

REPORT ON OIL ENGINE MACHINERY.

Received at London Office

No. 19898.

6 MAY 1953

Date of writing Report 22nd Apr. 1953. When handed in at Local Office 4th May 1953 Port of MIDDLESBROUGH.

No. in Survey held at Middlesbrough. Date, First Survey. 6th Nov. 1952. Last Survey. 24th Apr. 1953. Number of Visits 55.

Reg. Book. Single on the ~~deck~~ Screw vessel. m.v. "SILVERBROOK". Tons Gross 11276.1
~~x~~ ~~bridge~~ ~~quay~~

Built at South Bank-on-Tees. By whom built Smith's Dock Co. Ltd. Yard No. 1225. When built 1953.

Engines made at Newcastle-on-Tyne. By whom made R & W Hawthorn Leslie & Co. Ltd. Engine No. 4100. When made 1953.

Donkey Boilers made at West Hartlepool. By whom made Central Marine Engine Works. Boiler No. R. 416. When made 1953.

Brake Horse Power Maximum 5900 Service 5000 Owners Silver Line Ltd. Port belonging to London.

L.N. as per Rule 1180. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended Tanker (open sea service).

1. ENGINES, &c.—Type of Engines 2 or 4 stroke cycle. Single or double acting.

Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks.

Mean Indicated Pressure Span of bearings (i.e., distance between inner edges of bearings in

way of a crank). Is there a bearing between each crank Revolutions per minute { Maximum Service.

flywheel dia. Weight Moment of inertia of flywheel (lbs. in² or Kg.cm²). Means of ignition Kind of fuel used.

rank shaft, Solid forged dia. of journals as per Rule. " " " balance wts. (" " " ") Crank pin dia. Crank webs Mid. length breadth. shrunk Thickness parallel to axis.

Semi built dia. of journals as fitted. All built as per Rule. Crank webs Mid. length thickness. Thickness around eye hole.

flywheel shaft, diameter as per Rule. Intermediate Shafts, diameter as per Rule. NO. Thrust Shaft, diameter at collars as per Rule.

Tube shaft, diameter as per Rule. Screw Shaft, diameter as per Rule. REPORT Is the tube shaft fitted with a continuous liner {

Copper Liners, thickness in way of bushes as per Rule. Thickness between bushes as per Rule. Is the after end of the liner made watertight in the

propeller boss. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner.

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.

If so, state type. Is an approved Oil Gland fitted at the after end of stern tube.

Propeller, dia. Pitch. No. of blades. Material. Length of bearing in Stern Bush next to and supporting propeller.

Moment of inertia of propeller including entrained water (lbs. in² or Kg.cm²). Whether moveable. Total developed surface sq. feet.

Method of reversing Engines. Is a governor or other arrangement fitted to prevent racing of the engine. Means of lubrication.

Thickness of cylinder liners. Are the cylinders fitted with safety valves. Are the exhaust pipes and silencers water cooled

lagged with non-conducting material. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

into the engine. Cooling Water Pumps, No. and how driven 6:4 M.E. Driven. Working F.W. 2 M.E. Driven.

V. Driven. Spare F.W. Driven. S.W. Driven. Is the sea suction provided with an efficient strainer which can be cleared within the vessel. Yes.

Pumps worked from the Main Engines, No. and capacity. None. Can one be overhauled while the other is at work.

Pumps connected to the Main Bilge Line. No. and capacity of each 2 - 8" x 8" x 10" (each 100 tons/hr. capacity).

How driven. Steam.

The cooling 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 arrangements.

Bilge Pumps, No. and capacity 1-100 tons/hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 3 - 2 M.E. Driven.

Two independent means arranged for circulating water through the Oil Cooler. Yes Branch Bilge Suctions.

and size: In machinery spaces 3-3½", 3-2" Coff. 2-2" oily bilge 1-2" Purifier Sludge pump room tank. Ford: - 1-2½"

holds, etc. 7" forepeak, 7" D.T. P&S; 7" Coff. P & S; 2½" chain locker, 2½" lower flat P & S; 3½" Aft Peak.

Direct Bilge Suctions to the engine room bilges, No. and size 1-9" & 2-6".

All the bilge suction pipes in holds and tunnel well fitted with strum-boxes. Yes Are the bilge suctions in the machinery spaces led from easily

accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges. Yes

All Sea Connections fitted direct on the skin of the ship. Yes Are they fitted with valves or cocks. Both. Are they fixed

conveniently high 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. Below.

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.

If pipes pass through the bunkers. None. How are they protected.

If pipes pass through the deep tanks. Suction to Fore Peak. Have they been tested as per Rule. Yes

All pipes, cocks, valves and pumps in connection with the machinery and all boiler 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

compartments or from one compartment to another. Yes. Is the shaft tunnel watertight. None Is it fitted with a watertight door. Worked from

640. 6. Wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.

67. 0. Air Compressors, No. None. No. of stages. diameters. stroke. driven by.

448. 1. Auxiliary Air Compressors, No. 2. No. of stages. 2. diameters 4½" & 10½" stroke. 8". driven by steam.

