

## REPORT ON MACHINERY.

No. 3052

Received at London Office

MON. 21 FEB. 1921

Date of writing Report Dec. 20<sup>th</sup> 1920 When handed in at Local Office10 Port of *Uvaka*Survey held at *Uvaka*Date, First Survey *4 April*Last Survey *7 Dec* 1920on the *Single screw steamer Hisker Marie*(Number of Visits *32*)Gross *2568.12*  
Net *1567.46*  
When built *1920*Built at *Uvaka*By whom built *The Uvaka Ship Works Ltd.*when made *1920*Engines made at *Uvaka*By whom made *The Uvaka Ship Works Ltd.*when made *1920*Milers made at *Uvaka*By whom made *The Uvaka Ship Works Ltd.*when made *1920*

Registered Horse Power

Owners *Uvaka Steam Navigation*Port belonging to *Uvaka*Horse Power as per Section 28 *288*Is Refrigerating Machinery fitted for cargo purposes *no*Is Electric Light fitted *yes*

GINES, &amp;c.—Description of Engines

*Triple Expansion*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *31.35.58*Length of Stroke *39*Revs. per minute *80*

Dia. of Screw shaft

as per rule *12.02* Material of *Steel*  
as fitted *12 1/2* screw shaftthe screw shaft fitted with a continuous liner the whole length of the stern tube *yes*

Is the after end of the liner made water tight

the propeller boss *yes* If the liner is in more than one length are the joints burned *no*

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 *yes*Length of stern bush *4'-5"*

If two

Diam. of Tunnel shaft

as per rule *10.95*

Dia. of Crank shaft journals

as per rule *11.5*Dia. of Crank pin *11 1/16*Size of Crank webs *x 7 1/2*

Dia. of thrust shaft under

Diam. of screw *14'-3"*Pitch of Screw *16'-6"*No. of Blades *4*State whether moveable *no*Total surface *2000 sq. ft.*No. of Feed pumps *2*Diameter of ditto *3 1/2"*Stroke *24"*Can one be overhauled while the other is at work *yes*No. of Bilge pumps *2*Diameter of ditto *3 1/2"*Stroke *24"*Can one be overhauled while the other is at work *yes*No. of Donkey Engines *3*

SIZES OF PUMPS

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *2 wing at 3' 1 centre at 3 1/2*In Holds, &c. *Stokehold 2 at 3' 1 centre at 3 1/2*

After hold 2 at 3'

No. of Bilge Injections *1*sizes *7"*Connected to condenser, or to circulating pump *yes*Is a separate Donkey Suction fitted in Engine room & size *yes 3 1/2"*Are all the bilge suction pipes fitted with roses *yes*Are the roses in Engine room always accessible *yes*Are the sluices on Engine room bulkheads always accessible *yes*Are all connections with the sea direct on the skin of the ship *yes*Are they Valves or Cocks *both*Are the Discharge Pipes above or below the deep water line *above*Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes*Are the Blow Off Cocks fitted with a spigot and brass covering plate *yes*How are they protected *yes*Are they each fitted with a Discharge Valve always accessible on the plating of the vessel *yes*That pipes are carried through the bunkers *none*Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *yes*Is the Screw Shaft Tunnel watertight *yes*Is it fitted with a watertight door *yes*worked from *upper platform*MILERS, &c.—(Letter for record *S*)Manufacturers of Steel *Illinois Steel Co. Chicago.*Total Heating Surface of Boilers *4046*Is Forced Draft fitted *yes*No. and Description of Boilers *2 Single ended Scotch*Working Pressure *200 lbs*Tested by hydraulic pressure to *400 lbs*Date of test *5-10-1920*No. of Certificate *100 lbs*Can each boiler be worked separately *yes*Area of fire grate in each boiler *49.5*

No. and Description of Safety Valves to

each boiler *2 Spring loaded*Area of each valve *6.9067*Pressure to which they are adjusted *205 lbs*Are they fitted with easing gear *yes*Smallest distance between boilers or uptakes and bunkers or woodwork *19"*Mean dia. of boilers *13'-6"*Length *12'-0"*Material of shell plates *Steel*Thickness *1 1/16"*Range of tensile strength *21,791-20,000*Are the shell plates welded or flanged *no*Descrip. of riveting: cir. seams *Double*Long. seams *Double*Diameter of rivet holes in long. seams *1 1/16"*Pitch of rivets *9 1/2"*Top of plates or width of butt straps *1 1/2"*Even percentages of strength of longitudinal joint *yes*Working pressure of shell by rules *200 lbs*Size of manhole in shell *12 x 16*Size of compensating ring *34 x 38 x 1 1/2"*No. and Description of Furnaces in each boiler *3 horizontal*Material *Steel*Outside diameter *3'-4 1/2"*Length of plain part *top*Thickness of plates *bottom*Description of longitudinal joint *Welded*No. of strengthening rings *19 1/2*Working pressure of furnace by the rules *224 lbs*Combustion chamber plates: Material *Steel*Thickness: Sides *1 1/16"*Back *1 1/16"*Top *1 1/16"*Bottom *7/8"*Pitch of stays to ditto: Sides *8 x 8 1/2"*Back *8 1/2 x 10 1/2"*Top *8 1/2 x 10 1/2"*If stays are fitted with nuts or riveted heads *nuts*Working pressure by rules *211 lbs*Material of stays *Steel*Area at smallest part *1.79*Area supported by each stay *77.125*Working pressure by rules *200 lbs*End plates in steam space: *yes*Material *Steel*Thickness *1 1/16"*Pitch of stays *20 x 20"*How are stays secured *Double*Working pressure by rules *223 lbs*Material of stays *Steel*Area at smallest part *8.76*Area supported by each stay *400*Working pressure by rules *227 lbs*Material of Front plates at bottom *Steel*Thickness *7/8"*Material of Lower back plate *Steel*Thickness *7/8"*Greatest pitch of stays *16 1/2 x 8 1/2"*Working pressure of plate by rules *209 lbs*Diameter of tubes *3"*Pitch of tubes *4 1/2 x 4 1/2"*Material of tube plates *Steel*Thickness: Front *7/8"*Back *1 1/16"*Mean pitch of stays *6' 2 1/2"*Pitch across wide water spaces *14"*Working pressures by rules *205 lbs*Girders to Chamber tops: Material *Steel*

