

REPORT ON BOILERS.

No. 93783.

29 MAY 1928

Received at London Office

24 MAY 1928

Date of writing Report

192

When handed in at Local Office

192

Port of

Liverpool

No. in Survey held at
g. Book.

Birkenhead

Date, First Survey

1st June 1927

Last Survey

16th May 1928

1928

331 on the

S. S. "Gretapfield"

(Number of Visits 137)

Gross 10190.

Net 6070.

Master

Built at Birkenhead

By whom built Cammell Laird & Co.

Yard No. 931

When built

1928

Engines made at

Birkenhead

By whom made

Cammell Laird & Co.

Engine No. 931

When made

1928

Boilers made at

Birkenhead

By whom made

Cammell Laird & Co.

Boiler No. 931

When made

1928

Nominal Horse Power

794

Owners

Hunting & Son

Port belonging to

Lancaster

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville & Sons

(Letter for Record

(S)

Total Heating Surface of Boilers

11,100 sq. ft.

Is forced draught fitted

Yls

Coal or Oil fired

oil

No. and Description of Boilers

Four Single ended return tube Cylindrical

Working Pressure

220 lb. sq. in.

Tested by hydraulic pressure to

380 lb.

Date of test

21.11.27

No. of Certificate

2299

Can each boiler be worked separately

Yls

Area of Firegrate in each Boiler

oil

No. and Description of safety valves to each boiler

Two 2 1/2" dia. Spring loaded

Area of each set of valves per boiler

per Rule 8.86 sq. in.

as fitted 9.8 sq. in.

Pressure to which they are adjusted

220 lb.

Are they fitted with easing gear

Yls

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

39"

Is oil fuel carried in the double bottom under boilers

Yls

Smallest distance between shell of boiler and tank top plating

30"

Is the bottom of the boiler insulated

Yls

Largest internal dia. of boilers

15'-5 7/8"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

28-32 tons sq. in.

Thickness

1 9/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end double R. lap.

g. seams

Double R. D. Butts

Diameter of rivet holes in

circ. seams 1 5/8"

long. seams 1 5/8"

Pitch of rivets

4.33 circ.

10 1/2" long

Percentage of strength of circ. end seams

plate 62.4 %

rivets 50.3 %

Percentage of strength of circ. intermediate seam

plate 84.5 %

rivets 97.3 %

Percentage of strength of longitudinal joint

plate 84.5 %

rivets 97.3 %

combined 88.4 %

Working pressure of shell by Rules

222 1/4 lb. sq. in.

Thickness of butt straps

outer 1 7/32"

inner 1 1/32"

No. and Description of Furnaces in each Boiler

Four Corrugated - Simplex Bull.

Material

Steel

Tensile strength

26-30 tons sq. in.

Smallest outside diameter

3'-1 1/8"

Length of plain part

top 1 1/2"

bottom 1 1/2"

Thickness of plates

crown 9/16"

bottom 9/16"

Description of longitudinal joint

Weld.

Dimensions of stiffening rings on furnace or e.c. bottom

None

Working pressure of furnace by Rules

233.5 lb. sq. in.

Stays in steam space: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

1 1/8"

Pitch of stays

18 1/2" x 16"

How are stays secured

Double nuts & plain washers

Working pressure by Rules

224 1/4 lb. sq. in.

Stays in steam space: Material

front Steel

back Steel

Tensile strength

26-30 tons sq. in.

Thickness

front 1 1/8"

back 1 1/8"

Pitch of stay tubes in nests

9 7/16"

Pitch across wide water spaces

13 3/4"

Working pressure

front 240 lb. sq. in.

back 254 lb. sq. in.

Stays to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons sq. in.

Depth and thickness of girder

Two plates 10 1/2" x 7/8"

Length as per Rule

26 15/32"

Distance apart

10 1/2"

No. and pitch of stays

Each 4 @ 7 1/4"

Working pressure by Rules

227 1/4 lb. sq. in.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

15 1/16"

Pitch of stays to ditto: Sides

9 1/2" x 8 1/2"

Back

9 1/4" x 8 3/4"

Top

10 1/2" x 7 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

223 1/4 lb. sq. in.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

1 1/8"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

15 1/16"

Pitch of stays at wide water space

14 7/8" x 6 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

228 lb. sq. in.

