

Rpt. 4b

# REPORT ON OIL ENGINE MACHINERY.

No. 72/4.

Received at London Office

Date of writing Report 13<sup>th</sup> March 1926 When handed in at Local Office

Port of Copenhagen

No. in Survey held at Reg. Book, Spim.

Copenhagen

Date, First Survey 10<sup>th</sup> August 1925 Last Survey 4<sup>th</sup> March 1926 Number of Visits 68

40052 on the Single Motor Screw Vessel "MOMBA."

Tons Gross 3020.74 Net 1758.17

Built at Copenhagen By whom built Akt. Burmeister & Wain's Maskin og Skibsbyggeri Yard No. 341. When built 1926

Engines made at Copenhagen By whom made Akt. Burmeister & Wain's Maskin og Skibsbyggeri Engine No. 1153. When made 1926

Donkey Boilers made at Copenhagen By whom made Akt. Burmeister & Wain's Maskin og Skibsbyggeri Boiler No. 1790 When made 1926

Brake Horse Power 1650. Owners The Adelaide Steamship Co., Ltd. Port belonging to Sydney. N.S.W.

Nom. Horse Power as per Rule 473. Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted yes

OIL ENGINES, &c. Type of Engines Vertical Diesel Oil Engine (Crosshead type) 2 or 4 stroke cycle 4 Single or double acting Single Maximum pressure in cylinders 35 kg/cm<sup>2</sup> No. of cylinders 8 Diameter of cylinders 630 mm = 24 13/16" No. of cranks 8 Length of stroke 300 mm = 51 3/16"

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank yes

Revolutions per minute 92. Flywheel dia. 2620 mm Weight 14 tons Means of ignition Air compression Kind of fuel used Crude oil. Flash point above 150°F

Crank Shaft, dia. of journals as per Rule 412.5 mm as fitted 414 mm Crank pin dia. 414 mm Crank Webs Mid. length breadth 650 mm Mid. length thickness 266 mm Thickness parallel to axis 266 mm Thickness around eye hole 185 mm

Flywheel Shafts, diameter as per Rule 412.5 mm as fitted 414 mm Intermediate Shafts, diameter as per Rule 11.4" as fitted 11 1/2" Thrust Shaft, diameter at collars as per Rule 11.97" as fitted 12 1/2"

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 12.73" as fitted 12 3/4" Is the shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes as per Rule 0.7" as fitted 13/16" & 7/8" Thickness between bushes as per rule 0.56" as fitted 9/16" 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 Liners fitted in one length

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 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 5' 3"

Propeller, dia. 15' 6" Pitch 11' 6" No. of blades 4 Material Bronze whether Moveable no Total Developed Surface 75 sq. feet

Method of reversing Engines Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when disclutched yes Means of lubrication

Thickness of cylinder liners 46 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Led up inside a funnel

Cooling Water Pumps, No. 1 off. 80 tons, - and the ballast pump Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Bilge Pumps fitted to the Main Engines, No. 1 off. Diameter of trunk 160 mm Stroke 228 mm Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line No. and Size 2 off, diam of trunks 6 1/2" stroke 9", capacity 26 tons, - 1 off, centrifugal, Drysdale patent, capacity 150 tons

How driven by electric motor by electric motor

Ballast Pumps, No. and size capacity 150 tons. Lubricating Oil Pumps, including Spare Pump, No. and size 2 off, rotary cog wheel pumps capacity of each 40 tons

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 Engine and Room 3 off, each 3" diam. and 1 off - 4" diam. - In tunnel well 1 off - 3" diam. - In F.P.T. 1 off 3" & 1 off 1 1/2" diam. In A.P.T. 1 off - 2 1/2" diam.

In Holds, &c. In No. 1, 2 & 3 holds 2 off in each 3" diam. - In No. 4 hold 1 off - diam 3" In DB tanks 3" diam each arranged as per approved plan.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off - 6" diam connected to the ballast pump.

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 Please see London Letter E dated the 30<sup>th</sup> June 1925.