213. 16. 19. Auxiliary Air Compressors, No. No. of stages. diameters. stroke. driven by.

15. 17. 20. Provision is made for first charging the air receivers. Steam Driven Compressor.

9. 30. 31. Eng. Driven. Driven by.

1. 8. 9. 10. 12. Eng. Driven. Driven by.

Auxiliary Air Pumps or Blowers, No. One. How driven. Main Engine Driven.

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. 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. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 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. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 69

AIR RECEIVERS:—Have they been made under survey

State No. of report or certificate

st. 4b.

State full details of safety devices

Can the internal surfaces of the receivers be examined and cleaned Is a drain fitted at the lowest part of each receiver.

of writing Rep

Injection Air Receivers, No. Cubic capacity of each

Internal diameter thickness

in Survey

Seamless, welded or riveted longitudinal joint

Material

No. 110096

thickness

Book.

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

on the

Seamless, welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

Quadra

IS A DONKEY BOILER FITTED Yes - 2 I SEE

NEWCASTLE REPORT

Yes

lt at South

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

No.

jines made at

PLANS. Are approved plans forwarded herewith for shafting

No.

Receivers

No.

Separate fuel tanks

No.

Donkey boilers No.

General pumping arrangements

Yes

Pumping arrangements in machinery space

Yes

N. Power as pe

Oil fuel burning arrangements Yes.

ide for which ve

Have Torsional Vibration characteristics been approved Yes

Date and particulars of approval

26.10.51

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes State if for "short voyages" only

zimum pressure

State the principal additional spare gear supplied Tail End Shaft & Propeller.

in Indicated P

FOR SMITH'S DOCK CO. LTD

The foregoing is a correct description,

C. Warley Jr. ENGINE WORKS MANAGER

Manufacturer.

wheel dia. 98.

Dates of Survey while building

1952. During progress of work in shops Nov. 6. 27. Dec. 6. 12. 16. 18. 19. 22. 23. 29. 30. (1953) Jan. 2. 6. 9. 13. 14. 20. 23. 27. 28. 29. Feb. 3. 5. 6. 9. 10. 16. 19. 23. 25. Mar. 5. 6. 11. 13. 20. 23. 24. 25. 26. 27. 30. 31. Apr. 7. 8. 9. 10. During erection on board vessel 17. 18. 20. 21. 22. 23. 24.

Bronze Liners, th

Total No. of visits

55.

peller boss....

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

the liner does r

Crank shaft Flywheel shaft Thrust shaft Intermediate shafts 31.3.53 Tube shaft

rosive. —

Screw shaft 13.1.53 Propeller 13.1.53 Stern tube 9.1.53 Engine seatings 31.3.53 Engine holding down bolts 31.3.53

of tube shaft

Completion of fitting sea connections 14.1.53 Completion of pumping arrangements 22.4.53 Engines tried under working conditions 20.23.

peller, dia. 18

Crank shaft, material

Identification mark

Flywheel shaft, material

Identification mark

22557.

reversi

Thrust shaft, material

Identification mark

Intermediate shafts, material O.H. Steel

Identification marks HAI 10.1.53

TM 13.8.

agged with non-

XXII shaft, material

O.H. Steel.

Identification mark HAI 10.1.53

crew shaft, material O.H. Steel.

Identification mark HAI 28.1.

k to the engine.

Identification marks on air receivers

TM 6.1.53.

See Newcastle Report No. 110096.

TM 12.9.

ge Pumps worke

" " " Propeller - No. 29672 Lloyd's 19.3.52 D.B.S.

Welded receivers, state Makers' Name

See Newcastle Report No. 110096.

nps connected t

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

he cooling water

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

ingements.

Full description of fire extinguishing apparatus fitted in machinery spaces

steam smothering.

last Pumps, No

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

If so, have the requirements of the Rules been complied with

two independe

What is the special rotation desired

re pumps, No. a

If the need for ice strengthening is desired, state whether the requirements in this respect have been complied with not desired.

holds, &c.

Is this machinery duplicate of a previous case

No.

If so, state name of vessel

dependent Pow

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c.)

These engines and boilers have

been fitted aboard this vessel in accordance with the approved plans and Rule requirements and on completion the machinery was tried under working conditions and found satisfactory. In our opinion this vessel is eligible for a record of LMC 4.53 and Notation TS(CL). 4.53

all the bilge su

ossible mud-box

all Sea Connec

ciently high on

they each fitted

at pipes pass th

at pipes pass th

all pipes, cocks

he arrangement

ces, or from one

wood vessel, wh

in Air Compre

xiliary Air Com

all Auxiliary A

at provision is n

venging Air Pu

xiliary Engines

be the auxiliary

Installation

The amount of Fee £ 129

When applied for 5th May. 1953

Special £

When received 19

Engineer Surveyor to Lloyd's Register of Shippin

Donkey Boiler Fee £

Travelling Expenses (Any) £

Committee's Minute

FRI. 22 MAY 1953

Assigned + LMC 4.53 Oil Eng. (with torsional endorsement)

CL 2DB1806

X Span
Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



Lloyd's Register Foundation