3 @ 8 1/2"  
 Working pressure by rules 220 lbs Steam dome: description of joint to shell ✓ % of strength of joint \_\_\_\_\_  
 Diameter \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet holes \_\_\_\_\_  
 Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Crown plates \_\_\_\_\_ Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

**SUPERHEATER.** Type ✓ Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_  
 Date of Test \_\_\_\_\_ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_  
 Diameter of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_

