

## REPORT ON OIL ENGINE MACHINERY.

No. 58630

Received at London Office

Date of writing Report 19... When handed in at Local Office 19... Port of HULL  
No. in Reg. Book. 90182 Survey held at Paull. Date, First Survey 14. 3. 52 Last Survey 1. 7. 1952  
Number of Visits 9  
Single on the Tug Motor Tug "G U L L"  
Built at Paull, Nr. Hull. By whom built John R. Hepworth & Co. Yard No. 25 When built 1952  
made at Govan, Glasgow. By whom made British Polar Engines, Ltd. Engine No. 871 When made 1952  
Boilers made at - By whom made - Boiler No. - When made -  
Horse Power 400 Owners General Steam Navigation Co. Ltd. Port belonging to London.  
Over as per Rule 80 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted Yes  
which vessel is intended River and Estuary.

GINES, &c. —Type of Engines Heavy oil Eng. M.4.4.1 type. 2 or 4 stroke cycle 2 Single or double acting Single.  
pressure in cylinders 780 lb/sq. in Diameter of cylinders 250 m/m Length of stroke 420 m/m No. of cylinders 4 No. of cranks 4  
Indicated Pressure 98.7 lbs/sq. in Ahead Firing Order in Cylinders 4, 2, 3, 1. Span of bearings, adjacent to the crank, measured  
from edge to inner edge 366 m/m Is there a bearing between each crank Yes Revolutions per minute 400  
Diameter 900 m/m Weight 900 m/m Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) - Means of ignition Comp. Kind of fuel used Diesel  
Solid forged dia. of journals as per Rule App. Crank pin dia. - Crank webs Mid. length breadth - Thickness parallel to axis -  
as fitted - Mid. length thickness - shrunk Thickness around eyehole -  
Shaft, diameter as per Rule App. Intermediate Shafts, diameter as fitted 7.15/16" Thrust Shaft, diameter at collars as fitted App.  
as fitted - Screw Shaft, diameter as fitted 6.5" Is the tube screw shaft fitted with a continuous liner NO.  
Liners, thickness in way of bushes as per Rule - Thickness between bushes as fitted - Is the after end of the liner made watertight in the  
stern tube - If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -  
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 shaft No. If so, state type - Length of bearing in Stern Bush next to and supporting propeller 1'-9 1/2"  
Diameter 54" Pitch 37 1/2" No. of blades 4 Material C. Iron whether moveable No Total developed surface 9 sq. feet  
Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) - Kind of damper, if fitted -  
Reversing Engines Direct. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of  
forced Thickness of cylinder liners - Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled  
with non-conducting material Lapped If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned  
from the engine - Cooling Water Pumps, No. One Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
Is worked from the Main Engines, No. One Diameter - Stroke - Can one be overhauled while the other is at work -  
Connected to the Main Bilge Line No. and size See Ballast Pump. How driven -  
Is 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  
Is - Hamworthy self-priming Centrifugal, 14 tons per hour. No. 91086.  
Pumps, No. and size one. Power Driven Lubricating Oil Pumps, including spare pump, No. and size M.E. Driven.  
Independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary  
pumps, No. and size:—In machinery spaces 2 M.E. Driven 3000 gall./Hr. & See Ballast Pump. In pump room -  
No holds.  
Is Power Pump Direct Suctions to the engine room bilges, No. and size See Ballast Pump.  
Are the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction in the machinery spaces led from easily  
accessible boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes  
Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Cocks. Are they fixed  
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 Above  
Are they 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 -  
Are they fitted through the bunkers None How are they protected -  
Are they fitted through the deep tanks - Have they been tested as per Rule -  
Are the cocks, valves and pumps in connection with the machinery and other mountings accessible at all times Yes  
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  
space in one compartment to another Yes Is the shaft tunnel watertight - Is it fitted with a watertight door -  
If the door is fitted, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -

Main Air Compressors, No. One. No. of stages two diameters - stroke - driven by M.E.  
Auxiliary Air Compressors, No. - No. of stages - diameters - stroke - driven by -  
Small Auxiliary Air Compressors, No. One. No. of stages two diameters - stroke - driven by Aux. Eng.  
What provision is made for first charging the air receivers -  
Scavenging Air Pumps, No. One diameter - stroke - driven by M.E.  
Auxiliary Engines crank shafts, diameter as per Rule - No. Lister 2632  
as fitted - Position Starboard forward.  
Have the auxiliary engines been constructed under special survey - Is a report sent herewith No.



