

Los Angeles/Long Beach Harbor Safety Committee  
**CERTIFIED BOLLARD PULL TEST RESULTS**

As of 15 July 2024

**AMNAV MARTIME CORP.\*\*\***

<b>Name</b>	<b>Total HP (Adv)</b>	<b>Ahead Short Tons</b>	<b>Astern Short Tons</b>	<b>Prop</b>	<b>Length</b>	<b>Test Port</b>	<b>Bollard Pull Issued Date (and ETIP extension status when applicable)</b>
INDEPENDENCE	5080	65.4	67.9	Z	78	Longview, WA	04/09/07 (ETIP extension)
LIBERTY	NR	39.2		Z	94.7	NR	08/15/05 (ETIP extension)
PATRIOT	NR		33	T	68.9	NR	10/06/09 (ETIP extension)
REVOLUTION	5080		60.9	Z	73.4	Oakland, CA	12/18/18
SANDRA HUGH	NR	66.4	67.5	Z	78	NR	07/31/07 (ETIP extension)
FREEDOM	4400		50	Z	86	Oakland, CA	11/25/15
TERESA BRUSCO	4732		61.79	Z	81.6	Oakland, CA	12/18/18
DR HANK KAPLAN	5350	68.3	64	Z	76.3	Oakland, CA	09/24/2019
MICHELLE SLOAN	5150	69	65.4	Z	80	Los Angeles, CA	4/23/15 (ETIP extension)
PATRICIA ANN	4732		62.2	Z	73.4	Oakland, CA	04/29/2022
SARAH AVERICK	6866	96.73	93.37	Z	104	Everett, WA	10/02/2020 (ETIP extension)

Los Angeles/Long Beach Harbor Safety Committee  
**CERTIFIED BOLLARD PULL TEST RESULTS**

As of 27 August 2021

**BAYDELTA MARTIME CORP.\*\*\***

<b>Name</b>	<b>Total HP (Adv)</b>	<b>Ahead Short Tons</b>	<b>Astern Short Tons</b>	<b>Prop</b>	<b>Length</b>	<b>Test Port</b>	<b>Bollard Pull Issued Date (and ETIP extension status when applicable)</b>
DELTA BILLIE	NR	93.7	93.7	Z	100	NR	04/04/09 (ETIP extension)
DELTA CATYRUN	NR	92.3	91.6	Z	100	NR	01/05/2011 (ETIP extension)
DELTA TERESA	7,032	90.31	88.68	Z	100	Everett, WA	04/19/2019
DELTA AUDREY	6,670	83.53	88.40	Z	100	Mare Island, CA	08/16/2021
DELTA LINDA	5,050	81.87	89.43	TR	93	Mare Island, CA	08/17/2021 (ETIP extension)

Los Angeles/Long Beach Harbor Safety Committee  
**CERTIFIED BOLLARD PULL TEST RESULTS**

As of 25 June 2024

**CENTERLINE LOGISTICS\*\*\***

<b>Name</b>	<b>Total HP (Adv)</b>	<b>Ahead Short Tons</b>	<b>Astern Short Tons</b>	<b>Prop</b>	<b>Length</b>	<b>Test Port</b>	<b>Bollard Pull Issued Date (and ETIP extension status when applicable)</b>
MILLENNIUM DAWN	4400	60.6	56.3	Z	105	SFO	1/25/11 (ETIP extension)
ERNEST CAMPBELL	3000	39.9	27	Z	107	SFO	1 /25/2011
MILLENNIUM FALCON	4200	54.5	49.7	Z	99	LA	4/7/2021 (ETIP extension)
KESTREL	4400	29.45	21.94	Z	90.2	LA	1/18/2022 (ETIP extension)
BROOKS M. HAMILTON	2600	26.70	20.03	T	80.6	LA	4/28/2021
MADLINE B. HAMILTON	2600	27.39	20.05	T	80.6	LA	4/28/2021

Los Angeles/Long Beach Harbor Safety Committee  
**CERTIFIED BOLLARD PULL TEST RESULTS**

As of 22 April 2020

**CROWLEY MARINE SERVICES, INC.\*\*\***

<b>Name</b>	<b>Total HP (Adv)</b>	<b>Ahead Short Tons</b>	<b>Astern Short Tons</b>	<b>Prop</b>	<b>Length</b>	<b>Test Port</b>	<b>Bollard Pull Issued Date (and ETIP extension status when applicable)</b>
SCOUT	4730	52		T	103	Richmond, CA	12/07/09 (ETIP extension)
MASTER	4730	52.3	43.8	TR	103	Treasure Island, CA	5/10/10 (ETIP extension)
LEADER	4730	58.9		TR	103	Richmond, CA	9/29/09 (ETIP extension)
ADMIRAL	4730	54.4		TR	103	Richmond, CA	11/2/09 (ETIP extension)
VALOR	6772	91	90.3	Z	100	Everett, WA	7/20/07 (ETIP extension)
GOLAIH	5000	55	51.8	Z	98.9	Everett, WA	12/13/14
GUARD	NR	50.3	47.4	TR	120	NR	07/23/07 (ETIP extension)
RESOLUTE	NR		78.6	Z	110	NR	02/26/04 (ETIP extension)
TIOGA	NR	54.1	52.9	Z	78.7	NR	10/31/13
VETERAN	NR	89.2	90.5	Z	100	Everett, WA	6/19/14 (ETIP extension)
HERCULES (NÉE NOYDENA)	6008	88.19	84.77	Z	82	Everett, WA	4/9/20

Los Angeles/Long Beach Harbor Safety Committee  
**CERTIFIED BOLLARD PULL TEST RESULTS**