Depth and

Thickness of girder at centre *9 1/2 x 1 1/2"*Length as per rule *2'-8 1/2"*Distance apart *9 1/2"*Number and pitch of stays in each *3 at 8"*Working pressure by rules *227 lbs*Steam dome: description of joint to shell *yes*% of strength of joint *yes*Diameter *yes*Thickness of shell plates *yes*Material *yes*Description of longitudinal joint *yes*Diam. of rivet holes *yes*Pitch of rivets *yes*Working pressure of shell by rules *yes*Crown plates *yes*Thickness *yes*How stayed *yes*SUPERHEATER. Type *yes*Date of Approval of Plan *yes*Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *yes*Is Easing Gear fitted *yes*Date of Test *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*Pressure to which each is adjusted *yes*Diameter of Safety Valve *yes*



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Solid cast iron propeller. 1 propeller shaft with nut. 1 set of coupling bolts. 1 set main bearing bolts. 1 set connecting rod top end bolts and 1 set bottom end. Air pump rod and set of air pump valves. Set of valves and seats for feed pumps & set for bilge pumps. Main and donkey check valves and seats. 2 safety valve springs for boilers. Set of connecting rod braces for top & bottom ends. 12 pump/ing bolts. Set of piston rings for H.P. M.P. & L.P. 33 Condenser tubes & 100 ferrules. Spring for each side of relief valve on main engine & pumps.*  
*A quantity of assorted bolts, nuts, bars and steel plates.*

The foregoing is a correct description,



Dates of Survey while building { During progress of work in shops -- *1920 April 4, 6, 9, 16, 20, June 1, August 4, 10, 12, 16, 20, 28 Sept. 2, 6, 9, 16, 21, 24, 28 Oct. 6, 11, 15*  
During erection on board vessel -- *October 29, November 3, 8, 12, 16, 22, 26, 30 December 3, 7.*  
Total No. of visits *32.* Is the approved plan of main boiler forwarded herewith *yes.*

Dates of Examination of principal parts—Cylinders *12-8-20* Slides *6-10-20* Covers *12-9-20* Pistons *6-10-20* Rods *6-10-20*  
Connecting rods *6-10-20* Crank shaft *4-8-20* Thrust shaft *1-6-20* Tunnel shafts *16-4-20* Screw shaft *6-4-20* Propeller *28-9-20*  
Stern tube *28-8-20* Steam pipes tested *12-11-20* Engine and boiler seatings *3-11-20* Engines holding down bolts *3-11-20*  
Completion of pumping arrangements *26-11-20* Boilers fixed *3-11-20* Engines tried under steam *1-12-20*  
Completion of fitting sea connections *20-10-20* Stern tube *11-10-20* Screw shaft and propeller *15-10-20*  
Main boiler safety valves adjusted *22-11-20* Thickness of adjusting washers *Lock rule.*  
Material of Crank shaft *Steel* Identification Mark on Do. *4-8-20* Material of Thrust shaft *Steel* Identification Mark on Do. *9316+1*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *In helix* Material of Screw shafts *Steel* Identification Marks on Do. *81445+1*  
Material of Steam Pipes *Solid drawn copper* Test pressure *4.00 lbs.*  
Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *Hukukun Maru*

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

*The crank, thrust, tunnel and tail shafts were forged and finished at Sumitomo Steel Works.*  
*The tunnel shafts are marked as follows 81527 1/2, 81524 1/2, 81536 1/2, 9378 1/2, 9432 1/2.*

*The Engines and Boilers were built under special survey in accordance with the requirements of the Rules and the materials and workmanship have been found good.*

*This vessel in my opinion is eligible to the Record + L.M.C. 12-20*

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 12. 20. F.D.

Roll.

23/2/21

The amount of Entry Fee *Year 30. -* : When applied for,  
Special ... £ *602.-* : Dec. 8<sup>th</sup> 1920  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : Dec. 14<sup>th</sup> 1920

*W. Lawson.*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 25 FEB. 1921

Assigned

*to L.M.C. 12. 20*

CERTIFICATE WRITTEN



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Foundation