AIR RECEIVERS:—Have they been made under survey..... Yes ✓ State No. of report or certificate C.86829, 86825

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, welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....

Starting Air Receivers, No..... Two ✓ Total cubic capacity..... 30 Internal diameter..... 21" thickness..... 13/32"

~~XXXXXXXXXXXX~~ Riveted longitudinal joint..... Material..... M.S. Range of tensile strength..... 28,32 Working pressure..... 35.5

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

Is the donkey boiler intended to be used for domestic purposes only.....

PLANS. Are approved plans forwarded herewith for shafting..... (If not, state date of approval) Approved. Receivers..... Separate fuel tanks.....

Donkey boilers..... General pumping arrangements..... 21.3.52. Pumping arrangements in machinery space..... 21.3.52.

Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved..... Date of approval.....

### SPARE GEAR.

Has the spare gear required by the Rules been supplied..... Yes ✓

State the principal additional spare gear supplied.....

The foregoing is a correct description,

Manufacturer.

During progress of work in shops - - - SEE GLASGOW REPORT.

Dates of Survey while building During erection on board vessel - - - 14.3.52; 20.3.52; 24.3.52; 25.3.52; 4.4.52; 7.5.52; 26.5.52; 26.6.52; 1.7.52.

Total No. of visits..... Nine.

Dates of examination of principal parts—Cylinders..... 20.6.52. Covers..... 20.6.52. Pistons..... 20.6.52. Rods..... Connecting rods..... 20.6.52.

Crank shaft..... 20.6.52. Flywheel shaft..... Thrust shaft..... Intermediate shafts..... Tube shaft.....

Screw shaft..... 20.6.52. Propeller..... 25.3.52. Stern tube..... 25.3.52. Engine seatings..... 14.3.52. Engine holding down bolts..... 20.6.52.

Completion of fitting sea connections..... 20.6.52. Completion of pumping arrangements..... 1.7.52. Engines tried under working conditions..... 1.7.52.

Crank shaft, material..... Identification mark..... 1596 Flywheel shaft, material..... Identification mark..... 3845 & 386

Thrust shaft, material..... Identification mark..... 2118 Intermediate shafts, material..... O.H.Stl. Identification marks..... F.A.M.

Tube shaft, material..... Identification mark..... Screw shaft, material..... O.H.Stl. Identification mark..... 3245 F.A.M.

Identification marks on air receivers..... 86829 and 86825 F.B.G. 12.7.51.

Welded receivers, state Makers' Name.....

Is the flash point of the oil to be used over 150°F.....