As of 1 May 2023

**FOSS MARITIME\*\*\***

Name	Total HP (Adv)	Ahead Short Tons	Astern Short Tons	Prop	Length	Test Port	Bollard Pull Issued Date (and ETIP extension status when applicable)
CAMPBELL FOSS	5000	63.5	68.6	Z	78	Portland, OR	12/21/11 (ETIP extension)
BRYNN FOSS	3000	52.6	44.9	Z		Pt. Tacoma, WA	8/3/07 (ETIP extension)
ALTA JUNE	5000	66.8	66.9	Z	78	Pt. Tacoma, WA	8/6/08 (ETIP extension)
CAROLYN DOROTHY	5080 *Non-hybrid mode	64 53	62.7	Z	78	Pt. Tacoma, WA	1/27/09 (ETIP extension)
ARTHUR FOSS			54.7	TR		Richmond, CA	12/19/08 (ETIP extension)
LYNN MARIE	6250		74.9	Z	92	Richmond, CA	9/30/04 (ETIP extension)
EDITH FOSS	NR	24.8	13.8	T	73.3	NR	06/23/11 (ETIP extension)
MORGAN FOSS	NR	64	60.9	Z	78	NR	08/31/05 (ETIP extension)
PACIFIC ESCORT	NR	36.8	32.3	TR	100.2	NR	3/12/03 (ETIP extension)
PACIFIC KNIGHT	NR	26.1	14	T	77.2	NR	04/06/02 (ETIP extension)
PACIFIC QUEEN	NR	24.6	13.7	T	77.2	NR	07/24/1997 (ETIP extension)
DELTA LINDSEY (Charter from AMNAV)	NR	93.5	87.3	Z	100	NR	09/09/10 (Alternate Compliance)

<b>FOSS Continued</b>							
<b>Name</b>	<b>Total HP (Adv)</b>	<b>Ahead Short Tons</b>	<b>Astern Short Tons</b>	<b>Prop</b>	<b>Length</b>	<b>Test Port</b>	<b>Bollard Pull Issued Date (and ETIP extension status when applicable)</b>
BO BRUSCO	4732	62.79	61.30	Z	NA	San Diego, CA	10/22/18
LELA FRANCO	5150	67.34	60.3	Z	80	San Diego, CA	8/5/2019
RICH PADDEN	5350	71	63	Z	76.3	San Francisco, CA	02/12/2020
JAMIE ANN	6866	92.46	90.68	Z	100	Everett, WA	03/25/2020 (ETIP extension)
SARAH	4732	61.17	60.19	Z	78.1	San Diego, CA	08/16/2020 (ETIP extension)
LEISA FLORENCE	6866	54.69	85.71	Z	100	Everett, WA	01/27/2021 (ETIP extension)

\* Foss Maritime will notify the Marine Exchange and local pilots when operating in non-hybrid mode.

Los Angeles/Long Beach Harbor Safety Committee  
**CERTIFIED BOLLARD PULL TEST RESULTS**

As of March 2018

**SAUSE BROTHERS\*\*\***

<b>Name</b>	<b>Total HP (Adv)</b>	<b>Ahead Short tons</b>	<b>Astern Short tons</b>	<b>Prop</b>	<b>Length</b>	<b>Test Port</b>	<b>Bollard Pull Issued Date (and ETIP extension status when applicable)</b>
PONO	1600	29.03	21.65	T	75.3.	LA	1/30/2018

Los Angeles/Long Beach Harbor Safety Committee  
**CERTIFIED BOLLARD PULL TEST RESULTS**

As of 1 July 2021

**STARLIGHT MARINE SERVICES, LLC\*\*\***

<b>Name</b>	<b>Total HP (Adv)</b>	<b>Ahead Short Tons</b>	<b>Astern Short Tons</b>	<b>Prop</b>	<b>Length</b>	<b>Test Port</b>	<b>Bollard Pull Issued Date (and ETIP extension status when applicable)</b>
TIM QUIGG	3600	50	52.6	Z	80	Los Angeles	5/3/11 ETIP extension
JOHN QUIGG	4022	52.3	48.3	Z	76	Los Angeles	11/7/12 ETIP extension
BARBARA JEAN MULHOLLAND (NÉE ROBERT FRANCO)	6850	89	91	Z	100	Everett	4/4/2013 ETIP extension
JAMIE RENE A (NÉE AHBRA FRANCO)	6850	91.6	89.8	Z	103	Seattle	6/13/2013 ETIP extension
Z-FIVE	4000			Z	87.7	Richmond, CA	12/15/2004 ETIP extension



\*\*\* Updated bollard pull information and Escort Tug Inspection Program (ETIP) information are available from the Marine Exchange of Southern California Web page: [www.mxsocal.org](http://www.mxsocal.org). ETIP compliant vessels have received an extension on their bollard pull date from the State of California.

Note: Pursuant to State Regulations, tugs must have their bollard pull re-tested every three years or be accepted into the ETIP to extend their bollard pull date.

- \* Equipped with Kort-type Nozzles
- \*\*\*\* Equipped with Flanking Rudders
- + Equipped with Kort-type Nozzles and Flanking Rudders
- ++ Sister tug to be tested within 6 months of relocation to LA/LB
- S Single Screw
- T Twin Screw
- TR Tractor Tug
- Z Z-Drive Tug
- NR Not reported

1. Due to its specific design, a tractor-type tug can, under certain circumstances, apply significantly increased tension on the tow line.
2. Flanking rudders can, under certain conditions, increase usefulness and effectiveness when the tug operates astern.
3. Kort-type nozzles increase bollard pull when going ahead (towing) but can reduce it when going astern (backing).
4. Z-Drive-type tugs have Kort-type nozzles, which increase the bollard pull when going ahead. Rotating nozzles give the vessel approximately 90% of ahead bollard pull when going astern.