Main stays: Material

Steel

Tensile strength

28-32 tons sq. in.

Pitch of stays at body of stay

2 3/16"

Over threads

3" on thread

No. of threads per inch

6

Area supported by each stay

2960 sq. in.

Working pressure by Rules

221 lb. sq. in.

Screw stays: Material

Steel

Tensile strength

26-30 tons sq. in.

Pitch of stays at turned off part

1 7/8"

Over threads

1 7/8"

No. of threads per inch

9

Area supported by each stay

80.75 sq. in.

W440-0216

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Foundation

Working pressure by Rules	264 lb	Are the stays drilled at the outer ends	ho	Margin stays: Diameter	At turned off part, 1 1/8"	or Over threads
No. of threads per inch	9	Area supported by each stay	78 sq. in.	Working pressure by Rules	265 lb	
Tubes: Material	BB Iron lap welded	External diameter	Plain 2 3/4" Stay 2 3/4"	Thickness	Plain 7/16" Stay 5/16 3/8 1/2	No. of threads per inch 9
Pitch of tubes	3 7/8"	Working pressure by Rules	246 lb	Manhole compensation: Size of opening		
shell plate	22' x 18'	Section of compensating ring	11 7/8' x 1 7/8'	No. of rivets and diameter of rivet holes	36 @ 1 5/8"	
Outer row rivet pitch at ends	10 1/2"	Depth of flange if manhole flanged	3 1/2"	Steam Dome: Material		
Tensile strength		Thickness of shell		Description of longitudinal joint		
Diameter of rivet holes		Pitch of rivets		Percentage of strength of joint	Plate Rivets	
Internal diameter		Working pressure by Rules		Thickness of crown		No. and diameter
stays		Inner radius of crown		Working pressure by Rules		
How connected to shell		Size of doubling plate under dome		Diameter of rivet holes and		
of rivets in outer row in dome connection to shell						
Type of Superheater		Manufacturers of	Tubes Steel castings	Internal diameter and thickness of tubes		
Number of elements		Material of tubes		Thickness		Can the superheater be shut off
Material of headers		Tensile strength				
the boiler be worked separately		Is a safety valve fitted to every part of the superheater which can be shut off from the boiler				
Area of each safety valve		Are the safety valves fitted with easing gear				Working pressure at
Rules		Pressure to which the safety valves are adjusted				Hydraulic test pressure
tubes		and after assembly in place				Are drain cocks or valves
to free the superheater from water where necessary						