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with..... Yes. ✓

Description of fire extinguishing apparatus fitted..... Hose from deck service & four 2 gall.foamite (2 E.R; 1 wheelhouse, 1st Pump, 2nd Pump, 3rd Pump, 4th Pump, 5th Pump, 6th Pump, 7th Pump, 8th Pump, 9th Pump, 10th Pump, 11th Pump, 12th Pump, 13th Pump, 14th Pump, 15th Pump, 16th Pump, 17th Pump, 18th Pump, 19th Pump, 20th Pump, 21st Pump, 22nd Pump, 23rd Pump, 24th Pump, 25th Pump, 26th Pump, 27th Pump, 28th Pump, 29th Pump, 30th Pump, 31st Pump, 32nd Pump, 33rd Pump, 34th Pump, 35th Pump, 36th Pump, 37th Pump, 38th Pump, 39th Pump, 40th Pump, 41st Pump, 42nd Pump, 43rd Pump, 44th Pump, 45th Pump, 46th Pump, 47th Pump, 48th Pump, 49th Pump, 50th Pump, 51st Pump, 52nd Pump, 53rd Pump, 54th Pump, 55th Pump, 56th Pump, 57th Pump, 58th Pump, 59th Pump, 60th Pump, 61st Pump, 62nd Pump, 63rd Pump, 64th Pump, 65th Pump, 66th Pump, 67th Pump, 68th Pump, 69th Pump, 70th Pump, 71st Pump, 72nd Pump, 73rd Pump, 74th Pump, 75th Pump, 76th Pump, 77th Pump, 78th Pump, 79th Pump, 80th Pump, 81st Pump, 82nd Pump, 83rd Pump, 84th Pump, 85th Pump, 86th Pump, 87th Pump, 88th Pump, 89th Pump, 90th Pump, 91st Pump, 92nd Pump, 93rd Pump, 94th Pump, 95th Pump, 96th Pump, 97th Pump, 98th Pump, 99th Pump, 100th Pump, 101st Pump, 102nd Pump, 103rd Pump, 104th Pump, 105th Pump, 106th Pump, 107th Pump, 108th Pump, 109th Pump, 110th Pump, 111th Pump, 112th Pump, 113th Pump, 114th Pump, 115th Pump, 116th Pump, 117th Pump, 118th Pump, 119th Pump, 120th Pump, 121st Pump, 122nd Pump, 123rd Pump, 124th Pump, 125th Pump, 126th Pump, 127th Pump, 128th Pump, 129th Pump, 130th Pump, 131st Pump, 132nd Pump, 133rd Pump, 134th Pump, 135th Pump, 136th Pump, 137th Pump, 138th Pump, 139th Pump, 140th Pump, 141st Pump, 142nd Pump, 143rd Pump, 144th Pump, 145th Pump, 146th Pump, 147th Pump, 148th Pump, 149th Pump, 150th Pump, 151st Pump, 152nd Pump, 153rd Pump, 154th Pump, 155th Pump, 156th Pump, 157th Pump, 158th Pump, 159th Pump, 160th Pump, 161st Pump, 162nd Pump, 163rd Pump, 164th Pump, 165th Pump, 166th Pump, 167th Pump, 168th Pump, 169th Pump, 170th Pump, 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503rd Pump, 504th Pump, 505th Pump, 506th Pump, 507th Pump, 508th Pump, 509th Pump, 510th Pump, 511th Pump, 512th Pump, 513th Pump, 514th Pump, 515th Pump, 516th Pump, 517th Pump, 518th Pump, 519th Pump, 520th Pump, 521st Pump, 522nd Pump, 523rd Pump, 524th Pump, 525th Pump, 526th Pump, 527th Pump, 528th Pump, 529th Pump, 530th Pump, 531st Pump, 532nd Pump, 533rd Pump, 534th Pump, 535th Pump, 536th Pump, 537th Pump, 538th Pump, 539th Pump, 540th Pump, 541st Pump, 542nd Pump, 543rd Pump, 544th Pump, 545th Pump, 546th Pump, 547th Pump, 548th Pump, 549th Pump, 550th Pump, 551st Pump, 552nd Pump, 553rd Pump, 554th Pump, 555th Pump, 556th Pump, 557th Pump, 558th Pump, 559th Pump, 560th Pump, 561st Pump, 562nd Pump, 563rd Pump, 564th Pump, 565th Pump, 566th Pump, 567th Pump, 568th Pump, 569th Pump, 570th Pump, 571st Pump, 572nd Pump, 573rd Pump, 574th Pump, 575th Pump, 576th Pump, 577th Pump, 578th Pump, 579th Pump, 580th Pump, 581st Pump, 582nd Pump, 583rd Pump, 584th Pump, 585th Pump, 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918th Pump, 919th Pump, 920th Pump, 921st Pump, 922nd Pump, 923rd Pump, 924th Pump, 925th Pump, 926th Pump, 927th Pump, 928th Pump, 929th Pump, 930th Pump, 931st Pump, 932nd Pump, 933rd Pump, 934th Pump, 935th Pump, 936th Pump, 937th Pump, 938th Pump, 939th Pump, 940th Pump, 941st Pump, 942nd Pump, 943rd Pump, 944th Pump, 945th Pump, 946th Pump, 947th Pump, 948th Pump, 949th Pump, 950th Pump, 951st Pump, 952nd Pump, 953rd Pump, 954th