

Cpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 99860

Received at London Office 22 OCT 1941

Date of writing Report

19

When handed in at Local Office

18/10/41

Port of

NEWCASTLE-ON-TYNE

Date in Survey held at

Newcastle on Tyne

Date, First Survey

6 June 1940

Last Survey

2 Oct 1941

g. Book.

" " "

Number of Visits

106.

Single
on the
Triple
Quadruple

Screw vessel

DIPLODON.Tons { Gross 8149
Net 4770

Built at

Hebburn, Newcastle

By whom built

R+W. Hawthorn, Leslie & Co Ltd

Yard No.

632

When built

1941-10

Engines made at

Newcastle

By whom made

ditto

Engine No.

3969

When made

1941-10

Boiler made at

ditto

By whom made

ditto

Boiler No.

3969

When made

1941-10

Horse Power

3500.

Owners

THE HUNDO-SAXON PETROLEUM CO LTD

Port belonging to

Horse Power as per Rule

502

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Use for which vessel is intended

Ocean going - carrying Petroleum in bulk.

ENGINES, &c.—Type of Engines Hawthorn-Workshop - Supercharged 2 or 4 stroke cycle H. Single or double acting Single

Maximum pressure in cylinders

700 lb/sq in

Diameter of cylinders

650 m.m.

Length of stroke

1400 m.m.

No. of cylinders

8

No. of cranks

8

Indicated Pressure

135 lb/sq in

of bearings, adjacent to the Crank, measured from inner edge to inner edge

844 m.m.

Is there a bearing between each crank

Yes

Revolutions per minute

120

Flywheel dia.

2260 m.m.

Weight

6000 kg.

Means of ignition

Heat of Compression

Kind of fuel used

Heavy oil.

Crank shaft,

{ Solid forged
Semi built
All built

dia. of journals

as per Rule 448 m.m.
as fitted 460 m.m.

Crank pin dia.

460 m.m.

Crank Webs

Mid. length breadth 870 m.m.
Mid. length thickness 267 m.m.

Thrust Shaft, diameter at collars

as per Rule 341 m.m.
as fitted 460 m.m.

Flywheel Shaft, diameter

as per Rule 448 m.m.
as fitted 460 m.m.

Intermediate Shafts, diameter

as per Rule 325 m.m.
as fitted 460 m.m.

Screw Shaft, diameter

as per Rule NONE
as fitted

Screw Shaft, diameter

as per Rule 358 m.m.
as fitted 400 m.m.

Liners, thickness in way of bushes

as per Rule 18.55 m.m.
as fitted 20 m.m.

Thickness between bushes

as per Rule 13.9 m.m.
as fitted 15 m.m.

Is the after end of the liner made watertight in the

Cylinder boss

Yes

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

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

a tight fit

If liners are fitted, is the shaft lapped or protected between the liners

Yes

Is an approved Oil Gland or other appliance fitted at the after end of the tube

No

If so, state type

Yes

Length of Bearing in Stern Bush next to and supporting propeller

1585 m.m.

Propeller, dia.

15'-0"

Pitch

12'-0"

No. of blades

H.

Material

Bryl.

whether Moveable

No

Total Developed Surface

72 sq. feet

Method of reversing Engines

Air Servo motor

Is a governor or other arrangement fitted to prevent racing of the engine when disconnected

Yes

Means of lubrication

Thickness of cylinder liners

55 m.m.

Are the cylinders fitted with safety valves

Yes

Are the exhaust pipes and silencers water cooled or lagged with

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 to top of funnel

Suction Water Pumps, No.

2

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Yes

Pumps worked from the Main Engines, No.

2

Diameter

Rotary

Stroke

Pumps connected to the Main Bilge Line

No. and Size

Three in all; viz. Two Rotary each 35 tons/hr & one G.S.P. 12' x 8' x 12' duplex

How driven

by main Engine

by indep. Steam Eng.

120 tons/hr

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

Pumps, No. and size

One 12' x 8' x 12' duplex

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

Two: - one Rotary on M. Eng. 40 tons/hr
one 8' x 8' x 10' duplex Steam 50 tons/hr

Two independent means arranged for circulating water through the Oil Cooler

Yes

Pumps, No. and size:—In Machinery Spaces

3 of 3 1/2", 1 of 2 1/2" in each Lub. oil Cofferdam (2).

In Pump Rooms

F.A. 1 of 3" in each

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Two, viz. one 5" on G.S.P. on Port Side; one 7" Emergency to M. Eng. cooling

water Pump on Starboard Side.