The foregoing is a correct description,
 SAATCHI & SAATCHI AND COMPANY LIMITED
 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 455, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511, 513, 515, 517, 519, 521, 523, 525, 527, 529, 531, 533, 535, 537, 539, 541, 543, 545, 547, 549, 551, 553, 555, 557, 559, 561, 563, 565, 567, 569, 571, 573, 575, 577, 579, 581, 583, 585, 587, 589, 591, 593, 595, 597, 599, 601, 603, 605, 607, 609, 611, 613, 615, 617, 619, 621, 623, 625, 627, 629, 631, 633, 635, 637, 639, 641, 643, 645, 647, 649, 651, 653, 655, 657, 659, 661, 663, 665, 667, 669, 671, 673, 675, 677, 679, 681, 683, 685, 687, 689, 691, 693, 695, 697, 699, 701, 703, 705, 707, 709, 711, 713, 715, 717, 719, 721, 723, 725, 727, 729, 731, 733, 735, 737, 739, 741, 743, 745, 747, 749, 751, 753, 755, 757, 759, 761, 763, 765, 767, 769, 771, 773, 775, 777, 779, 781, 783, 785, 787, 789, 791, 793, 795, 797, 799, 801, 803, 805, 807, 809, 811, 813, 815, 817, 819, 821, 823, 825, 827, 829, 831, 833, 835, 837, 839, 841, 843, 845, 847, 849, 851, 853, 855, 857, 859, 861, 863, 865, 867, 869, 871, 873, 875, 877, 879, 881, 883, 885, 887, 889, 891, 893, 895, 897, 899, 901, 903, 905, 907, 909, 911, 913, 915, 917, 919, 921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 951, 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999, 1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1017, 1019, 1021, 1023, 1025, 1027, 1029, 1031, 1033, 1035, 1037, 1039, 1041, 1043, 1045, 1047, 1049, 1051, 1053, 1055, 1057, 1059, 1061, 1063, 1065, 1067, 1069, 1071, 1073, 1075, 1077, 1079, 1081, 1083, 1085, 1087, 1089, 1091, 1093, 1095, 1097, 1099, 1101, 1103, 1105, 1107, 1109, 1111, 1113, 1115, 1117, 1119, 1121, 1123, 1125, 1127, 1129, 1131, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, 1159, 1161, 1163, 1165, 1167, 1169, 1171, 1173, 1175, 1177, 1179, 1181, 1183, 1185, 1187, 1189, 1191, 1193, 1195, 1197, 1199, 1201, 1203, 1205, 1207, 1209, 1211, 1213, 1215, 1217, 1219, 1221, 1223, 1225, 1227, 1229, 1231, 1233, 1235, 1237, 1239, 1241, 1243, 1245, 1247, 1249, 1251, 1253, 1255, 1257, 1259, 1261, 1263, 1265, 1267, 1269, 1271, 1273, 1275, 1277, 1279, 1281, 1283, 1285, 1287, 1289, 1291, 1293, 1295, 1297, 1299, 1301, 1303, 1305, 1307, 1309, 1311, 1313, 1315, 1317, 1319, 1321, 1323, 1325, 1327, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1349, 1351, 1353, 1355, 1357, 1359, 1361, 1363, 1365, 1367, 1369, 1371, 1373, 1375, 1377, 1379, 1381, 1383, 1385, 1387, 1389, 1391, 1393, 1395, 1397, 1399, 1401, 1403, 1405, 1407, 1409, 1411, 1413, 1415, 1417, 1419, 1421, 1423, 1425, 1427, 1429, 1431, 1433, 1435, 1437, 1439, 1441, 1443, 1445, 1447, 1449, 1451, 1453, 1455, 1457, 1459, 1461, 1463, 1465, 1467, 1469, 1471, 1473, 1475, 1477, 1479, 1481, 1483, 1485, 1487, 1489, 1491, 1493, 1495, 1497, 1499, 1501, 1503, 1505, 1507, 1509, 1511, 1513, 1515, 1517, 1519, 1521, 1523, 1525, 1527, 1529, 1531, 1533, 1535, 1537, 1539, 1541, 1543, 1545, 1547, 1549, 1551, 1553, 1555, 1557, 1559, 1561, 1563, 1565, 1567, 1569, 1571, 1573, 1575, 1577, 1579, 1581, 1583, 1585, 1587, 1589, 1591, 1593, 1595, 1597, 1599, 1601, 1603, 1605, 1607, 1609, 1611, 1613, 1615, 1617, 1619, 1621, 1

Dates of Survey while building { During progress of work in shops - - } See Machy Report.
 { During erection on board vessel - - - }

Are the approved plans of boiler ~~and superheater~~ forwarded herewith.
(If not state date of approval.)

Total No. of visits 134.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been constructed under special survey, and are in accordance with the Rules and the approved plan. They have been examined under steam, found tight & satisfactory. Their safety valves have been adjusted. Fitted on board of the "Greta".

Survey Fee	£	:	:	} When applied for, _____ 192
Travelling Expenses (if any)	£	:	:	:	When received, _____ 192	

J. D. Milton & W. S. S.

Engineer Surveyor to Lloyd's Register of Ship

Committee's Minute LIVERPOOL 25 MAY 1928

Assigned *See Machinery rpt*

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