



Certificate No.: 08177149-4580046-241

Port of : Pascagoula, United States

Date : 24 December 2020

## BOLLARD PULL TEST CERTIFICATE

### THIS IS TO CERTIFY

That the undersigned Surveyors to this Bureau did, at the request of the Owner's representative, attend the steel motor vessel

Name: SIGNET WARHORSE II

Class Number: 08177149

IMO Number : 9388132

in order to witness the Steady Bollard Pull test carried out at Pascagoula, Mississippi, USA

in accordance with "ABS Rules for Building and Classing Steel Vessels Under 90 Meters" Appendix 2.

An average bollard force was computed as the average of evenly spaced load cell recordings taken over a sustained pull interval of a minimum of three (3) minutes for each recorded pull at the rated engine horsepower and speed as follows:

ABS Approved Maximum Continuous Rated Power: 4997 x 2 hp

ABS Approved Rated Speed (RPM): 900

### The Static Bollard Pull (BP) at ABS approved Maximum Continuous Rated Power and RPM:

154.53 Metric Tonnes

Ahead Pull with Drop-Down Thruster at full power

Electronically Signed By  
[Redacted Signature] Mobile Port

Surveyor, American Bureau of Shipping

Electronically Signed By  
Lochren, Alex, Mobile Port

Surveyor, American Bureau of Shipping

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**Vessel Data**

Vessel Type: TOWING VESSEL

Length (LOA) M/Ft: 150 ft.

Owners / Managers: SIGNET MARITIME CORPORATION

**Propellers:**

Number: 2 Manufacturer: Rolls Royce Type: CPP

Diameter: 13 ft. Pitch: CPP Number of blades: 4

Material: NiAl Bronze Type-4

**Main Engines:**

Number: 2 Manufacturer: General Motor

Type/Model: 2-Stroke Diesel / 20-710G7B

ABS Approved Maximum Continuous Rating: 4997 hp @ RPM: 900

Number of main engines per shaft: 1

Overspeed RPM setting: 1080 (20%)

**Test Data**

Vessel's heading: 085

Length of towing wire: 400 Feet

Drafts measured in Feet: (Forward) 20, (Aft) 23 & (Amidships) N/A

Maximum allowable draft (LL): 6.2579 Feet

Ballast on board: 40,308 Metric Tonnes Fuel on board: 6281.99 Metric Tonnes

Wind direction: 230 Speed: .5 Ft/S

Current setting: 120 Speed: .3 Ft/S

Air temperature: 60 °F Sea water temperature: 63 °F

Pull Sequence Numbers	Engine Speed (RPM)	Time of Pull (minutes)	Observed Average Force lbs/Kg	Drag Effect lbs/Kg	Steady Bollard Metric/Long/Short/Tons
1	880/841	0:00	1012007	N/A	154.23 Metric Tonnes
2	874/845	0:30	1018700	N/A	155.25 Metric Tonnes
3	888/833	1:00	1012270	N/A	154.27 Metric Tonnes
4	864/842	1:30	1013123	N/A	154.40 Metric Tonnes
5	866/849	2:00	992125	N/A	151.20 Metric Tonnes
6	873/845	2:30	1028805	N/A	156.79 Metric Tonnes
7	882/836	3:00	1018897	N/A	155.28 Metric Tonnes
8	874/841	3:30	1012598	N/A	154.32 Metric Tonnes

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Pull Sequence Numbers	Engine Speed (RPM)	Time of Pull (minutes)	Observed Average Force lbs/Kg	Drag Effect lbs/Kg	Steady Bollard Metric/Long/Short/Tons
9	866/845	4:00	1024278	N/A	156.10 Metric Tonnes
10	867/850	4:30	1012598	N/A	154.32 Metric Tonnes
11	862/846	5:00	1001049	N/A	152.56 Metric Tonnes

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