Are the Bilge Suctions in the Machinery Spaces

All the Bilge Suction pipes in Hold and Tunnel Well fitted with strum-boxes

Yes

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

with both

Are they fixed sufficiently 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

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

Do pipes pass through the deep tanks

none

How are they protected

none necessary

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

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

Yes

Is the Shaft Tunnel watertight

None

Is it fitted with a watertight door

Yes

worked from

Yes

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Yes

Air Compressors, No.

None

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No.

Two

No. of stages

2

Diameters

Stroke

Driven by

Oil Eng.

Small Auxiliary Air Compressors, No.

None

No. of stages

Diameters

Stroke

Driven by

Steam Eng.

That provision is made for first Charging the Air Receivers

Steam driven Air Compressor.

Savenging Air Pumps, No.

None

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

Diameter

Stroke

Driven by

Oil Eng.

Steam Eng.

Have the Auxiliary Engines been constructed under special survey

Yes, both

Is a report sent herewith

Yes

See Cert. C434, Nottingham

C309, ditto.

Certs P.T.O.

AIR RECEIVERS:—Have they been made under survey *Yes* State No. of Report or Certificate *See Stamping bel*
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. *None* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*
Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *by Rules* *✓*
Starting Air Receivers, No. *Two* Total cubic capacity *800 cub. ft* Internal diameter *4'-10 7/8"* thickness *27/32"*
Seamless, lap welded or riveted longitudinal joint *T.R. Dill built* Material *Steel* Range of tensile strength *Shell 28 to 32 tons* Working pressure *by Rules 372 lb*
Stamps *Inds 26 to 30 tons* Actual *350 lbs.*

IS A DONKEY BOILER FITTED? *Yes* If so, is a report now forwarded? *Yes*
Is the donkey boiler intended to be used for domestic purposes only *No - also used for Steam Auxiliaries.*
PLANS. Are approved plans forwarded herewith for Shafting *20/12/39 + 9/4/40* Receivers *1/4/40* Separate Fuel Tanks *22/12/39*
(If not, state date of approval)
Donkey Boilers *1/4/40* General Pumping Arrangements *✓* Pumping Arrangements in Machinery Space *10/4/40*
Oil Fuel Burning Arrangements *22/12/39*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*
State the principal additional spare gear supplied *As per lists attached.*

The foregoing is a correct description

Manufacturer.

1940 DATES OF SURVEY
During progress of work in shops-- *June 6. 12. July 10. 16. 30. Sep. 5. 9. 10. 24. 27. Oct. 8. 17. 28. 29. Nov. 7. 8. 12. 18. 29. Dec. 5. 6. 12. 18. 20. 27.*
During erection on board vessel-- *31. Jan. 6. 7. 9. 10. 13. 14. 17. 20. 22. 23. 24. 29. 31. Feb. 3. 4. 5. 6. 7. 14. 21. 25. Mar. 3. 7. 10. 13. 14. 18.*
Total No. of visits *106*

Dates of Examination of principal parts—Cylinders *10/3/41* as by Rules *28/3/41* Pistons *1/4/41* Rods *31/3/41* Connecting rods *22/4/41*
Crank shaft *3/4/41* Flywheel shaft *20/3/41* Thrust shaft *18/3/41* Intermediate shafts *11/6/41* Tube shaft *✓*
Screw shaft *25/4/41* Propeller *25/4/41* Stern tube *16/4/41* Engine seatings *16/6/41* Engines holding down bolts *16/8/41*
Completion of fitting sea connections *27/6/41* Completion of pumping arrangements *25/9/41* Engines tried under working conditions *25/9/41*
Crank shaft, Material *7.5H.* Identification Mark *9581 HAI* Flywheel shaft, Material *7.5H.* Identification Mark *9581 HAI*
Thrust shaft, Material *7.5H.* Identification Mark *9581 HAI* Intermediate shafts, Material *7.5H.* Identification Marks *9581 HAI*
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *7.5H.* Identification Mark *9581 HAI*
Identification Marks on Air Receivers *LLOYDS TEST 550 LBS WP 350 lbs 20-6-41 AM AND* marked on the 2 Air Receivers

Is the flash point of the oil to be used over 150° F. *Yes*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*
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 *✓*
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *Not required*
Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *Empire Brown Ship 627, Exp 3963 Nov. Rpt 98948.*
General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey in accordance with the approved plans and the Society's Rules, and the material and workmanship are good.

The machinery has been efficiently fitted on board, tested under work conditions with satisfactory results, and is eligible, in my opinion, for record + LMC 10. H1, and the notations DB. WP 180 lbs. H. Oil Eng. machy.

The amount of Entry Fee .. £ 6: : When applied for,
Special .. £ 100: 2: *20 OCT 1941*
Donkey Boiler Fee .. £ 23: 6: :
2 Starting Air Receivers .. £ 8: 8: :
Travelling Expenses (if any) £ : : :
When received, .. 19

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.



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