Are all Sea Connections fitted direct on the skin of the ship yes

Are they fitted with Valves or Cocks Valves except the donkey boiler blow off cock

Are they fixed sufficiently high on the ship's side to be seen without lifting the standard 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 no bunkers

How are they protected

What pipes pass through the deep tanks no deep tank

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 the gratings at the main deck level.

Is 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. 1 off No. of stages 3. Diameters 760 mm, 675 mm, 150 mm Stroke 420 mm Driven by the main engine.

Auxiliary Air Compressors, No. 2 off No. of stages 3. Diameters 315 mm, 285 mm, 78 mm Stroke 170 mm Driven by the auxiliary engines.

Small Auxiliary Air Compressors, No. 1 off No. of stages 2. Diameters 225 mm - 68 mm Stroke 220 mm Driven by auxiliary engine.

Scavenging Air Pumps, No. 1 off Diameter 150 mm Stroke 5" Driven by hand.

Auxiliary Engines crank shafts, diameter as per Rule 161.2 mm as fitted 162 mm

AIR RECEIVERS: - 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 yes

What means are provided for cleaning their inner surfaces The starting air receiver is fitted with manhole. Pipes are fitted to enable the inspection air receivers to be cleaned by means of steam and caustic soda.

Is there a drain arrangement fitted at the lowest part of each receiver yes

High Pressure Air Receivers, No. 2 off Cubic capacity of each I - 400 litres II - 200 III - 25 Internal diameter I - 17 3/4" II - 15 1/4" III - 7 1/4" thickness I - 5/8" II - 3/8" III - 1/2"