Pump, 955th Pump, 956th Pump, 957th Pump, 958th Pump, 959th Pump, 960th Pump, 961st Pump, 962nd Pump, 963rd Pump, 964th Pump, 965th Pump, 966th Pump, 967th Pump, 968th Pump, 969th Pump, 970th Pump, 971st Pump, 972nd Pump, 973rd Pump, 974th Pump, 975th Pump, 976th Pump, 977th Pump, 978th Pump, 979th Pump, 980th Pump, 981st Pump, 982nd Pump, 983rd Pump, 984th Pump, 985th Pump, 986th Pump, 987th Pump, 988th Pump, 989th Pump, 990th Pump, 991st Pump, 992nd Pump, 993rd Pump, 994th Pump, 995th Pump, 996th Pump, 997th Pump, 998th Pump, 999th Pump, 1000th Pump, 1001st Pump, 1002nd Pump, 1003rd Pump, 1004th Pump, 1005th Pump, 1006th Pump, 1007th Pump, 1008th Pump, 1009th Pump, 1010th Pump, 1011th Pump, 1012th Pump, 1013th Pump, 1014th Pump, 1015th Pump, 1016th Pump, 1017th Pump, 1018th Pump, 1019th Pump, 1020th Pump, 1021st Pump, 1022nd Pump, 1023rd Pump, 1024th Pump, 1025th Pump, 1026th Pump, 1027th Pump, 1028th Pump, 1029th Pump, 1030th Pump, 1031st Pump, 1032nd Pump, 1033rd Pump, 1034th Pump, 1035th Pump, 1036th Pump, 1037th Pump, 1038th Pump, 1039th Pump, 1040th Pump, 1041st Pump, 1042nd Pump, 1043rd Pump, 1044th Pump, 1045th Pump, 1046th Pump, 1047th Pump, 1048th Pump, 1049th Pump, 1050th Pump, 1051st Pump, 1052nd Pump, 1053rd Pump, 1054th Pump, 1055th Pump, 1056th Pump, 1057th Pump, 1058th Pump, 1059th Pump, 1060th Pump, 1061st Pump, 1062nd Pump, 1063rd Pump, 1064th Pump, 1065th Pump, 1066th Pump, 1067th Pump, 1068th Pump, 1069th Pump, 1070th Pump, 1071st Pump, 1072nd Pump, 1073rd Pump, 1074th Pump, 1075th Pump, 1076th Pump, 1077th Pump, 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1155th Pump, 1156th Pump, 1157th Pump, 1158th Pump, 1159th Pump, 1160th Pump, 1161st Pump, 1162nd Pump, 1163rd Pump, 1164th Pump, 1165th Pump, 1166th Pump, 1167th Pump, 1168th Pump, 1169th Pump, 1170th Pump, 1171st Pump, 1172nd Pump, 1173rd Pump, 1174th Pump, 1175th Pump, 1176th Pump, 1177th Pump, 1178th Pump, 1179th Pump, 1180th Pump, 1181st Pump, 1182nd Pump, 1183rd Pump, 1184th Pump, 1185th Pump, 1186th Pump, 1187th Pump, 1188th Pump, 1189th Pump, 1190th Pump, 1191st Pump, 1192nd Pump, 1193rd Pump, 1194th Pump, 1195th Pump, 1196th Pump, 1197th Pump, 1198th Pump, 1199th Pump, 1200th Pump, 1201st Pump, 1202nd Pump, 1203rd Pump, 1204th Pump, 1205th Pump, 1206th Pump, 1207th Pump, 1208th Pump, 1209th Pump, 1210th Pump, 1211th Pump, 1212th Pump, 1213th Pump, 1214th Pump, 1215th Pump, 1216th Pump, 1217th Pump, 1218th Pump, 1219th Pump, 1220th Pump, 1221st Pump, 1222nd Pump, 1223rd Pump, 1224th Pump, 1225th Pump, 1226th Pump, 1227th Pump, 1228th Pump, 1229th Pump, 1230th Pump, 1231st Pump, 1232nd Pump, 1233rd Pump, 1234th Pump, 1235th Pump, 1236th Pump, 1237th Pump, 1238th Pump, 1239th Pump, 1240th Pump, 1241st Pump, 1242nd Pump, 1243rd Pump, 1244th Pump, 1245th Pump, 1246th Pump, 1247th Pump, 1248th Pump, 1249th Pump, 1250th Pump, 1251st Pump, 1252nd Pump, 1253rd Pump, 1254th Pump, 1255th Pump, 1256th Pump, 1257th Pump, 1258th Pump, 1259th Pump, 1260th Pump, 1261st Pump, 1262nd Pump, 1263rd Pump, 1264th Pump, 1265th Pump, 1266th Pump, 1267th Pump, 1268th Pump, 1269th Pump, 1270th Pump, 1271st Pump, 1272nd Pump, 1273rd Pump, 1274th Pump, 1275th Pump, 1276th Pump, 1277th Pump, 1278th Pump, 1279th Pump, 1280th Pump, 1281st Pump, 1282nd Pump, 1283rd Pump, 1284th Pump, 1285th Pump, 1286th Pump, 1287th Pump, 1288th Pump, 1289th Pump, 1290th Pump, 1291st Pump, 1292nd Pump, 1293rd Pump, 1294th Pump, 1295th Pump, 1296th Pump, 1297th Pump, 1298th Pump, 1299th Pump, 1300th Pump, 1301st Pump, 1302nd Pump, 1303rd Pump, 1304th Pump, 1305th Pump, 1306th Pump, 1307th Pump, 1308th Pump, 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