Seamless, lap welded or riveted longitudinal joint Solid drawn Material S.M. Steel Range of tensile strength 30.0 - 31.2 tons per sq. inch Working pressure by Rules 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, 1000/1001, 1002/1003, 1004/1005, 1006/1007, 1008/1009, 1010/1011, 1012/1013, 1014/1015, 1016/1017, 1018/1019, 1020/1021, 1022/1023, 1024/1025, 1026/1027, 1028/1029, 1030/1031, 1032/1033, 1034/1035, 1036/1037, 1038/1039, 1040/1041, 1042/1043, 1044/1045, 1046/1047, 1048/1049, 1050/1051, 1052/1053, 1054/1055, 1056/1057, 1058/1059, 1060/1061, 1062/1063, 1064/1065, 1066/1067, 1068/1069, 1070/1071, 1072/1073, 1074/1075, 1076/1077, 1078/1079, 1080/1081, 1082/1083, 1084/1085, 1086/1087, 1088/1089, 1090/1091, 1092/1093, 1094/1095, 1096/1097, 1098/1099, 1100/1101, 1102/1103, 1104/1105, 1106/1107, 1108/1109, 1110/1111, 1112/1113, 1114/1115, 1116/1117, 1118/1119, 1120/1121, 1122/1123, 1124/1125, 1126/1127, 1128/1129, 1130/1131, 1132/1133, 1134/1135, 1136/1137, 1138/1139, 1140/1141, 1142/1143, 1144/1145, 1146/1147, 1148/1149, 1150/1151, 1152/1153, 1154/1155, 1156/1157, 1158/1159, 1160/1161, 1162/1163, 1164/1165, 1166/1167, 1168/1169, 1170/1171, 1172/1173, 1174/1175, 1176/1177, 1178/1179, 1180/1181, 1182/1183, 1184/1185, 1186/1187, 1188/1189, 1190/1191, 1192/1193, 1194/1195, 1196/1197, 1198/1199, 1200/1201, 1202/1203, 1204/1205, 1206/1207, 1208/1209, 1210/1211, 1212/1213, 1214/1215, 1216/1217, 1218/1219, 1220/1221, 1222/1223, 1224/1225, 1226/1227, 1228/1229, 1230/1231, 1232/1233, 1234/1235, 1236/1237, 1238/1239, 1240/1241, 1242/1243, 1244/1245, 1246/1247, 1248/1249, 1250/1251, 1252/1253, 1254/1255, 1256/1257, 1258/1259, 1260/1261, 1262/1263, 1264/1265, 1266/1267, 1268/1269, 1270/1271, 1272/1273, 1274/1275, 1276/1277, 1278/1279, 1280/1281, 1282/1283, 1284/1285, 1286/1287, 1288/1289, 1290/1291, 1292/1293, 1294/1295, 1296/1297, 1298/1299, 1300/1301, 1302/1303, 1304/1305, 1306/1307, 1308/1309, 1310/1311, 1312/1313, 1314/1315, 1316/1317, 1318/1319, 1320/1321, 1322/1323, 1324/1325, 1326/1327, 1328/1329, 1330/1331, 1332/1333, 1334/1335, 1336/1337, 1338/1339, 1340/1341, 1342/1343, 1344/1345, 1346/1347, 1348/1349, 1350/1351, 1352/1353, 1354/1355, 1356/1357, 1358/1359, 1360/1361, 1362/1363, 1364/1365, 1366/1367, 1368/1369, 1370/1371, 1372/1373, 1374/1375, 1376/1377, 1378/1379, 1380/1381, 1382/1383, 1384/1385, 1386/1387, 1388/1389, 1390/1391, 1392/1393, 1394/1395, 1396/1397, 1398/1399, 1400/1401, 1402/1403, 1404/1405, 1406/1407, 1408/1409, 1410/1411, 1412/1413, 1414/1415, 1416/1417, 1418/1419, 1420/1421, 1422/1423, 1424/1425, 1426/1427, 1428/1429, 1430/1431, 1432/1433, 1434/1435, 1436/1437, 1438/1439, 1440/1441, 1442/1443, 1444/1445, 1446/1447, 1448/1449, 1450/1451, 1452/1453, 1454/1455, 1456/1457, 1458/1459, 1460/1461, 1462/1463, 1464/1465, 1466/1467, 1468/1469, 1470/1471, 1472/1473, 1474/1475, 1476/1477, 1478/1479, 1480/1481, 1482/1483, 1484/1485, 1486/1487, 1488/1489, 1490/1491, 1492/1493, 1494/1495, 1496/1497, 1498/1499, 1500/1501, 1502/1503, 1504/1505, 1506/1507, 1508/1509, 1510/1511, 1512/1513, 1514/1515, 1516/1517, 1518/1519, 1520/1521, 1522/1523, 1524/1525, 1526/1527, 1528/1529, 1530/1531, 1532/1533, 1534/1535, 1536/1537, 1538/1539, 1540/1541, 1542/1543, 1544/1545, 1546/1547, 1548/1549, 1550/1551, 1552/1553, 1554/1555, 1556/1557, 1558/1559, 1560/1561, 1562/1563, 1564/1565, 1566/1567, 1568/1569, 1570/1571, 1572/1573, 1574/1575, 1576/1577, 1578/1579, 1580/1581, 1582/1583, 1584/1585, 1586/1587, 1588/1589, 1590/1591, 1592/1593, 1594/1595, 1596/1597, 1598/1599, 1600/1601, 1602/1603, 1604/1605, 1606/1607, 1608/1609, 1610/1611, 1612/1613, 1614/1615, 1616/1617, 1618/1619, 1620/1621, 1622/1623, 1624/1625, 1626/1627, 1628/1629, 1630/1631, 1632/1633, 1634/1635, 1636/1637, 1638/1639, 1640/1641, 1642/1643, 1644/1645, 1646/1647, 1648/1649, 1650/1651, 1652/1653, 1654/1655, 1656/1657, 1658/1659, 1660/1661, 1662/1663, 1664/1665, 1666/1667, 1668/1669, 1670/1671, 1672/1673, 1674/1675, 1676/1677, 1678/1679, 1680/1681, 1682/1683, 1684/1685, 1686/1687, 1688/1689, 1690/1691, 1692/1693, 1694/1695, 1696/169



